

# Exploring perspectives of people with type-1 diabetes on goalsetting strategies within self-management education and care

## Citation for published version (APA):

Fredrix, M. F. A. M., Byrne, M., & McSharry, J. (2022). *Exploring perspectives of people with type-1 diabetes on goalsetting strategies within self-management education and care*. 133. Abstract from 36th Annual Conference of the European Health Psychology Society, Bratislava, Slovakia.

## Document status and date:

Published: 23/08/2022

## Document Version:

Publisher's PDF, also known as Version of record

## Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

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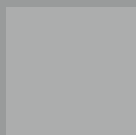
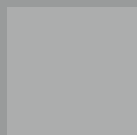
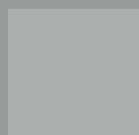
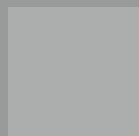
36th Annual Conference of the European Health Psychology Society



23 - 27 AUGUST 2022  
BRATISLAVA, SLOVAKIA

Charting New Territories in Health Psychology

**ABSTRACTS**



Tuesday, 23 Aug 2022



23.8



23.8

Tuesday, 23 Aug

9:00 - 12:00 Challenges of teaching health psychology at Medical Universities.  
Interactive approach with scenarios

Preregistration for fun, profit, and exploration – part A

9:00 - 16:00 Interpretative phenomenological analysis- a skill-based introductory  
workshop and update

13:00 - 16:00 Using the Person-Based Approach to develop successful health  
behaviour change interventions

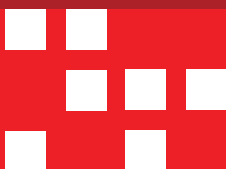
Preregr for fun, profit, and adventure



Wednesday, 24 Aug 2022



24.8



24.8

9:30 - 11:00 Predicting COVID-19 Protective Behaviours

Adolescent health

Potential of new social approaches to study and influence health behaviors

Women's health in a cultural context: Identifying risks and opportunities for change

Impact of smartphone use on health-related outcomes: Do we need to worry about it?

Health behaviour in older adulthood

Stress, affect and well-being

Advancing habit research for health

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Conducting behavior change intervention studies for infection prevention during an ongoing pandemic: Why and how

Exploring healthcare practitioners' perspective: How to best apply health psychology evidence in practice?

Tobacco use interventions

Making brief interventions work: multi-stakeholder perspectives on implementation and effective components of health behaviour conversations

Consumption of sugar-sweetened beverages and water: Discussing health implications of drink choice and potential interventions

Utility and applications of Bayesian methods in health psychology: theory building and evidence evolution

Sleep and self-enhancing behaviours

14:00 - 15:30 Implementation in Mental Health and Social Exclusion

Mechanisms of action of behaviour change interventions: Challenges in definitions and measurement

Physical activity, sedentary behaviour and alcohol

Considerations for Development and Evaluation of Digital Health Projects

Research on cancer screening participation: from a specific approach to an integrated model

Health psychology methods: systems approaches, machine-learning, attrition, and intervention fidelity

Family Health and Wellbeing

15:30 - 17:00 Physical Activity and Sedentary Behaviour

Motives, adherence and psychosocial influences on behaviour

Health Behaviour

Developing health behaviour change interventions

Health behaviour change interventions

Psychosocial approaches to health behavior

Contemporary Topics in Self-Regulation

Informal caretakers

Social support in health behavior change

Non-COVID vaccination uptake

Mental health and emotion

COVID-19

Dietary behaviours

Interventions in clinical or at-risk populations

e-/mHealth interventions

e-mental health

eHealth across the life span

Digital health promotion

Health psychology methods: Interventions and measurement



Thursday, 25 Aug 2022



25.8



9:30 - 11:00 Health Inequalities – why do they matter and how can we tackle them?

Specifying all dimensions of behaviour change interventions: The Behaviour Change Intervention Ontology

Personalized context-aware digital health interventions: crossing boundaries between data science, geoscience and health psychology

Impact of Covid

Implementation in Practice: Frameworks and Perspectives

Vaccination, Covid 19 and quarantine

Age Related Challenges to Quality of Life

Health care professionals

11:30 - 13:00 COVID-19 related research

Communicating about health and risks

The EHPS in international health policy initiatives: current contributions and future opportunities

Embedding Open Science within Health Psychology research, methods and tools

Doctor knows best? Qualitative perspectives on interactions and relationships with healthcare workers from four countries

eHealth intervention development & optimisation

Adherence and Quality of Life in Chronic Disease

eHealth in cancer treatment & care

14:00 - 15:30 Understanding COVID-19 Vaccine Hesitancy

Health behavior change across the lifespan

Ontologies of behaviour – current perspectives and future potential in health psychology

The effectiveness of labelling interventions to improve population and planetary health

The role of interpersonal dynamics for health behavior and well-being using intensive longitudinal designs

Temporal Aspects of Health Attitudes and Habits

Quality of life

eHealth for diet, physical activity, and smoking

Thursday, 25 Aug

15:30 - 17:00 Personality and health

Personality and health-compromising behavior

Coping with Cancer

Living with long term conditions

Subjective beliefs in chronic disease

Coping with COVID-19 stress and Fatigue

Novel Interventions in the context of illness

Biopsychology of stress and coping

Stress and Coping in Pandemic Times

Special populations

Pain: Psychosocial mechanisms and interventions

Responses to Critical Stressors in a Cross-cultural Context

Gender and Sexualities: Inequities and Resilience

Pregnancy, health behaviours and loss

Sustainable and healthy diet

Environmental health behavior



Friday, 26 Aug 2022



26.8

9:30 - 11:00 Understanding Health Behaviour: Distinguishing Constructs

Innovative research approaches to developing social support interventions for chronic illness and changing health behaviors

Cardiovascular and psychosocial antecedents and consequences of health

Food and diet

Trust and equality in blood donation across different populations: an international perspective

Innovative approaches in informal care research: exploring new determinants, methods, and frameworks

Mental health, social support and health-enhancing behaviours

Interventions to improve self-management and treatment adherence

11:30 - 13:00 Health psychology methods: measurement and validity

Preventive health behaviours

Mind the digital divide: How to reduce social inequalities in digital health promotion?

Novel psycho-technological solutions for alleviating caregivers' distress: The good, the bad, and the robot...

The process of investigating a new infections: description, prediction, and intervention to reduce COVID-19 transmission

Cultural Contexts of Health

Health behavior change in diverse contexts

Self-regulatory approaches to chronic conditions and health behavior

14:00 - 15:30 eHealth feasibility studies and trials

Which research designs to use when optimising behavioural interventions? Examples, challenges and a way forward

How can we close the gender and diversity data gap in health psychology?

Novel perspectives on distress, well-being and self-management in psychocardiology research

Methods and interventions

Towards a Better Understanding of Antibiotics Expectations and Use

Child Health and Wellbeing

Coping with Cancer

15:30 - 17:00 Family Health and Wellbeing

Quality of life, mental health and wellbeing

Issues in Child & Adolescent Health and wellbeing

Family health and relationships

Subjective health and wellbeing across the lifespan

Health Psychology and aging

Healthcare Delivery and Medical Decision Making

Healthcare Professionals: Perspectives and Relationships

Mental Health, Drug Use and Addiction

Implementation in Chronic Condition Self-Management

Technology and Implementation

Implementation at Scale and Across Contexts

Occupational Health among Health Care Workers during the COVID-19 Pandemic

Occupational Health across Sectors during the COVID-19 Pandemic

The Breadth of Occupational Health

Developing tools and training towards better healthcare

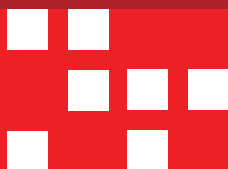
Shared decision making and patient-physician communication

Perceptions of illness, treatment and risks

■



Saturday, 27 Aug 2022



27.8

Saturday, 27 Aug

9:30 - 11:00 Embedding health behavior change in healthcare

Physical activity interventions

Broadening the focus: Examples of non-WEIRD research in health psychology

Health services research applications

Stress management interventions

Technological and digital solutions in the context of illness

# Challenges of teaching health psychology at Medical Universities. Interactive approach with scenarios

9:00 - 12:00

Warsaw



## Challenges of teaching health psychology at Medical Universities. Interactive approach with scenarios.

E. Wesołowska<sup>1</sup>

<sup>1</sup>WSB University in Gdańsk, Poland

### General idea of the workshop

Teaching psychology at medicine schools can be challenging due to students' focus and interest in their major biomedical subjects. Biopsychosocial model of health and disease can be not only described but also illustrated in health psychology classes. The facilitator's experience shows that the standard approach used in social science departments (relying on reading and discussing the resource materials) might be successfully enriched with interactive group activities. The activities are meant to prove the importance of health psychology for future doctors and increase their interest in the discipline.

Objectives of the workshop are:

1. to address the problems that teachers of health psychology in medical schools may face,
2. to provide practical suggestions how to teach health psychology showing its' relevance to work in medical professions,
3. to practice interpersonal skills useful for interactive health psychology classes,
4. to provide participants with ready-to-use scenarios for health psychology teaching.

Activities: the workshop includes 5 interactive group activities with subsequent discussions („ball game”, „leg lift”, „building blocks”, „assembling puzzles”, „criminal story”). Each activity takes approximately 45 minutes.

EXAMPLE: the first activity starts with individual measurement of heart rate, then a ball game is played requiring mental tasks performance in public. After that the HR is measured again. and psychosocial mechanisms of stress are discussed. At the end of activity relaxation technique and the third measurement of HR are done.

The other group activities planned for the workshop also require group interactions and aim to illustrate (a) the interdependence of mental and physiological functions, (b) barriers of effective doctor-patient communication and (c) problems of human activities coordination and team work in medical settings.

Intended participants:

Lectures, readers, educators, instructors of health psychology,

Anyone interested in psychological aspects of communication skills and team work.

Maximum 30 persons

# Preregistration for fun, profit, and exploration

9:00 - 12:00

Bratislava

9:00 - 12:00

## Preregistration for fun, profit, and exploration

C. Noone<sup>1</sup>, G. Peters<sup>2</sup>

<sup>1</sup>NUI Galway, Ireland

<sup>2</sup>Open University of the Netherlands, Netherlands

**Objectives:** This workshop provides an accessible introduction to preregistration for all types of research in health psychology. We will first focus on why preregistration became popular and how it differs from registered reports. Then we will discuss the additional benefits of preregistration, as well as criticisms of the practice that have been voiced. We will also consider barriers one might encounter when attempting to preregister a study and how one might deal with them. Finally, we will introduce a number of preregistration forms. The primary objective is that participants will come away from the workshop with the skills and knowledge to create preregistrations of their own.

**Activities:** Participants will critically discuss two examples of preregistration forms. They will then create a draft preregistration using the form of their choice on the Open Science Framework.

**Intended participants:** Everybody is welcome. For participants to get the most fun and profit out of the workshop, they should bring along an idea for a study they would like to preregister.

**Maximum number of participants:** 30

# Interpretative phenomenological analysis- a skill-based introductory workshop and update

9:00 - 16:00

Kiev

## Interpretative phenomenological analysis- a skill-based introductory workshop and update

P. Flowers<sup>1</sup>

<sup>1</sup>University of Strathclyde, United Kingdom

Background: IPA is now an established useful qualitative approach within European health psychology. In an attempt to enhance the quality of IPA studies those involved in the development of the approach have recently agreed to change the terms used to describe the analytic process. It is important for both new and older generations of health psychologists to understand IPA's key terms and also to participate in attempts to ensure the high quality of IPA studies. This interactive workshop is intended to support these goals.

Objectives:

a) Participants will develop an overview of conducting an IPA study and learn new terms to describe analytic steps (e.g., 'experiential statement'; 'personal experiential themes' and 'group experiential themes'); b) Participants will be taught and practice IPA interviewing skills to generate the best experiential data; c) Using examples, participants will be taught how to analyse data to generate 'exploratory notes', 'experiential statements', 'personal experiential themes' and 'group experiential themes'; d) Using examples, participants will discuss issues of quality within IPA studies.

Activities: The workshop will be interactive and multi-staged with multiple opportunities to engage with other attendees. It will mix convenor-led dissemination, plenary discussion, small group work, peer-feedback and convenor feedback.

Description of the intended participants. The workshop will be useful for people:-i) conducting an IPA study for the first time; ii) already familiar with IPA yet uncertain about the new terminology used to describe the analytic process; iii) people in positions where they will be reviewing or editing IPA studies for publication or teaching IPA. Given the multi-cultural nature of the conference it is essential that attendees are fluent and confident in spoken English.

# Using the Person-Based Approach to develop successful health behaviour change interventions

13:00 - 16:00

Warsaw

# Using the Person-Based Approach to develop successful health behaviour change interventions

K. Bradbury<sup>1</sup>, K. Morton<sup>1</sup>, L. Dennison<sup>1</sup>

<sup>1</sup>University of Southampton, United Kingdom

## Objectives:

- Provide an overview of the steps involved in using the Person-Based Approach (PBA) from intervention development to implementation
- Demonstrate how to use the PBA alongside theory-/evidence-based approaches.
- Provide detailed examples of how the PBA has been applied to optimise a variety of health behaviour change interventions
- Provide opportunity to practice techniques from the PBA, with feedback

## Activities

The PBA provides a systematic methodology which can be used to optimise behaviour change interventions. This methodology has been shown to be successful in making interventions more engaging, overcoming barriers to uptake and adherence. This workshop will equip users with a detailed understanding of how to use the PBA.

The workshop will begin with an overview of how the PBA can be used to plan and develop successful interventions, as well as to optimise interventions for implementation in real life settings.

We will then present detailed examples which showcase how the PBA is used throughout planning, optimisation and implementation, to maximise successful intervention outcomes. Demonstrations will include how the PBA can be used alongside theory- and evidence-based approaches to provide unique but complementary insights. A key challenge of intervention development is limited time. This workshop will therefore also demonstrate a PBA to rapid analysis of feedback from target users, which ensures efficient optimisation of behavioural interventions. The examples will include interventions which target patients and healthcare practitioners across a variety of health conditions (e.g. hypertension, infection control, cognitive decline, weight loss).

Delegates will be invited to:

- Share their experiences of intervention development/evaluation and partake in discussion on the application of the PBA to their own work.
- Try out several techniques from the PBA, with opportunity for discussion and feedback from facilitators.

Participants can be anyone interested in learning more about the PBA.

Up to 100 participants.

# Preregr for fun, profit, and adventure

13:00 - 16:00

Bratislava



13:00 - 16:00

## Preregpr for fun, profit, and adventure

G. Peters<sup>1</sup>, C. Noone<sup>2</sup>

<sup>1</sup>Open University of the Netherlands, Netherlands

<sup>2</sup>NUI Galway, Ireland

**Objectives:** This workshop covers new tools in the preregistration landscape, critical issues that must be considered when engaging in preregistration and the benefits and drawbacks of an infrastructure of centrally controlled preregistration forms. We then discuss a number of approaches to developing preregistration forms (e.g. delphi methods, scoping methods) and critically review existing preregistration forms. Finally, we will collaborate on designing a new preregistration form specifically for health psychology.

**Activities:** Participants will critically review existing preregistrations and then proceed to work on collaboratively building a new preregistration form.

**Intended participants:** Everybody is welcome.

**Maximum number of participants:** 30

# Predicting COVID-19 Protective Behaviours

9:30 - 11:00

London

Paul Norman

## Predicting health behaviors during the COVID-19 pandemic: A longitudinal study from April to July 2021

O. Luminet<sup>1,2</sup>, M. Schmitz<sup>1</sup>, R. Wollast<sup>1,3</sup>, A. Bigot<sup>1</sup>

<sup>1</sup>University of Louvain, Belgium

<sup>2</sup>Belgian Fund for Scientific Research (FRS-FNRS), Belgium

<sup>3</sup>Stanford University, United States

**Background:** Health behaviors including handwashing, mask wearing, social contact limitation, and physical distancing are crucial for slowing the propagation of COVID-19. We examined predictors of these health behaviors from April 2021 (peak of the third wave) until July 2021 (improved situation). Health behaviors outcomes were designed based on the measures that were in application by that time, were context-sensitive, and varied in their degree of application difficulty.

**Methods:** A total of 5803 French-speaking participants from Belgium (mean age 53.03, 57% females) took part in this longitudinal study (participants ranged from 1584 to 4112 depending on the wave).

**Findings:** A stable pattern of predictors emerged from the multiple regression analyses. Across behaviors and time, intentions, habits, internal motivations, higher risk due to comorbidity factors and perceived consequences for oneself health were related to higher application of the four health behaviors. Social norms predicted positively all health behaviors – except handwashing. Handwashing only was predicted by gender (female), being fearful, having more positive attitudes, higher perceived control, and no previous infection. Finally, feeling greater positive emotions such as enthusiastic, exhilarated, and proud was related to lower adherence to physical distancing and social contacts limitation.

**Discussion:** These results highlight a strong stability of predictors across time despite variations in severity of the disease with dimensions from socio-cognitive models of behavior change being central. Handwashing evidenced a relatively different pattern of predictors, contrasting with the avoidance nature of the three other health behaviors, which are more challenging to adopt and maintain.

## Protection Motivation Theory as a framework for understanding adherence to preventive behaviours during COVID-19

G. Nudelman<sup>1</sup>

<sup>1</sup>The Academic College of Tel Aviv-Yaffo, Israel

**Background:** This research proposes that Protection Motivation Theory (PMT) can serve as a theoretical framework for understanding individual differences in adherence to COVID-19 preventive behaviours (e.g., wearing a face mask and social distancing). PMT proposes two fundamental cognitive processes that drive responses to fear appeals: Threat Appraisal, which includes perceived vulnerability (to get infected) and perceived severity (of the disease), and Coping Appraisal, which includes perceived response efficacy (perceived effectiveness of the recommended behaviour) and self-efficacy (to protect oneself).

**Methods:** Two online self-report studies conducted in Israel were used to assess PMT components' capacity to predict adherence to COVID-19 recommended guidelines. The studies were conducted at different times throughout the pandemic, using similar measurements and a two time-point design: Study 1 (n = 711) included a six-week follow-up and Study 2 (n = 600) included a one-week follow-up.

**Findings:** Structural Equation Modelling revealed excellent fit indices for PMT in both samples, with approximately a quarter to over half of the variance in COVID-19 preventive behaviours explained (Study 1 and Study 2, respectively). In both studies, Coping Appraisal displayed much stronger associations with intentions and behaviours than Threat Appraisal.

**Discussion:** The findings demonstrate that PMT can serve as a theoretical framework for predicting adherence to COVID-19 preventive behaviours and suggest that it may be beneficial to particularly address Coping Appraisal components when developing public messages.

## Applying an integrated social cognition model to explain Covid-19 protection behaviours

P. Norman<sup>1</sup>, S. Wilding<sup>2</sup>, M. Conner<sup>2</sup>

<sup>1</sup>University of Sheffield, United Kingdom

<sup>2</sup>University of Leeds, United Kingdom

**Background:** Various behaviours have been recommended to reduce the spread of the SARS-CoV-2 virus. The present study tests an integrated social cognition model to explain Covid-19 protection behaviours over a two-month period.

**Methods:** A representative sample of 503 UK adults completed an online survey in December 2021 (shortly after the emergence of the Omicron variant) containing measures of intention, affective attitudes, cognitive attitudes, injunctive norms, descriptive norms, self-efficacy, perceived control, anticipated regret, moral obligation, action planning, coping planning, automaticity, and past behaviour in relation to eight behaviours (wearing face coverings, social distancing, hand washing, avoiding crowded places, cleaning surfaces, sneezing etiquette, meeting outdoors, and opening windows). In early February 2022, 445 participants completed a follow-up survey assessing behaviour.

**Findings:** Full adherence to the behaviours at follow-up ranged between 9% (meeting outside) to 80% (sneezing etiquette). The integrated model explained between 72% and 86% of the variance in intention (cognitive attitudes, descriptive norms, self-efficacy and moral obligation were the strongest/most consistent predictors) and between 27% and 56% of the variance in the behaviour at follow-up (intention and past behaviour were the strongest/most consistent predictors).

**Discussion:** The findings indicate that social cognition models can explain large amounts of variance on Covid-19 protection intentions and behaviours and therefore provide a strong basis for developing interventions. Such interventions should focus on strengthening people's intentions through messages emphasising the benefits of these behaviours, people's moral obligations (e.g., to protect others), the adherence behaviour of others, and ways to increase self-efficacy.

## Does autonomous motivation matter in COVID-19 prevention? Predicting personal protective behavior with motivation quality

M. Pietilä<sup>1</sup>, K. Saurio<sup>1</sup>, N. Hankonen<sup>1</sup>

<sup>1</sup>Tampere University, Finland

**Background:** Management of the COVID-19 pandemic has necessitated various protective behaviors, such as wearing a face mask and physical distancing. Citizens' volitional engagement in protective behaviors is essential for reducing transmission, as much of the required adherence is beyond authorities' control and difficult to supervise. Building on the Self-Determination Theory (SDT), this study explores the association between the quality of motivation and intention to wear a face mask and to avoid meeting others in two situational contexts: meeting people outside one's household, and inside a café, a restaurant, or a bar.

**Method:** Cross-sectional survey study involving a nationally representative sample (N = 2272) was conducted in Finland in May of 2021, when the peak of the third wave had passed and protective behaviors were still recommended to prevent acceleration of the epidemic. In multinomial logistic regression, intention was predicted with quality of motivation (autonomous motivation, controlled motivation, amotivation), controlling for perceived personal risk and fear towards COVID-19.

**Findings:** Autonomous motivation (range  $\text{Exp}(B) = 1.82\text{--}3.51$ ,  $p = .001$ ) consistently predicted intention to wear a mask and intention to avoid meeting people. Controlled motivation (range  $\text{Exp}(B) = .66\text{--}.93$ ,  $p = .001\text{--}.078$ ) was associated with decrease in protective behavior intentions. The effects of amotivation (range  $\text{Exp}(B) = .65\text{--}1.02$ ,  $p = .001\text{--}.911$ ) varied across analyses.

**Discussion:** Fostering autonomous motivation could increase adherence to protective behaviors in situations without clear mandates. The results also suggest that increasing perceptions of pressure, or appealing to personal risk and fear may not advance adherence as effectively.

## Identifying Key Belief-Based Targets for Promoting Uptake of COVID-19 Vaccinations in Australia

J. Keech<sup>1</sup>, K. Rune<sup>1</sup>

<sup>1</sup>University of the Sunshine Coast, Australia

**Background:** The rollout of novel coronavirus disease 2019 (COVID-19) vaccinations began in Australia in early 2021. However, research has indicated that hesitancy around receiving these vaccines was initially higher than for existing vaccines. Guided by the theory of planned behaviour, the current study aimed to identify the key beliefs associated with individuals' intentions to receive a COVID-19 vaccine as soon as it is available, and subsequent vaccine uptake behaviour. **Methods:** Community members in Australia were recruited to participate in online surveys via social media in early 2021. Participants in Phase 1 (N = 36) completed an open-ended survey assessing beliefs. Content analysis of Phase 1 data informed development of Phase 2 quantitative belief measures. Participants in Phase 2 (N = 405), which adopted a prospective correlational design, completed a quantitative survey measuring beliefs and intentions to receive a COVID-19 vaccine as soon as it is available. Participants were prospectively followed up to measure vaccine uptake behaviour approximately 7 months later after all Australians had the opportunity to be vaccinated. **Findings:** A range of beliefs were associated with intention to receive a COVID-19 vaccine as soon as it is available and prospectively associated with vaccination status. This included behavioural beliefs (e.g., prevent severe COVID-19 infection), normative beliefs (e.g., approval from family), and control beliefs (e.g., limited knowledge about long term effects). **Discussion:** The study identified key belief-based targets that can inform messaging to promote uptake of COVID-19 vaccinations. Future research may seek to experimentally test effects of messages targeting these beliefs.

## Habit formation of physical distancing and hand washing during the COVID-19 pandemic in the Netherlands

M. Adriaanse<sup>1,2</sup>, C. Zhang<sup>3</sup>, R. Potgieter<sup>4</sup>, J. de Wit<sup>4</sup>, M. de Bruin<sup>5</sup>, I. tummers<sup>4</sup>, J. Broersen<sup>4</sup>, H. Aarts<sup>4</sup>

<sup>1</sup>Leiden University, Netherlands

<sup>2</sup>Leiden University Medical Center (LUMC), Netherlands

<sup>3</sup>Eindhoven University of Technology, Netherlands

<sup>4</sup>Utrecht University, Netherlands

<sup>5</sup>radboud university medical center, Netherlands

**Background:** During the COVID-19 pandemic, physical distancing and hand washing have been promoted to reduce virus transmission in the Netherlands. The science of habit formation is potentially useful for informing policy-making regarding these preventive behaviours. Our research aimed to describe habit formation processes and to estimate the influences of habit strength and intention on behavioural adherence.

**Methods:** A longitudinal survey was conducted between July- November 2020 on a representative Dutch sample (N= 800). Respondents reported weekly their intention, habit strength, and adherence regarding six context-specific behaviours. Temporal developments were visualized, quantified, and mapped to five distinct phases of the pandemic. Regression models were used to test the effects of intention, habit strength, and their interaction on future adherence.

**Findings:** Respondents experienced their behaviours as more automatic over time. This increase in habit strength was more evident for physical distancing than hand washing behaviours. For all behaviours, both intention and habit strength predicted future adherence (all  $p$ s <  $2e-16$ ). The predictive power of intention decreased over time and was weaker for respondents with strong habits for physical distancing when visiting supermarket ( $B = -0.63, p < .0001$ ) and having guests at home ( $B = -0.54, p < .0001$ ) in the later phases of the study, but not for hand washing.

**Discussion:** Our findings describe how multiple health behaviours are executed in a critical real-world setting. Results demonstrate that this involves both intentional and habitual processes and that the potential for habit formation may differ across behaviours.



# Adolescent health

9:30 - 11:00

Rome

Angela Rodrigues

## A participatory developed school-based intervention promoting healthy sleep in adolescents – a process evaluation

J. de Boer<sup>1</sup>, M. Verloigne<sup>1</sup>, B. Deforche<sup>1,2</sup>, G. Cardon<sup>1</sup>, K. Leta<sup>1</sup>, A. Vandendriessche<sup>1</sup>

<sup>1</sup>Ghent University, Belgium

<sup>2</sup>Vrije Universiteit Brussel, Belgium

**Purpose:** Interventions to promote healthy sleep are needed among adolescents. Participatory Action Research (PAR) is a promising approach, but has not yet been used to develop a sleep intervention in adolescents. This study evaluates the process of a participatory developed school-based intervention targeting sleep hygiene, physical activity, screen usage, nutrition and relaxation to promote healthy sleep among 13 to 15 year olds.

**Methods:** In three schools (general education (GE, n=2), vocational education (VE, n=1)) a student action group (n=6-10) was composed to develop and implement an intervention. Teachers and fellow students supported the action group during implementation. Intervention components (e.g. app) were evaluated in all schools using student focus groups (receivers (n=59), implementers (n=36)). Additionally, questionnaires were completed in GE schools (students (n=798), teachers (non-implementers (n=8), implementers (n=5), parents (n=55)), to examine satisfaction and students' exposure to intervention components delivered by teachers and parents. Focus groups were audio-taped and coded using NVivo 12, questionnaires were analysed using SPSS 26.

**Results:** Implementers and teachers were inadequately informed about how to implement the intervention components and lacked motivation. Consequently, not all intervention components were implemented as planned. However, VE students evaluated Instagram, app, posters and discussion classes positively and GE students liked the kick-off event and Fitbit competition. Most parents did not discuss healthy sleeping behaviour with their child.

**Conclusions:** Future research should focus on providing sufficient training and fostering good communication with the implementers of the participatory developed intervention. Involving teachers from the beginning of the PAR is also recommended.

## How various forms of editing may affect adolescents' perception of health message credibility

K. Greskovicova<sup>1</sup>, R. Masaryk<sup>1</sup>, N. Synak<sup>1</sup>, V. Čavojová<sup>2</sup>

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Adolescents, as active online searchers, have easy access to health information. Much health information they encounter online is of poor quality and even contains potentially harmful health information. The ability to identify the quality of health messages disseminated via online technologies is needed in terms of health attitudes and behaviors. This study aims to understand how different ways of editing health-related messages affect their credibility among adolescents and what impact this may have on the content or format of health information. The sample consisted of 300 secondary school students (M age= 17.26; SD = 1.04; 66.3% female). To examine the effects of manipulating editorial elements, we used six short messages about the health-promoting effects of different fruits and vegetables. Participants were then asked to rate the message's trustworthiness with a single question. We calculated second-order variable sensitivity as the derivative of the trustworthiness of fake news from the trustworthiness of genuine neutral news. We also controlled for participants' scientific reasoning, cognitive reflection, and media literacy. Adolescents were able to distinguish overtly fake health news from real news. Real news with and without editorial elements were perceived as equally trustworthy, except for news with clickbait headlines, which were less trustworthy than other real news. The results were also the same when scientific reasoning, analytical reasoning, and media literacy were considered. Adolescents should be well trained to recognize online health news with editorial elements characteristic of low-quality content. They should also be trained on how to evaluate these messages.

## Understanding adolescent sleep health from a systems science perspective using a causal loop diagram

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**Background:** Many adolescents today sleep too little, experience poor quality sleep and report being structurally tired during the day. This has detrimental effects on their physical and mental well-being. This study aims to apply system dynamics methods to gain insights into the complexity of adolescent sleep health and to identify impactful points of leverage for interventions.

**Methods:** Three rounds of single-stakeholder Group Model Building workshops were held with adolescents (n=23, 12-15 years), parents (n=14) and professionals (n=26). Transcripts were analysed thematically to identify (interconnected) determinants influencing sleep health. An overall CLD was created by integrating the perspectives of all stakeholder groups. This CLD allowed for identifying causal mechanisms within the large, interconnected system of determinants that shapes adolescent sleep health. Subsequently, subsystems were distinguished and potential impactful leverage points were identified.

**Findings:** We identified eight subsystems within the overall CLD around the following themes: (1) School environment; (2) Mental health; (3) Screen use & social media environment; (4) Home environment; (5) Parenting practices; (6) Sleep environment; (7) Leisure activities; (8) Intake of food, drinks and sleep aids. In and between these subsystems, causal mechanisms with their own reinforcing and balancing feedback loops were identified. Determinants and dynamics that made up such impactful feedback loops within (sub)systems were considered as leverage points for systems change, such as reducing evening school notifications.

**Discussion:** The overall, multi-actor CLD allows for understanding complex system dynamics that underlie adolescent sleep health. This understanding is vital to design effective, preventive interventions that impact adolescent sleep health.

## Short videos to interrupt university students' sedentary behavior during online-lectures – a pilot study

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### Background:

Video-based health communication appears to be a promising approach to reduce sedentary behavior (SB) in the severely affected collective of university students, especially in times of online-lectures. More research is needed to identify effective video-based intervention strategies. Therefore, the aim of the present pilot study was to (1) examine differences in interruptions of SB (iSB) between different video types and sociodemographic groups, and (2) investigate whether iSB was predicted by SB intentions, SB attitudes, age, or gender.

### Methods:

Participating online-lectures were randomly assigned to one of three groups. During their online-lecture, participants of each group watched a video promoting the interruption and reduction of SB utilizing one of three different video types: animated-statistical (n=29), animated-narrative (n=32), static-statistical (n=35). After watching the video, participants filled out a survey. Ethical approval was received.

### Findings:

Of all participants, 48.0% interrupted SB during the video. Chi<sup>2</sup> test showed that iSB did not differ between video types but between age groups (p=.046). Older students (≥22 years) interrupted SB more often (61.4%) than younger students (40.4%). Binary logistic regression analysis indicated that iSB was predicted by the intention to reduce SB: OR=1.82, 95%CI [1.06, 3.13];  $\chi^2(4) = 14.071$ , p=.008; R<sup>2</sup>=0.191; 50.5% correctly classified cases.

### Discussion:

Videos during online-lectures appear as effective for iSB among students if characteristics of the target group (e.g., age), are considered. Surprisingly, no difference was observed between video types (varying in evidence types and cognitive load). More research on long-term effects and effective video-based health communication in students is needed.

## Identifying barriers and facilitators to physical activity in female adolescents in Germany: A photo-voice study

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**Background:** Female adolescents from socially disadvantaged areas are less physically active compared to males or those from areas of higher social advantage. There is a limited understanding how female adolescents perceive their own physical, digital and social environment in relation to being physically active. This study aimed to investigate barriers and facilitators to being active in everyday life among female adolescents.

**Methods:** This study followed Wang's (1997) photo-voice methodology. Female participants were recruited through local youth centres and eligibility criteria included being aged 14-18 years and having access to a smartphone. Following an initial photo workshop, participants were asked to take photos within their everyday lives which were subsequently discussed in semi-structured interviews. Interviews were audio-recorded, transcribed and analysed using thematic analysis. Findings were discussed with participants for respondent validation purposes.

**Findings:** Eleven female participants aged 15-18 years took part in the study. Not wanting to be seen in public and a fear of being judged by others were addressed by the majority of participants as key deterrents to physical activity. Lack of time and opportunity, financial cost, and hindering factors perceived in the physical environment provided further barriers. Being active together with other females, having fun and feeling good when being active were key facilitators.

**Discussion:** Using the photo-voice methodology facilitated in-depth conversations with young people. Providing female-only, 'fun' and non-judgemental opportunities to be active and considering gender-specific needs when designing activity-promoting environments might be key ways to promote physical activity in female adolescents.

## Harnessing adolescents' values for food choices: Co-creating food determinants maps

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**Background:** Interventions that focus on adolescents' values have shown promise in health behaviour change. However, very few studies have explored what motivates adolescents' food choices. This study aimed to explore what factors motivate adolescents' food choices, what the perceived impact of each factor is in relation to other factors, and how these factors relate to each other.

**Methods:** Adolescents aged 12 to 17 years participated in 24 semi-structured individual qualitative interviews to understand their motivation for food choices. In these interviews, a conceptual map of motivating factors was created with each participant. The individual maps were then collated into age group specific maps (12-13, 14-15 and 16-17 years-old). Six focus groups were conducted to explore connections and impacts of the different factors. Thematic analysis was used to analyse the transcripts.

**Findings:** Adolescents identified 4 main factors: social (e.g. parents, friends), environment (e.g. availability, affordability, convenience), social norms/external pressures and autonomy (e.g. money, preference). From these factors, they identified the order of importance, which oscillated between environment and social. While adolescents identified relationships between social and environment, these influences were always connected to the self (autonomy).

**Discussion:** Adolescents are aware that their food choices are a complex process based on the interaction of multiple factors. Their understanding of the compromise they make between factors provides essential information to design interventions that can effectively engage and support healthier food choices in this age group.

# Potential of new social approaches to study and influence health behaviors

9:30 - 11:00

Paris

Jutta Mata and Dolores Albarracin



## Potential of new social approaches to study and influence health behaviors

J. Mata<sup>1</sup>, D. Albarracín<sup>2</sup>, U. Scholz<sup>3</sup>, R. Band<sup>4</sup>, A. Jung<sup>2</sup>

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### Purpose

Humans are social beings and their health is significantly influenced by social interactions. Many health behaviors are social activities, have social costs or benefits, and can be more effectively changed when others are involved. This has been further intensified by the omnipresent connectedness via social media. Yet, we have only started to think conceptually about health as a product of social interactions and health behaviors as social activities. Our research and interventions do not yet make full use of the potential of understanding health in a social context and health behaviors as social activities; this includes technology to address these social aspects.

### Objectives

- Introduce and discuss conceptual ideas of health in a social context and health behaviors as social activities: What does a social perspective imply for theory building, research, and interventions?
- Present and discuss examples of researching health behaviors as social activities
- Give a demonstration of and report experiences from building and do research with a large online community of people who use drugs

### Rationale

The social dimension is at the heart of health in general and health behaviors specifically and both are core topics at the EHPS conference. At the same time, integrating the social dimensions of health and health behaviors in theories, research, and interventions continues to leave many open questions and challenges. This roundtable wants to show new conceptual and empirical approaches and discuss them with the EHPS community.

### Summary

Jutta Mata will talk about eating as a social activity, including conceptual considerations and experiences from studying eating as a social activity, and implications for research and interventions. Urte Scholz will discuss consequences and challenges of research and interventions of dyadic health behaviors and how to expand or build new health behavior theories. Rebecca Band will present her work on social networks to better understand and tackle loneliness in communities. Dolores Albarracín will talk about the creation of an online community to improve interactions among people who use drugs and society at large, using large community populations to better understand and control the opioid crisis in the U.S. Annie Jung will talk about how social motivation for vaccination (e.g., vaccinating to protect

others) differentially impact vaccination across regions that vary in social density. The roundtable will encourage discussion with the audience. The goal is to identify next steps in theory building and research in understanding social dimensions of health and health behaviors.

# Women's health in a cultural context: Identifying risks and opportunities for change

9:30 - 11:00

Berlin

Efrat Neter

## Pregnant women's pandemic-related stress, fear of childbirth, and postpartum post-traumatic stress symptoms

Y. Benyamini<sup>1</sup>, N. Kidra<sup>1</sup>

<sup>1</sup>Tel Aviv University, Israel

**Background:** The study aimed: (1) To assess pregnant women's concerns about the possible impact of the COVID-19 pandemic on their pregnancy and childbirth; and, (2) to investigate whether these concerns amplify the effect of fear of childbirth (FOC) on increased risk of post-traumatic stress symptoms.

**Methods:** In this longitudinal study, pregnant women (N=2034) were recruited online from 9/2020 to 1/2021 and filled in questionnaires at gestation weeks  $\geq 20$  and again 6-8 weeks postpartum (N=1405). The prenatal questionnaires included the Pandemic-Related Pregnancy Stress Scale (PREPS), FOC, physical and depressive symptoms. Postpartum questionnaires included questions about the experience of childbirth and postpartum posttraumatic stress symptoms (PP-PTSS).

**Findings:** About a third of the women were worried that COVID-19 might harm their pregnancy and childbirth, that they will not receive proper care; over 40% were concerned that it will ruin their birth plans, that they will not be able to bring the companion/s they wish, and that they will be separated from their baby. The total PREPS score correlated with FOC ( $r=.37$ ) and depressive symptoms before ( $r=.28$ ) and after birth ( $r=.17$ ; all  $ps<.001$ ). The PREPS and FOC interacted to predict a subjective traumatic birth and stronger PP-PTSS ( $F(1,1255)=8.59$ ,  $p<.001$ ; FOC was most strongly associated with PP-PTSS when pandemic stress was highest), controlling for mode of birth.

**Discussion:** Pregnant women may be particularly vulnerable to concerns about their pregnancy and childbirth in pandemic times. These concerns may amplify the effect of fear of childbirth on their birth experience and the risk for post-traumatic reactions.

## The role of maternal depression symptoms and maternal-foetal attachment in predicting exclusive breastfeeding

A. Baban<sup>1</sup>, M. Costin<sup>1</sup>, D. Taut<sup>1</sup>

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**Background:** Previous research shows that 61% children younger than six months, coming from low-and middle-income countries are not exclusively breastfed. While breastfeeding might foster child attachment, data on the role of pre- and postnatal depression on breastfeeding is mixed. It is unclear whether depression interferes with maternal attachment, and this in turn, influences breastfeeding behaviors. Thus, we tested the potential mediating role of maternal-foetal attachment in the relationship between maternal pre- and postnatal depression and exclusive breastfeeding.

**Methods:** Data were collected as part of a larger prospective, cross-cultural project, Evidence-for-Better-Lives. 150 third-trimester pregnant women from Cluj-Napoca, Romania (M age= 30.04, SD= 4.6) completed Computer-Aided-Personal-Interviews on prenatal depressive symptoms, maternal-foetal attachment and socio-economic status. 115 women provided follow-up data at 3-6 months, about postnatal depressive symptoms, exclusive breastfeeding and infant health indicators. We used SPSS macro (Preacher&Hayes) to perform bootstrap analysis for the mediation models.

**Results:** After controlling for covariates, prenatal depression had a significant direct effect on postnatal depression ( $b=-.05$ ,  $s.e.=.22$ ,  $p=.79$ ), but not on maternal-foetal attachment ( $b=.31$ ,  $s.e.=.07$ ,  $p<.001$ ). The mediation model which included all variables was not significant ( $\chi^2(7)=13.06$ ,  $p=.07$ ). The direct effects on breastfeeding were significant for maternal-foetal attachment ( $b=.95$ ,  $s.e.=.02$ ,  $p<.05$ ), but not for postnatal depression ( $b=.95$ ,  $s.e.=.07$ ,  $p=.49$ ). There were no significant indirect effects overall ( $IE= -.01$ ,  $s.e.= .03$ , 95%,  $CI[-.08, .07]$ ).

**Conclusion:** Maternal-foetal attachment did not mediate the relationship between depression (pre- or postnatal) and breastfeeding exclusivity. The intricate relationships between maternal depression, attachment and breastfeeding should be further addressed in larger, multi-cultural samples.

## Decision Coaching-Navigation Intervention for Cancer Genetic Risk Assessment: Large Effect Size but Room to Grow

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**Background:** Breast and ovarian cancer survivors with a germline mutation are at increased risk for second cancers and aggressive disease, while their family members are at increased risk for diverse primary cancers. Fewer than 30% of eligible women receive cancer genetic risk assessment (CGRA), including genetic testing and/or counseling, with the lowest rates among underserved populations. The Genetic Risk Assessment for Cancer Education and Empowerment Project (GRACE) sought to increase CGRA uptake among breast and ovarian cancer survivors. **Methods:** Six hundred forty-one breast and ovarian cancer survivors meeting genetic testing criteria enrolled in GRACE. Guided by the Extended Parallel Process Model and Health Action Planning Approach, participants were randomized to 1) Usual Care (UC); 2) Targeted Print (TP), consisting of a mailed, educational brochure; or 3) Tailored Counseling and Navigation (TCN), including a telephone-based, psychoeducational/motivational interviewing session with a health coach, tailored letter, and follow-up call 7 weeks later. **Findings:** In logistic regression analysis, higher CGRA rates occurred among women in TCN vs. TP (OR=7.4; 95% CI=3.0–18.3;  $p<.0001$ ) and UC (OR=8.9; 95% CI=3.4–23.5;  $p<.0001$ ). Despite TCN's large effect sizes in improving theoretical targets and CGRA uptake, 81% of women in TCN did not obtain CGRA. Commonly cited CGRA barriers included cost concerns, no physician recommendation, and additional appointments. Barriers varied by race and ethnicity. **Discussion:** Tailored interventions to better address these barriers are critical to promoting CGRA among cancer survivors at increased risk for hereditary breast and ovarian cancer and decreasing cancer incidence and mortality in high-risk families.

## Stresses of COVID-19 and future expectations among women: A cross-cultural analysis using the femininity-masculinity dimension

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**Background:** The COVID-19 pandemic created multiple stressors and uncertainty, particularly for women. This international study including 15 countries explored whether the impact of COVID-19 pandemic on women's stressful experiences and future expectations varied by Hofstede's cultural dimension of masculinity/femininity.

**Methods:** Women from masculine (n = 762) and feminine (n = 459) cultures provided narrative data by answering two open-ended questions via an online survey. Mixed methods were used: data were initially analysed through thematic content analysis followed by logistic regression analyses.

**Results:** Women from both cultures wrote about many similar stresses and expectations. However, compared to women from masculine cultures, women from feminine cultures reported higher self-rated health (Cohen's d = .22) and expressed less health concerns and disorientation (37.5 % and 81.9% decrease in odds, p < .001), but more financial and social stresses as well as increased negative affect (30.8% and 41.1% increase in odds, p = .001). Additionally, women from feminine cultures expressed more future expectations for themselves and society (26.1% and 64.4% increase in odds, p < .001).

**Discussion:** The pandemic seems to be a "strong situation" that confronts women in both cultures with similar challenges. The differences between women from feminine vs. masculine cultures indicated that increased societal participation and responsibilities of women in feminine cultures have positive as well as negative effects on experiencing stress during the pandemic, but they also propel plentiful expectations for the future "after COVID-19".

## Participatory Action Research: Addressing Inequalities in Cervical Cancer Screening in Bulgaria

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**Background:** Cervical cancer screening significantly reduces morbidity and mortality. For Bulgarian women there are multiple barriers for accessing such programs and many vulnerable women are not covered by screening. This leads to inequalities in cervical cancer among different groups of women within Bulgaria, and compared to other countries. Bulgaria is participating in the CBIG-SCREEN Horizons 2020 project, which aims to create a Europe-wide collaboration to identify barriers and develop innovative approaches to reducing inequities. The aim of this presentation is to highlight the strengths of participatory approaches to cervical cancer prevention and in other areas of women's health.

**Methods:** Participatory Action Research (PAR) is an epistemology of knowledge co-creation, according to which community representatives are part of the whole research. It destabilizes existing understandings of expertise by engaging underrepresented women as co-researchers, considering them experts on the topic. Through the process of co-creation of research outcomes and action, all researchers critically interrogate the hierarchies, structural barriers and the inequities associated with a health issue.

**Findings:** PAR employs collaborative research to identify barriers and solutions to the low screening coverage in Bulgaria, which would directly translate to policy recommendations and screening programs, engaging vulnerable subpopulations. As an example, we give the organization of "Collaborative User Boards" (CUBs) which illustrate a process of co-creation of knowledge and contextually relevant policy solutions to the low screening coverage due to multiple barriers.

**Discussion:** The discussion argues for participatory approaches in cervical cancer screening research and in the development of tools and approaches for prevention.



# Impact of smartphone use on health-related outcomes: Do we need to worry about it?

9:30 - 11:00

Vienna

Jan Keller

## Activity promotion vs increase in screen time in children – balancing intended and non-intended effects

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### Introduction

Digital technologies can assist physical activity (PA) promotion in children, e.g., in improving reach into hard-to-engage populations, and delivering evidence-based behaviour change content. At the same time, increased engagement with technology can increase unintended consequences such as increases in screen time and consequentially sedentary behaviour. Here, we provide a scoping review on current applications of digital technology in PA promotion in children, focusing on intended and unintended consequences of engagement with technology. The distal aim is to develop a set of recommendations for the development and implementation of digital technology which minimizes unintended effects of increased screen time.

### Methods

A scoping review protocol has been developed (<https://doi.org/10.17605/OSF.IO/CRPXG>). Data to be extracted includes categories of the RE-AIM framework, aspects of social inequality, design features, behaviour change techniques, and outcomes. An iterative framework development process including participatory workshops will support the development of recommendations.

### Results

The scoping review literature search has revealed 6463 papers, which are currently screened in title/abstract and full text. Based on the current inclusion rate, we expect ~50 papers available for data extraction. Two participatory workshops have been conducted which aided in formulation of search terms and recommendation goals.

### Discussion

We expect to deliver a concept for the design of digital interventions for the promotion of PA in children that at the same time avoids unintended consequences such as increased screen time, and ready-to-use recommendations on the use of digital technologies in PA promotion for practitioners and stakeholders.

## Constantly connected, constantly ignored. Systematic review and meta-analysis examining the associations between phubbing and well-being

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**Background.** Today, smartphones are omnipresent. With this, phubbing (phone-snubbing), the disregard of a face-to-face interaction partner in favor of one's smartphone, has also become a pervasive phenomenon. Research indicates that phubbing is a harmful exclusion experience and can therefore engender a multitude of adverse consequences in its targets. Yet, a systematic synthesis regarding these consequences is still lacking. Therefore, the present research aimed to provide the first comprehensive systematic review of the phubbing literature in order to identify the associations between being the target of phubbing and emotional, cognitive, behavioral, and social well-being related factors.

**Method.** In line with PRISMA-guidelines, we performed systematic literature searches within databases (e.g., PsycINFO) and through other strategies (e.g., utilization of listservs) identifying a total of 212 published and unpublished records. After the eligibility screening,  $k=77$  observational and experimental studies remained. From these studies, we extracted various characteristics such as participants' age, phubbing measure, outcome variables, and effect sizes. Meta-analyses based on correlation coefficients were performed provided sufficient data.

**Results.** The systematic review included  $N=42.093$  participants. We identified associations between being the target of phubbing and depressive symptoms ( $k=13$ ;  $r=.13-.41$ ), feelings of exclusion ( $k=8$ ;  $r=.18-.44$ ), behavioral impairments such as problematic technology use ( $k=10$ ;  $r=.01-.46$ ) as well as social consequences including relationship dissatisfaction ( $k=16$ ;  $r=.05-.72$ ) and interpersonal conflict ( $k=8$ ;  $r=.27-.57$ ).

**Discussion.** The present research corroborates that phubbing is a detrimental experience. Consequently, interventional programs focusing on promoting smartphone use competencies in social situations should be introduced.

## Digital Detox as Response to Information Overload? The Role of Smartphone Literacy and Nomophobia

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Digital media users are everyday confronted with an abundance of information via their mobile devices. This constant stream of content can be overwhelming and result in perceived information overload (PIO; Cao & Sun, 2018), which may explain the growing need for periods of digital disconnection (Syvertsen & Enli, 2020). To fulfill this need, individuals may regulate their digital media use with so-called digital detox applications (Monge Rofarello & de Russis, 2019) or they may disengage from their digital devices altogether (Wilcockson et al., 2019). Yet, which type of disengagement is more likely in response to PIO and whether this choice depends on person-specific traits remains unclear.

Drawing from Lang's limited capacity model (2000) and Vanden Abeele's concept of digital wellbeing (2021), two surveys with young adults are conducted to explore whether PIO stimulates the use of digital detox apps or smartphone disengagement. A survey of young adults (N = 500) reveals that PIO is positively related with the use of digital detox apps as well as the intensity with which the functions of these apps are used. Findings of a second survey (N = 363) confirm that PIO is positively related with digital detox app use and shows that this association is stronger for individuals with higher nomophobia. In contrast, complete smartphone disengagement in response to PIO is more likely for individuals with low smartphone literacy. Overall, this study suggests that there is no one-size-fits-all approach for digital disconnection. Rather, individual predispositions determine how users respond to PIO.

## Take a break?! Effectiveness of digital detox on health-related outcomes – A systematic literature review

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**Background.** Smartphone use can impair well-being and is related to clinical phenomena like depression or sleep difficulties. Digital detox interventions have been suggested as a solution to reduce negative impacts from smartphone use. Digital detox is defined as timeouts from using electronic devices such as the smartphone. However, it remains unclear whether digital detox is an effective strategy to promote a healthy way of life in the digital era. Thus, the present systematic review aims to compare findings regarding digital detox interventions.

**Methods.** Systematic searches of seven databases have been carried out according to the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) guidelines. Intervention studies were extracted that examined timeouts from smartphone use and/or smartphone-related use of social network sites (SNS) and instant messaging.

**Results:** The review resulted in k = 21 extracted studies (total N = 3625 participants). The results showed that the effects from digital detox interventions varied across studies on health and well-being, social relationships, self-control, or performance. For example, some studies found positive intervention effects on depression symptoms or smartphone use, whereas others found no effect or even negative consequences for well-being.

**Conclusions:** Possible reasons for the inconsistent findings could be the wide variety in the implementation of digital detox interventions (e.g., different time durations of the digital detox period), or the different measurement time points to evaluate effects of the digital detox interventions. We recommend the implementation of high-quality empirical research to understand under which circumstances digital detox is helpful and for whom.

## A mobile intervention for self-efficacious and goal-directed smartphone use: Randomized controlled trial

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**Background:** People spend large parts of their everyday life using their smartphones. Despite various advantages of the smartphone, problematic forms of smartphone use exist that are related to negative psychological consequences. This study aims to evaluate a theory-based mobile intervention that was developed to support people in using their phone in accordance with their goals.

**Methods:** In a randomized controlled trial with 232 participants, effects of a 20-day intervention app consisting of five 4-day training modules were evaluated. In an active control condition, participants received a digital detox treatment and planned daily time-outs of at least 1 hour per day. Up to a 3-week follow-up, problematic smartphone use, daily smartphone use, smartphone unlocks, self-efficacy, and planning towards goal-directed smartphone use were assessed.

**Findings:** Both conditions manifested substantial reductions in problematic smartphone use and time of smartphone use. The number of daily unlocks did not change over time. Self-efficacy at postintervention was a mediator between the intervention and problematic smartphone use at follow-up ( $b = -0.09$ ; 95% CI  $-0.26$ ;  $-0.01$ ). Another mediation was found from planning via smartphone unlocks on problematic smartphone use at follow-up ( $b = -0.029$ ; 95% CI  $-0.078$ ;  $-0.003$ ).

**Discussion:** The mobile intervention has been found useful in lowering problematic smartphone use and time spent with the smartphone, however, it was not superior to the active control condition. The present findings highlight the importance in promoting self-efficacy and planning. This scalable intervention app appears suitable for practical use and as an alternative to common digital detox apps.

# Health behaviour in older adulthood

9:30 - 11:00

Warsaw

Jenny Groarke

## The acceptability of homebased exercise- and Tai-chi snacking in UK and Taiwanese older adults

I.J. Liang<sup>1</sup>, J. Francombe-Webb<sup>1</sup>, O. Perkin<sup>1</sup>, P. McGuigan<sup>1</sup>, D. Thompson<sup>1</sup>, M. Western<sup>1</sup>

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**Background:** Exercise 'snacking' and Tai-chi 'snacking' protocols are designed to overcome typical barriers to older adults' participation in muscle strength and balance exercise, using short bouts of home-based exercise. This study aimed to investigate the acceptability of homebased exercise- and Tai-chi snacking in British and Taiwanese older adults of high and low physical function.

**Methods:** Thirty-three British and Thirty Taiwanese older adults took part in semi-structured interviews, after trying one-week exercise- and Tai-chi snacking. The interview schedule and deductive framework analysis were based on the seven components of the Theoretical Framework of Acceptability (TFA). Differences between the Taiwanese and UK participants and those considered high versus low physical function were also analysed.

**Findings:** Both snacking regimes were found to be convenient and easy to implement. Participants reported that no activity had to be given up and considered the programmes would be beneficial to their physical and mental health. Interestingly, more UK-based participants preferred the elegant and relaxing movements of Tai-chi snacking, yet participants with low physical function experienced difficulties when mastering Tai-chi movements. A few high physical function participants perceived exercise snacking to be tedious.

**Discussion:** Overall, the snacking exercise was found to be acceptable and useful. Personal affective attitudes and different cultural backgrounds may affect exercise participation. Nevertheless, it is important to consider individuals' physical functions when designing exercise regimes. The findings indicate that making Tai-chi snacking easier to master initially, building in progression and adding some upper body movements in the exercise snacking may further enhance acceptability.



## Older adults' barriers and facilitators when formulating implementation intentions for physical activity- A qualitative study

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For older adults, physical activity is an important health behaviour. Implementation intentions are an effective strategy to implement physical activity in daily life. However, evidence for older adults is inconclusive. This study explored potential difficulties and facilitators older adults face when formulating implementation intentions and their related beliefs. Three samples of older adults from the United Kingdom (n = 8), Germany (n = 9), and Switzerland (n = 17) were prompted to think aloud while formulating implementation intentions. After the task, semi-structured interviews were conducted. Data were analysed using thematic analysis. The data suggested that older adults can have pre-established negative beliefs about planning before formulating implementation intentions (e.g. that planning is too restrictive). During the formulation of implementation intentions, participants reported several barriers (e.g. absence of a recurring daily routine) and facilitators (e.g. that the cue was a useful reminder to be active, and that the task triggered self-reflection about physical activity). After the task, a caveat for using implementation intentions mentioned was that they are not always applicable due to several circumstances, e.g. spontaneous alternative activities, weather, health-related or Covid-19-related barriers. In the Swiss sample, forming implementation intentions spontaneously triggered coping planning. The results on barriers and facilitators of implementation intentions from older adults' perspectives provide starting points for improving implementation intention effectiveness related to physical activity in this population. Which could lead to better tailored intervention using implementation intentions for physical activity enhancement in older adults in the future.

## A qualitative study exploring music as a behaviour for managing older adult wellbeing during COVID19

J. Groarke<sup>1,2</sup>, N. MacCormac<sup>2</sup>, P. McKenna-Plumley<sup>2</sup>, L. Graham-Wisener<sup>2</sup>

<sup>1</sup>National University of Ireland, Galway, United Kingdom

<sup>2</sup>Queen's University Belfast, United Kingdom

### Background:

Loneliness and isolation worsen physical and mental health, have been exacerbated by COVID-19, and are of particular concern in older adulthood. Music listening has a range of effects that could support social and emotional wellbeing during periods of isolation. This study aims to explore older adults' music listening behaviour during the COVID-19 pandemic.

### Methods:

Semi-structured interviews were carried out using video-conferencing software between May and June 2021. To elicit more in-depth responses, participants selected a valued piece of music to listen to at the beginning of the interview. Participants were 14 adults residing in Northern Ireland (6 males; 60-83 years,  $M = 72.36$ ,  $SD = 6.07$ ). Data was analysed using thematic analysis.

### Findings:

Two main themes were identified: 1) Music listening for emotional functions and 2) Music as a social surrogate. Older adults had a preference for listening to upbeat music to induce positive feelings (1.1), and used music for negative affect regulation, consolation and comfort (1.2). Music listening acted as a social surrogate by providing company (2.1), and as a means of remembering and reliving social relationships and experiences (2.2).

### Discussion:

Participants described music listening as a valuable behavioural strategy for maintaining social and emotional wellbeing during a period of isolation and distress. Findings support a vast body of research evidencing music's positive effect on affect regulation and represent the first qualitative study of music as a social surrogate. Future research should investigate the feasibility and effectiveness of music-based reminiscence interventions for social surrogacy among isolated older adults.

## A cognitively enriched walking program for older adults to boost cognitive functioning: a pilot study

P. Hotterbeex<sup>1,2</sup>, M. Beeckman<sup>2</sup>, J. Latomme<sup>2</sup>, G. Cardon<sup>2</sup>, S. Chastin<sup>2,3</sup>, J.G. van Uffelen<sup>1</sup>

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<sup>3</sup>Glasgow Caledonian University, United Kingdom

Given the rising prevalence of dementia, healthy cognitive ageing is a research priority. We conducted a two-phased pilot study of our newly developed cognitively enriched walking program for older adults (65+) to boost cognitive functioning.

In phase one, one-on-one walk-along interviews were conducted (n = 163), during which the participant performed three cognitive exercises. The exercises were evaluated on a five-point rating scale and oral feedback was gathered. Quantitative data were analyzed descriptively, qualitative data were analyzed through content analysis. In phase two, older adults (n = 19) engaged in group-based cognitive walks twice a week for three weeks, supervised by coaches (n = 3). The older adults and coaches evaluated the enjoyability and feasibility of the group program, both briefly in process evaluation questionnaires (immediately after each session) and more in-depth during focus groups (after finishing all sessions).

Results from the walk-along interviews show that cognitive exercises were positively evaluated if they were integrated in the walks, fun, fostered social interaction and included freedom of choice. They were negatively evaluated if there was no competitive element, exercises were considered too easy, difficult to integrate, or people felt ashamed. Suggestions for improvement were a quiet and safe environment, social interaction, linking exercises with everyday life and differentiating task difficulty. Preliminary evaluation of results from phase two showed similar results, indicating that these are essential characteristics for the cognitively enriched walks.

Based on these results, the intervention will be refined to evaluate the cognitive effects of the program in an RCT.

## **“With a little help I manage”: helpful support for residents with chronic-pain in long-term care**

M. Matos<sup>1</sup>, S. Bernardes<sup>1</sup>

<sup>1</sup>CIS/ISCTE-IUL, Portugal

**Background:** Up to 90% of the residents in long-term care facilities (LTC) suffer from chronic pain (CP), with major negative impacts on their psychological and physical functioning. Despite its prevalence and impact on LTC residents, CP is often underreported, underrecognized, under-assessed, and undermanaged. However, research has lacked to address the extent to which residents' experiences with staff responses to their pain accounts for such outcomes. This qualitative study aimed to investigate residents' subjective experiences of receiving pain-related social support and to identify which caregivers' responses are perceived as helpful or unhelpful to pain adjustment.

**Methods:** Data was collected through online individual semi-structured interviews and a thematic analysis was conducted. Twenty-nine LTC residents (7men, 22women, Mage=87.7) with CP, participated in this study.

**Findings:** Two main themes emerged: (1) pharmacologic and non-pharmacologic support elicited and/or received to reduce pain during pain crisis; (2) Received pain-related instrumental support for activities of daily living (ADL). Overall, findings show that the most helpful support is protective of residents' autonomy and embedded in connectedness. Also, supportive interactions were influenced by traditional gender roles.

**Discussion:** By taking the care receiver perspective, this research brings novel contributions to the discussion on older adults' reluctance to seek for and receive pain-related assistance, highlighting the role of resident-caregiver interactions. Furthermore, our findings bring practical contribution to the context of LTC by informing best care practices towards residents with CP.

## Integration of illness into caregivers' identity: Associations with burden, wellbeing, and attachment

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<sup>4</sup>Bar-Ilan University, Israel

**Background:** Caregivers are individuals who provide unpaid care for a relative or friend with chronic illness or disability. Studies have shown that coping with illness is more adaptive when caregivers successfully integrate their loved ones' illness into their self-concept. The current presentation will describe preliminary findings regarding types of illness integration (acceptance, rejection, enrichment, and engulfment), and the associations among them and caregivers' burden and wellbeing. Additionally, as attachment orientations play a fundamental role in identity formation, coping and caregiving, we assessed whether attachment orientations moderate the associations between the type and level of illness integration and caregivers' outcomes.

**Method:** A cross-sectional survey was conducted among informal caregivers (N = 162) on the "Camoni" website - a non-profit, on-line social support network for patients and caregivers. We applied the Illness Identity Questionnaire to assess the level of illness integration in the self, and the Experiences in Close Relationships Scale to measure attachment orientations. Outcome measures were assessed using the caregiver Burden Inventory and the Warwick-Edinburgh psychological Wellbeing Scale.

**Findings:** As hypothesized, acceptance was found to associate positively with wellbeing and negatively with burden, whereas engulfment associated negatively with wellbeing and positively with burden. Attachment moderated the association between engulfment and burden as well as the association between rejection and wellbeing.

**Discussion:** This study provides a novel insight into the concept of integration of illness in caregivers' self. It seems that interventions for caregivers should consider the significant effect of illness integration on caregivers' burden and wellbeing.

# Stress, affect and well-being

9:30 - 11:00

Bratislava

Ainslea Cross

## Different Associations of Post-Traumatic Growth and Well-Being among the Dutch General Population during COVID-19 Pandemic

D. Blom<sup>1</sup>, E. Sulkers<sup>1</sup>, W. Post<sup>2</sup>, M. Schroevers<sup>1</sup>, A. Ranchor<sup>1</sup>

<sup>1</sup>University Medical Center Groningen, Netherlands

<sup>2</sup>University of Groningen, Netherlands

**Background.** Apart from experiencing negative consequences after a stressful event, people may report positive changes (e.g., greater appreciation of life), defined as post-traumatic growth (PTG). To gain a deeper understanding of the association of PTG and well-being, the study examined whether groups of individuals exist that differ in the association of PTG and well-being during the COVID-19 pandemic.

**Methods.** We conducted a longitudinal study from April 2020 until March 2021. The online questionnaire, including PTG (PTGI-SF) and well-being (MHI-5), was filled in by 975 participants. From the total sample, 467 individuals who at least filled in two of the eight assessments were included. Each assessment was related to significant changes in the COVID-19 restrictions in the Netherlands. Multivariate latent growth mixture modelling was performed.

**Findings.** Analysis identified 3 groups that mainly differ on initial well-being and PTG with slight changes over time: 1) individuals with initial moderate well-being and PTG, which remain stable over time (43%), 2) individuals with initial low well-being and PTG with a slight decrease of well-being over time and stable PTG (34%), and 3) individuals with initial low well-being that remains stable over time and initial moderate PTG that slightly decreases over time (23%).

**Discussion.** For some individuals, PTG may be beneficial as higher levels of PTG was found to coexist with higher well-being. For others, PTG may be less beneficial as PTG was found to coexist with lower well-being. Further research is needed regarding an individualistic approach in examining directional influences between PTG and well-being.

## How does expecting positive events relate to event-related enjoyment, appraisals, and daily affect?

P. Klaiber<sup>1</sup>, G. Pfund<sup>2</sup>, L.Q. Ong<sup>1</sup>, K.A. Leger<sup>3</sup>, P.L. Hill<sup>2</sup>, N.L. Sin<sup>1</sup>

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<sup>2</sup>Washington University St. Louis, United States

<sup>3</sup>University of Kentucky, United States

**Background:** Engaging in daily positive events can provide benefits for health and well-being. Some of these events occur unexpectedly, such as a surprise party, but some are known to happen in advance, like a dinner with friends. It might be that expected positive events have additional benefits for individuals as these events involve more agency and preparation (e.g., anticipatory positive emotions, planning to ensure optimal conditions for the positive event). We hypothesized that expecting positive events is linked to greater enjoyment and feelings of control during these events, as well as more pronounced affective responses.

**Methods:** Over 10 consecutive weekdays, 349 community-dwelling adults across the U.S. (ages 19-74) completed surveys in the morning about their positive event expectations and in the evening regarding the positive events that occurred and their daily affect.

**Findings:** We found that on days when people expected more frequent positive events than usual, they rated their positive events as more enjoyable and under more personal control. In addition, positive event occurrence was linked to greater daily positive affect. This positive event-related affect, however, was not greater when more positive events were expected.

**Discussion:** In sum, expecting positive events might allow more agency over these events (such as planning) to ensure optimal conditions for these experiences, resulting in greater perceived control and positive event enjoyment. Increasing agency over positive events by encouraging better forecasting of positive events might be a tangible strategy to increase positive event control and enjoyment.



## Do loneliness and depression mutually influence each other over time?

H. Mayerl<sup>1</sup>, E. Stolz<sup>1</sup>, W. Freidl<sup>1</sup>

<sup>1</sup>Medical University of Graz, Austria

**Background:** Previous research suggested a bi-directional relationship between loneliness and depression, yet the underlying mechanisms remain poorly understood. The current study aimed at examining how symptoms of loneliness and depression jointly unfold across time both within and between individuals.

**Methods:** We modeled survey data of N=8,472 older adults gathered in the English Longitudinal Study of Ageing (ELSA), including eight panel waves over a time period of 15 years. Data were analyzed using a latent curve model with both a cross-lagged structure and a growth curve component.

**Findings:** The results did not indicate considerable cross-lagged effects of loneliness and depressive symptoms at the within-person level. Yet, episodes of loneliness and depressivity occurred simultaneously within individuals. At the between-person level, it showed that individuals with higher levels and steeper growth in loneliness were more likely to also show higher levels and steeper growth in depressive symptoms.

**Discussion:** These findings question the assumption that loneliness and depression mutually influence each other over time, but rather suggest that these constructs share a common vulnerability to the same causes.

## Substance use among middle school students: How does it relate to psychological and social well-being?

R. Dudok<sup>1</sup>, B. Pikó<sup>2</sup>

<sup>1</sup>Doctoral School of Education, University of Szeged, Hungary

<sup>2</sup>Department of Behavioral Sciences, University of Szeged, Hungary

**Background:** During the critical development of adolescence, promotion of psychological and social well-being has been shown to be a key to a better quality of life and successful adaptation to later life. Adolescence is the period of life for experimentation with smoking and drinking. Youth with learning difficulties, due to the specific emotional and behavioural consequences of the impairment, are particularly at risk for psychological health problems and health risk behaviours. Although smoking and alcohol consumption in Hungary have decreased over the years, they are still higher than the European average. We aimed to investigate students' substance use in light of their psychological and social well-being, and to identify protective factors.

**Methods:** The sample consisted of Hungarian middle school students (N = 174; M=13.34 years, SD=1.14; 96 boys; 41 students with learning difficulties, LD). The self-reported questionnaire included measures of substance use, adolescent psychological and social well-being, life satisfaction, self-control and self-esteem.

**Findings:** Logistic regression analysis identified self-control, life satisfaction, general well-being, happiness and perseverance as protective factors for both types of substance use. For smoking, family support and self-esteem also provided protection. For alcohol consumption, interestingly, the presence of a diagnosis of learning disability showed an odds-reducing effect (OR=0.45; 95% CI=0.22-0.94; p<0.01).

**Discussion:** Our findings detected several significant associations between the students' substance use and psychological well-being and scales, while social well-being played a limited role except for family support in drinking. Presence of a learning disability did not increase the risk of substance use.

# Advancing habit research for health

9:30 - 11:00

Kiev

Sally Di Maio

## The impact of individual differences on habit formation following a flossing intervention

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### Background:

Habits form through context-dependent repetition, and can support sustained behaviour change. Research suggests individuals differ in the time taken to form a habit. Prospective memory (remembering to do something in the future) may affect behaviour and habit, and rational/experiential thinking style (associated with reflective/automatic processes respectively) may affect habit formation. Personal need for structure (preference for an ordered life) could facilitate context-dependent repetition. Personality styles have been associated with behaviours related to habits. This study investigates the impact of individual difference variables on behavioural frequency and habit formation.

### Methods:

Participants (N=118) received a face-to-face dental flossing intervention, including implementation intentions. Behaviour, habit (Self Report Behavioural Automaticity Index) were self-reported every 4 weeks, until 12 weeks post-intervention. Individual differences were measured at baseline: Prospective memory ability, Personal need for structure, Rational and Experiential Inventory, Personality (Big 5). Longitudinal mixed effect models were constructed predicting behaviour and habit (including non-linear changes over time), using backwards stepwise logistic regression.

### Findings:

Higher extraversion predicted less frequent flossing ( $b=-0.231$ ,  $p=.037$ ). Greater prospective memory ability predicted faster increases in behaviour, and higher peak behaviour, but did not affect final behavioural frequency.

Higher rational engagement predicted weaker habits ( $b=-0.520$ ,  $p<.001$ ). Poorer prospective memory ability predicted lower peak habit scores, and a decline in habit.

### Discussion:

Habit formation processes were affected by personality, rational/experiential thinking, and prospective memory. Interventions might best be targeted to specific traits, e.g. greater initiation support for those with lower prospective memory ability, or additional support for those with more rational thinking styles.

## Which factors drive the formation of a higher-order nutrition habit? An intensive longitudinal diary study

S. Labudek<sup>1</sup>, M. Kilb<sup>2</sup>

<sup>1</sup>Heidelberg University, Germany

<sup>2</sup>University of Mannheim, Germany

**Background:** Little is known about the relative contribution of different key factors for habit formation in real-world contexts. This intensive longitudinal study investigated the effects of behavioral execution, reward value, and context stability on the formation of a higher-order nutrition habit.

**Methods:** N = 199 participants received an intervention for building the higher-order habit of filling half of their plates at dinner with vegetables and completed one daily survey for up to 56 days, providing a total of N = 6346 daily measurements. We examined the impact of behavioral execution, reward value, and context stability (and their interaction effects) on habit strength at the same day and one day later (lagged effects) with multilevel modelling.

**Findings:** Habit strength significantly increased over time. This effect was strengthened in persons with high levels of behavioral execution. On the between-person level, mean levels of behavioral execution, reward value, and context stability were all positively related to mean levels of habit strength. On the within-person level, daily variations in behavioral execution, reward value, and context stability were positively associated with habit strength on the same day, but not on the next day. Little to no evidence was found for interaction effects between factors.

**Discussion:** All three factors were independently associated with habit strength – both at the between- and within-person level. However, the within-person associations did not replicate in the next-day models which may be due to a sub-optimal time lag. Interventions should target the consistent execution of the target habit in stable contexts.

## Transmission effects in habit formation after planning to form two new handwashing habits

S. Di Maio<sup>1</sup>, J. Keller<sup>1</sup>, D. Kwasnicka<sup>2,3</sup>, L. Wilhelm<sup>4</sup>, A. Domke<sup>1</sup>, N. Knoll<sup>1</sup>, L. Fleig<sup>5</sup>

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**Theory:** Regular handwashing in critical situations (e.g., before eating or cooking) can protect against virus infection. By linking handwashing to specific situations, action planning and subsequent plan pursuit can support the formation of a new handwashing habit. However, not much is known about how multiple plan pursuits are linked to habit formation. This study examines potential transmission effects for habit formation after planning to form two new handwashing habits.

**Methods:** This study comprises secondary analyses of  $n = 75$  participants (age:  $M = 24.03$  years;  $SD = 6.43$ ; 81% women) who received an action planning intervention to form new handwashing habits for two self-chosen daily situations. Participants reported their situation-specific handwashing (i.e., plan enactment) and automaticity in daily diaries across 86 days. Multilevel models were fit.

**Results:** Handwashing automaticity significantly increased over time for both plans. Higher average (between-person) plan enactment as well as more than usual (within-person) plan enactment were associated with higher automaticity for both plans. Additionally, within-person plan enactment of the first plan was associated with higher automaticity of the second plan, whereas within-person plan enactment of the second plan was not associated with automaticity of the first plan.

**Conclusion:** Findings confirmed prior evidence on plan enactment as a key predictor of automaticity. Within-person plan enactment of the first plan showing links with stronger automaticity of the second plan may point to transmission effects in habit formation when forming multiple plans.

## Predictors of initiation and maintenance for a simple vs a complex health behaviour

L.A. Phillips<sup>1</sup>, K. More<sup>2</sup>

<sup>1</sup>Iowa State University, United States

<sup>2</sup>University of Dundee, United Kingdom

### Background:

Researchers are working to identify dynamic factors involved in the shift from behavioural initiation to maintenance—factors which may depend on behavioural complexity. We test hypotheses regarding the average levels of initiation and maintenance factors and their relationships to behavioural frequency over time, for a simple (daily calcium supplement) vs complex (daily 20+ minute brisk walk) behaviour.

### Methods:

Young adult women, new to both behaviours, were randomly assigned to take daily calcium (N=161) or to go for a daily, brisk walk (N=171), for four-weeks. Predictors (behaviour-specific intentions, self-efficacy, intrinsic motivation, self-identity, and habit strength) were measured weekly. Repeated measures GLM evaluated their change over time. Multiple regression determined the relationships between predictors and the subsequent-week behavioural frequency (self-report and objective).

### Findings:

Combined intention-self-efficacy started high and decreased for both behaviours. Mean levels of intrinsic motivation, self-identity, and habit strength increased for both behaviours, through Week 3 ( $p < 0.001$ ), with some showing a decrease by Week 4. As expected, habit strength became significantly related to subsequent-week behavioural frequency. Counter to expectations, intrinsic motivation and self-identity never uniquely predicted exercise frequency (despite significant bivariate correlations in later weeks). Intentions/self-efficacy remained significant predictors throughout.

### Discussion:

The factors theorized to play a role in behavioural maintenance (intrinsic motivation, self-identity, and habit strength) started to develop, but only habit strength predicted behavioural frequency by study-end, for both behaviours. Differences in initiation and maintenance between behaviours of differing complexity may not be as stark as theorized, although longer follow-up times are required to evaluate maintenance factors.

## Advancing habit research for health

B. Mullan<sup>1</sup>, O. Rowland<sup>1</sup>, J. Charlesworth<sup>1</sup>

<sup>1</sup>Curtin University, Australia

**Background:** Food poisoning is on the increase worldwide and interventions to improve domestic safe food-handling are needed. Most previous interventions are risk-based and few have used habit formation to improve behaviour. We evaluated the effectiveness of a habit-based intervention vs. a risk-based intervention to change for safe-food-handling behaviours.

**Methods:** Seventy-eight participants, aged between 19 and 75 years ( $M = 30.7$ ,  $SD = 13.39$ ), of whom 62% identified as women, were recruited, and at time point one, completed measures of past behaviour and knowledge, habit and risk, watched two advertisements pertaining to safe food-handling and were randomly to complete either a habit-based or risk-based behaviour change task. Participants provided demographic information. Two weeks later, at follow-up participants answered the same questions.

**Findings:** Four ( $2 \times 2$ ) repeated measures anovas were run to examine change in behaviour, habit and risk. Behaviour changed over time; however, there was no difference between the intervention groups. Follow-up analyses from four hierarchical multiple regressions showed that past behaviour, knowledge, habit, and risk all accounted for unique variance in all the safe food-handling behaviours. Variance explained ranged from 38.2% to 68.2% with three large effect sizes and one small.

**Discussion:** The findings from the current study show promise for the effectiveness of both behaviour change techniques within the food-safety domain, suggesting a role for both rational and automatic process in this domain. Thus, future food-safety interventions should target consumer's habit and risk to improve their safe food-handling within the home.



# Climate change and sustainable diet

11:30 - 13:00

London

James Green

## Health Psychology and climate change: Time to address humanity's most existential crisis

E.K. Papies<sup>1</sup>

<sup>1</sup>University of Glasgow, United Kingdom

Climate change is a health emergency (British Medical Association, 2020). It is already causing drought, heatwaves, flooding, and air pollution that lead to excess mortality, and that exacerbate existing social and health inequalities. Among other cascading risks for the next 20-30 years (Quiggin et al., 2021), climate change may lead to crop failures, which can cause food crises, destabilization of markets, and social unrest; to water scarcity, which may lead to malnutrition, health crises, and mass migration; and to heat waves, which will cause premature death of millions each year. Due to climate and ecological breakdown, the survival of our species is uncertain.

Climate change is no longer solely the domain of climate scientists, but requires mobilisation of behavioural scientists. Health psychology has a powerful role to play in urgent multi-disciplinary efforts at climate change mitigation and adaptation. To name but a few examples, health psychologists can design effective education around health and climate change; address barriers to engagement such as misinformation, fear, or low self-efficacy; develop behaviour change interventions (e.g., for plant-based diets, active travel); influence policy to cut carbon emissions; analyse and re-design systems to enable human flourishing within planetary boundaries; and help alleviate climate grief and anxiety, especially among young people.

I will discuss impactful and hopeful ways for health psychologists at every career stage to engage with the climate emergency, for example by developing new research, by integrating climate change into teaching, by engaging with funding agencies to prioritise climate and health research, through sustainable travel and meeting habits, and by helping transform healthcare and education institutions into low-carbon organisations.

Climate change urgently requires transformational individual and systems-level interventions. It is time that we bring our collective expertise to bear on the most existential crisis humans have ever experienced.

## Deliberate Ignorance—A Barrier for Information Interventions Targeting Reduced Meat Consumption?

P. Kadel<sup>1</sup>, I.E. Herwig<sup>1</sup>, J. Mata<sup>1</sup>

<sup>1</sup>University of Mannheim, Germany

**Background:** Despite abundant information about negative consequences of eating meat, its consumption in many Western countries is still many times higher than recommended. One possible explanation for this discrepancy is that people consciously decide to ignore such information—a phenomenon called deliberate ignorance. We investigated deliberate ignorance as a barrier for information interventions aiming to reduce meat consumption.

**Methods:** In three studies, a total of 1133 participants had the opportunity to see 18 information chunks on negative consequences of meat consumption for human health, environment, and animal welfare or to ignore part of the information. Deliberate ignorance was measured as the number of ignored information chunks. Before and after this information phase, we assessed potential predictors and outcomes of deliberate ignorance. Interventions to reduce deliberate ignorance (i.e., self-affirmation, contemplation, self-efficacy) were experimentally tested in Studies 2 and 3.

**Findings:** The more information participants ignored, the less they changed their intention to reduce their meat consumption ( $r = -.124$ ). Studies 2 and 3 show that this effect is partially explained by cognitive dissonance induced by the presented meat-related information. While neither self-affirmation nor contemplation exercises reduce deliberate ignorance (Studies 2 and 3), self-efficacy exercises did (Study 3).

**Discussion:** These studies are among the first to investigate deliberate ignorance in the context of meat consumption. Deliberate ignorance is a potential barrier for information interventions aiming to reduce meat consumption and needs to be considered in future interventions and research. Self-efficacy exercises have the potential to reduce deliberate ignorance and should be further explored.

## How experts perceive healthy and sustainable dietary behaviour: A qualitative study among an interdisciplinary panel

A. Mesch<sup>1</sup>, S. Raghoobar<sup>2</sup>, A. Haveman<sup>1</sup>, L. Winkens<sup>1</sup>, J. Gulikers<sup>1</sup>, R. Wesselink<sup>1</sup>

<sup>1</sup>Wageningen University & Research, Netherlands

<sup>2</sup>Wageningen University, Netherlands

**Background:** To move towards diets in favour of human and planetary health, it is essential to understand what such dietary behaviours entail. While various broad and complex definitions on healthy and sustainable diets have been reported, this study aimed to understand how the combination of healthy and sustainable dietary behaviour is perceived by experts in the field.

**Methods:** As part of a broader research on determinants influencing adolescents' dietary behaviours, an online questionnaire was distributed to an interdisciplinary panel of Dutch-speaking experts (n=33, working in research or practice in the fields of health, sustainability, nutrition and/or education) including an open question on their associations with healthy and sustainable dietary behaviour. Answers were analysed by two independent coders using thematic analysis.

**Findings:** Experts expressed a wide range of perceptions regarding healthy and sustainable dietary behaviour. On the one hand, experts concretely focused on what foods need to be consumed, the production and origin of foods, and dietary patterns. Besides, experts indicated consumer considerations regarding the impacts on human and planetary health, and described behavioural determinants (e.g. skills) to adopt such behaviours.

**Discussion:** This study showed that experts do not only associate healthy and sustainable dietary behaviour with the actual food intake that is favourable for individual and environmental health, but that they also consider consumers' decision processes and the underlying determinants. A systems-approach to move towards more healthy and sustainable dietary behaviours was thereby emphasised. Understanding these perceptions may support further development of interventions stimulating healthy and sustainable dietary behaviours.

# Conducting behavior change intervention studies for infection prevention during an ongoing pandemic: Why and how

11:30 - 13:00

Rome

Jennifer Inauen

## An accessibility nudge, but not risk-related information increases COVID vaccination-related behaviors in the unvaccinated

H. Giese<sup>1</sup>, H. Neth<sup>1</sup>, W. Gaissmaier<sup>1</sup>, F.M. Stok<sup>2</sup>

<sup>1</sup>University of Konstanz, Germany

<sup>2</sup>Utrecht University, Netherlands

**Background:** In this study, we assessed how effectiveness and safety information and the promotion of accessibility may facilitate COVID vaccination uptake.

**Design:** In a sample of unvaccinated adults (N = 620, July/August 2021), we used a 2x2 between-subjects design to contrast (1) a vague safety and effectiveness message with a fact box summarizing current mRNA vaccination statistics, and (2) an online link for making a vaccination appointment with or without an affirmative nudge. We assessed the acceptance of the vaccination information, vaccination attitudes, vaccination intentions, and — as a behavioral measure — whether the link for a COVID vaccination appointment was clicked.

**Findings:** Whereas the two types of vaccination information did not yield any meaningful differences, the affirmative nudge alongside an online link more than tripled the likelihood to click on the link for making a vaccination appointment (1.9% vs. 6.1%; OR = 3.26, p = .013).

**Discussion:** In a vaccine-hesitant subpopulation, nudging and vaccine accessibility are more effective towards increasing vaccination uptake than merely informational campaigns.

## A just-in-time but still planned intervention to promote COVID-19-vaccination in university students: Lessons learned

T. Varol<sup>1</sup>, F. Schneider<sup>1</sup>, I. Mesters<sup>1</sup>, R. Ruiter<sup>1</sup>, G. Kok<sup>1</sup>, G. ten Hoor<sup>1</sup>

<sup>1</sup>Maastricht University, Netherlands

**Background:** The COVID-19 pandemic demonstrated the undeniable role of behavior-change interventions in tackling the course of the pandemic. A just-in-time online intervention for university students with the aim of promoting COVID-19 vaccination was developed, and lessons learned from this process were discussed.

**Methods:** Intervention Mapping (IM) framework guided the development and implementation of the intervention. To identify the most relevant determinants/beliefs of university students' vaccination intention, a cross-sectional online survey was conducted in March 2021 (N = 434). The CIBER approach was used in the selection of determinants that were linked to vaccination intention and that had room for improvement. IM Steps 3 and 4 informed the design and production of the intervention, i.e., behavior-change methods, practical applications, materials, and messages, and Step 5 guided the implementation.

**Findings:** The intervention included a vaccination webpage involving various sources of information, frequently asked questions, and two videos, the main component, where four experts were interviewed on the COVID-19 vaccination by answering the questions directed from a student reporter. The targets of the intervention were safety and trust, risk perception, perceived norms, attitude, self-efficacy, and practicalities.

**Discussion:** In these tumultuous times, it was still possible to develop a theory- and evidence-based intervention. Lessons learned from this project were 1) building a mutual trust-relationship between relevant stakeholders and implementers, 2) making use of Theory, Core Processes, and intervention planning frameworks such as IM, and 3) implementation can be more urgent than evaluation or effect measures.

## Multiphase optimization strategy to promote hand hygiene during a pandemic: Optimization of the Soapp app

J. Inauen<sup>1</sup>, D. Baretta<sup>1</sup>, M.A. Amrein<sup>1</sup>, C. Baeder<sup>1</sup>, G.G. Ruschetti<sup>1</sup>, M. del Rio Carral<sup>2</sup>, C. Fabian<sup>3</sup>

<sup>1</sup>University of Bern, Switzerland

<sup>2</sup>University of Lausanne, Switzerland

<sup>3</sup>University of Applied Sciences and Arts Northwestern Switzerland, Switzerland

**Background:** During the COVID-19 pandemic, the public was asked to adopt infection-prevention behaviors, such as performing correct hand hygiene. Health psychology offers approaches that may help promote correct hand hygiene. However, their efficacy during a pandemic was unknown. To arrive at an effective behavior change intervention contextualized to the pandemic, we conducted a multiphase optimization strategy (MOST). We present the results of the optimization phase, which aimed to determine the most effective version of Soapp, an app-based intervention to promote hand hygiene.

**Methods:** We used a convergent mixed-methods design. N=232 interested members of the public were randomized to one of nine versions of the app. Participants were then asked to download and use Soapp for 34 days. Hand hygiene was assessed five times using an e-diary. Repeated measures Anova investigated group differences and changes over time. Nine participants were additionally interviewed after completing the intervention. Their data was analyzed using thematic analysis.

**Findings:** Participants used Soapp for  $M = 25.3$  days ( $SD = 10.5$ ). As expected, hand hygiene significantly increased over time ( $F = 14.16$ ,  $p < .001$ ). However, there were no group differences. The qualitative findings indicated good satisfaction, usability, and engagement.

**Discussion:** In the absence of differences in hand hygiene between app versions, we relied mainly on the qualitative findings to select the final intervention for the evaluation phase of the MOST. Changing pandemic conditions and attrition were among the challenges faced that need to be taken into consideration when planning a MOST during a pandemic.



## Pandemic trajectory and hand hygiene interventions: results from the secondary analysis of the Soapp trial

D. Baretta<sup>1</sup>, J. Inauen<sup>1</sup>

<sup>1</sup>University of Bern, Switzerland

Background: COVID-19 trajectory has been shown to be associated with hand hygiene during the first phase of the pandemic. Such findings have crucial implications when testing behavior change interventions conducted in the context of the pandemic. The present study focused on secondary data analysis of a hand hygiene intervention optimization trial with the objective of assessing the impact of the pandemic trajectory on the effects of the hand hygiene intervention. Methods: Participants (N=216) were randomized to nine parallel intervention arms and filled out hand hygiene electronic diaries during days 1, 7, 15, 23, and 31 of the intervention. Pandemic trajectory data were downloaded from the Swiss Federal Office of Public Health website. A set of multilevel models was performed to test the impact of pandemic trajectory on hand hygiene and its interaction with the intervention. Findings: Univariate results suggested that the cumulative number of COVID-19 cases was the best trajectory-related indicator in explaining hand hygiene behavior ( $\beta=.11$ , 95% CI=[.03, .18]). When adding the main ( $\beta=.09$ ; 95% CI=[.03, .16]) and interaction term of the intervention ( $\beta=-.07$ , 95% CI=[-.13; -.01]), the model improved the fit and the main effect of the trajectory was no longer significant. Finally, the addition of age as covariate ( $\beta=.20$ ; 95% CI=[.08, .33]) further improved the model fit though the other predictors were no longer significant. Discussion: Results provided partial support to the fact that the pandemic trajectory interacts with interventions targeting hand hygiene. Therefore, pandemic trajectories need to be accounted for in intervention studies during pandemic times.

## Daily diary-assessed hand washing during a 100-days hand washing challenge: Insights from the ERNA intervention

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<sup>1</sup>Freie Universität Berlin, Germany

<sup>2</sup>University of Melbourne, Australia

<sup>3</sup>SWPS University of Social Sciences and Humanities, Poland

<sup>4</sup>MSB Medical School Berlin, Germany

**Background:** Hand washing can effectively prevent infection transmissions, such as SARS-CoV-2 transmissions. As hand washing is performed in recurring situations, it is suitable to employ planning interventions. We aimed to investigate changes in day-by-day hand washing following the ERNA intervention, a 100-days hand washing challenge.

**Methods:** Following a baseline assessment, N = 89 (age: M = 24.15, SD = 6.33) participants received a brief online intervention on hand washing and were asked to plan up to two daily situations in which they chose to wash their hands more regularly. Overall frequency of hand washing and situation-specific hand washing (i.e., plan enactment) were assessed via daily diary across 3 months. Multilevel models were fit.

**Findings:** Overall frequency of hand washing significantly increased from 5.0 times per day at baseline to 6.9 times per day at the last day of the study. Out of N = 89 participants, 75 participants formed two plans (situations A and B), whereas 14 participants created one plan (situation A). At baseline, situations occurred 2.6 (A) and 2.2 (B) times per day; with situation A occurrence significantly decreasing over time. Mean baseline plan enactment was 67% (A) and 61% (B) and significantly increased over time across both situations.

**Discussion:** This scalable online intervention appears promising to promote frequent hand washing and should be tested against a control condition in future research. To explain why situation A occurrence decreased over time, the role of pandemic-related conditions (e.g., staying at home for infection prevention) should be further investigated.

# Exploring healthcare practitioners' perspective: How to best apply health psychology evidence in practice?

11:30 - 13:00

Paris

Dominika Kwasnicka

## Exploring healthcare practitioners' perspective: How to best apply health psychology evidence in practice?

D. Kwasnicka<sup>1,2</sup>, S. Potthoff<sup>3</sup>, K. Knittle<sup>4</sup>

<sup>1</sup>University of Melbourne, Australia

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<sup>3</sup>Northumbria University, United Kingdom

<sup>4</sup>University of Jyväskylä, Finland

**Purpose:** In this discussion, a range of healthcare professionals will outline their own practices and the perceived deficits in knowledge, skills and opportunity among colleagues in their respective fields, which will facilitate the translation of health psychology research evidence into clinical practice.

**Objectives:** This discussion will have three main objectives:

- To give an overview how healthcare practitioners use health psychology evidence to inform their practice;
- To discuss what are the needs and wants of healthcare practitioners in terms of how topical behavioural science is communicated to them;
- To use insights from the discussions to inform new strategies for disseminating health psychology science to healthcare practitioners.

**Rationale:** One of the key overarching aims of health psychology discipline is to generate evidence that is implemented in clinical practice and that is effectively communicated to healthcare practitioners who can benefit from applying it in their day-to-day practice. The EHPS Practical Health Psychology Blog provides short summaries and practical recommendations based on topical health psychology research to inform health practitioners and intervention providers worldwide. Our National Editors translate and disseminate the posts to the practitioners in 28 languages and more than 50 countries.

In this discussion we will invite a group of healthcare practitioners of various professions (clinical psychology, cardiology, and general practice), from various countries (UK, Russia, Norway, and Australia) to discuss how to best apply health psychology evidence in practice. Learning from their experience, we aim to generate new strategies for disseminating our science in a meaningful way to facilitate cross-disciplinary knowledge transfer and best use of health psychology in practice.

**Summary:** Each of the contributors will discuss how their own discipline can best benefit from behavioural science, particularly focusing on the country where they practice.

# Tobacco use interventions

11:30 - 13:00

Berlin

Robert West

## The Effect of Self-Affirmation on Responses to Cigarette Warning Labels Among Daily Smokers in Turkey

M. Kaynak Malatyalı<sup>1</sup>, A. Büyükşahin Sunal<sup>2</sup>

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<sup>2</sup>Ankara University, Turkey

According to the self-affirmation theory, affirming an important aspect of the self provides more adaptive responses given to health messages. Even though many studies have investigated the effect of self-affirmation on responses given to cigarette warning labels, it seems that it is not possible to draw a conclusion from the findings of these studies. That is, while some of these studies showed that self-affirmation had positive effects on responses given to cigarette warning labels, other studies reported that self-affirmation did not have significant effects on these responses or had adverse effects among some individuals. Therefore, the aim of the present study is to re-investigate the effect of self-affirmation on the responses given to cigarette warning labels in Turkey. Accordingly, 427 daily smokers evaluated five cigarette warning labels on questions measuring reactance and avoidance after they completed one of the three self-affirmation manipulation tasks. Then, they responded to the items measuring attitudes towards smoking and intentions to quit smoking. Results indicate that self-affirmation does not have significant effects on reactance to and avoidance from cigarette warning labels, attitudes towards smoking, and intentions to quit smoking. In conclusion, the findings of this study contributed to the inconsistency among the findings of the studies investigating the effect of self-affirmation on responses to cigarette warning labels.

## Co-use of tobacco and cannabis: exploring the support provided by stop smoking practitioners

D. Sumodhee<sup>1</sup>, H. Walsh<sup>1</sup>, L. Brose<sup>1</sup>, A. McNeill<sup>1</sup>, M. Duaso<sup>1</sup>

<sup>1</sup>King's College London, United Kingdom

**Background:** Cannabis is often consumed with tobacco and is associated with poorer tobacco smoking cessation outcomes. Nevertheless, both substances are rarely formally treated together. This study aimed to identify barriers and facilitators for practitioners when supporting tobacco cessation among smokers who also use cannabis (co-users) using the COM-B model.

**Methods:** Using a maximum variation sampling, twenty semi-structured interviews were carried out with stop smoking practitioners. The framework approach was used to inductively code interview transcripts and deductively incorporate the themes to the COM-B model.

**Findings:** Themes corresponded to the elements of the COM-B model. **Capability:** Practitioners felt underskilled in supporting co-users to quit smoking, therefore further training was requested. Cannabis was often used to deal with various issues (eg. pain management, sleep problems), outside the remit of practitioners' roles. **Opportunity:** Having a recording system in place, positive therapeutic relationship with co-users and supportive team were valued, however time constraints and remote working due to Covid-19 limited the support they could provide. **Motivation:** Helping co-users was perceived as part of their role given that tobacco and cannabis are often consumed together. Furthermore, practitioners were able to adapt tobacco cessation interventions for cannabis users, but some were deterred if they previously had a negative reaction when asking about cannabis use.

**Discussion:** Our findings helped to identify barriers and facilitators associated with the support provided to co-users, which are useful for creating intervention guidance, service planning and training resources. Addressing these factors could increase the rate of successful tobacco quit attempts among co-users.

## VR exposure to anti-tobacco posters : impact on memorization of messages, smoking attitudes and craving?

S. Bonnetterre<sup>1</sup>, O. Zerhouni<sup>1</sup>, M. Boffo<sup>2</sup>

<sup>1</sup>Paris Nanterre University, France

<sup>2</sup>University of Rotterdam, Netherlands

Tobacco smoking is a major concern to public health, despite several health promotion campaigns and interventions aiming at reducing it. Using immersive Virtual Reality (VR), we aimed at evaluating the effect of exposure to tobacco/smoking prevention messages on memorization, craving and attitudinal change towards smoking, in a realistic virtual environment simulating daily life in a French city.

**Methods.** 157 participants (85% women, mean age = 19,2; 82,4% non-smokers) were recruited using a screening questionnaire. Participants were immersed into a virtual city with billboards either displaying blank posters (control) or preventive tobacco posters (i.e., random mix of negative, neutral, or positively framed posters; experimental condition). Participants' gaze while exploring the virtual environment was measured using eye-tracking embedded in the head-mounted display. Then, they filled in a presence, immersion, cybersickness, tobacco attitudes and craving questionnaire. Participants eventually completed a recognition task to assess memorization of the posters.

**Findings.** Preliminary results show that attitudes toward tobacco are predicted by smoking craving ( $p < .001$ ) for both experimental conditions. Memorization scores were not significantly predicted by attitudes or cravings. Eye-tracking measures show that the more individuals looked at negative prevention posters, the more positive their attitudes toward tobacco ( $p < .05$ ) but experienced less craving ( $p < .05$ ) in comparison with looking at neutral or positively framed posters.

**Discussion.** VR provided us with a simultaneously ecological and controlled way to test the efficacy of exposure to tobacco prevention posters. The results of this study underlie the importance and differential effects of framing prevention message on attitudes and craving toward tobacco.



# Systematic review and meta-analysis of volitional help sheet interventions for health behaviour change

R. Stewart<sup>1</sup>, J. Presseau<sup>2</sup>, S. Dombrowski<sup>3</sup>

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<sup>2</sup>Ottawa Hospital Research Institute, Canada

<sup>3</sup>University of New Brunswick, Canada

**Background:** The volitional help sheet (VHS) is a planning-based behaviour change intervention which seeks to help individuals to anticipate and link critical situations which might hinder change to appropriate responses to overcome these. This systematic review aimed to identify the range of applications of VHS interventions and to assess their effectiveness in changing health behaviours, health-related behavioural outcomes and behaviour-related cognitions.

**Methods:** Studies using a VHS-based intervention targeting health behaviour change were included. Electronic databases (PsycINFO, PubMed, Web of Science) were searched for studies published from 2008 to October 2021. Pooled effects were estimated using random effects meta-analyses.

**Findings:** Twenty-four studies met inclusion criteria; including 22 randomised trials. Interventions targeted the reduction of health risk behaviours (e.g. alcohol consumption, tobacco use), health promoting behaviours (e.g. healthy eating, physical activity, safe driving, blood donation), and behaviour related outcomes (e.g. weight). VHS interventions led to statistically significant changes in health behaviours (0.22, 95% CI, 0.13 to 0.32, 26 comparisons, n=4844), and non-statistically significant effects on weight (-1.20kg, 95% CI, -2.79 to 0.38, 2 comparisons, n=288). The VHS interventions led to changes in behavioural intention (0.33, 95% CI, 0.02 to 0.64; 5 comparisons, n=353); self-efficacy (0.36, 95% CI, 0.09 to 0.63; 4 comparisons, n=117); and self-regulatory effort (0.27, 95% CI, 0.03 to 0.51; 4 comparisons, n=284).

**Discussion:** VHS interventions had small to medium effects on changing health behaviours, behaviour related outcomes and several behaviour-related cognitions. The VHS is a promising tool for behaviour change and warrants studying in interventions at scale.

# Making brief interventions work: multi-stakeholder perspectives on implementation and effective components of health behaviour conversations

11:30 - 13:00

Vienna

Oonagh Meade and Chris Keyworth

## Iterative development of a training program in Motivational Communication

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<sup>6</sup>UQAM/Hopital du Sacre-Coeur de Montreal, Canada

**Background:** While behaviour change counselling (BCC) by healthcare professionals (HCP) is associated with better patient health outcomes, knowledge translation barriers have resulted in poor uptake of BCC by HCPs. To overcome these barriers, a new BCC training program in Motivational Communication (MC) was developed and refined using stakeholder engagement and iterative optimisation processes.

**Methods:** The program was developed using the Obesity Related Behavioral Intervention Trials (ORBIT) framework and a modified logic model. First, a 16-hour program was offered to 31 health and kinesiology students, with pre-post competency assessments conducted using the Motivational Communication Competency Assessment Test (MC-CAT). A 4-hour program version was then offered to healthcare researchers.

**Findings:** The 16-hour course confirmed important skill improvements among the target beginner audience. Participants scoring below 70% competency at baseline on the MC-CAT saw their scores increase significantly ( $M=17.1\%$ ,  $SE=4.4$ ,  $p < .001$ ), while those scoring over 70% at baseline did not ( $M=0.3\%$ ,  $SE=4.2$ ,  $p=.95$ ). The logic model then enabled the transition to the 4-hour program while maintaining predetermined learning objectives. The input from healthcare researchers was used to refine aspects of program delivery, including: activity sheets; facilitator manual; time distribution; MC-compliant teaching; and addition of online training functionalities.

**Discussion:** Iterative intervention optimisation is a critical element of the “refine” stage of the ORBIT model. The use of a modified logic model enabled the integration of stakeholder feedback while maintaining learning objectives. Next steps will entail proof-of-concept and then pilot studies with HCPs.

# Promoting healthy behaviours in adults in primary care: a systematic review and meta-analysis

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<sup>1</sup>Collège Universitaire de Médecine Générale (CUMG), Université Claude Bernard Lyon 1, France

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<sup>3</sup>Fundació Sant Joan de Déu, Barcelona, Spain

## Background

For a populational approach to prevention via behaviour change, primary care professionals are best placed to intervene. Due to the long-term relationship with healthcare users in their everyday environments, many opportunities may occur for brief interventions to be delivered and tailored to individual needs. We aimed to synthesize evidence on the efficacy of interventions promoting physical activity, healthy eating or sedentarity reduction in adults in primary care settings.

## Methods

We are performing a systematic review and meta-analysis of randomized-controlled trials (RCTs) since 2000. We searched MEDLINE, Cochrane, PsychINFO, Web of Science. Two independent researchers performed selection and data extraction. We extracted intervention features (including implementation) and behaviour change techniques (BCTv1). We plan to examine what combinations of intervention features and content are associated with greater efficacy using MetaCART.

## Findings

From 13451 records, 93 RCTs were included targeting physical activity (77), healthy eating (65), and sedentarity (1). Among these, 54 targeted  $\geq 2$  to behaviours, including tobacco and alcohol use. The RCTs focused on behaviour outcomes (accelerometer measurement, physical activity questionnaires, self-reported dietary fat and fruit/vegetable intake, sedentary time), health outcomes (weight, BMI) and behaviour change skills (self-regulatory skills). Interventions were delivered mostly individually, face-to-face by nurses, general practitioners, physiotherapists and dietitians. There was limited description of intervention content. Most common BCTs were action planning, problem solving, goal setting, social support, instruction on how to perform the behaviour, information about consequences.

## Discussion

It is necessary to encourage intervention development and description using established frameworks also in interdisciplinary health services research.

## Experiences of embedding brief interventions in an integrated care system

J. Hart<sup>1</sup>, P. Michael<sup>1</sup>, N. Coupe<sup>2,3</sup>, C. Holtom<sup>4</sup>, L. Byrne-Davis<sup>1</sup>

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<sup>3</sup>Lancaster University, United Kingdom

<sup>4</sup>UK Health Security Agency, United Kingdom

### Background

In the UK and internationally, The Making Every Contact Count (MECC) initiative aims to equip frontline staff to utilise every contact with an individual to promote mental and physical health and well-being, an approach which is in-line with the current UK health and social care strategy to both improve and prevent health conditions in England. Despite its importance, various barriers to its implementation exist. As such, the aim of this study was to understand more about how MECC and MECC training can be implemented successfully.

### Methods

Remote semi structured interviews were conducted with staff across Northern England who had been involved in a project to implement MECC across the region. Interviews were transcribed and data was analysed initially using an inductive reflexive thematic analysis approach, and then interpreted further deductively guided by the COM-B model of behaviour change.

### Findings

We interviewed 9 stakeholders and identified four themes: 1) Sustainable Models 2) Marketing MECC 3) Ability to Deliver and Signpost; 4) Two Sides to COVID.

### Discussion

Those involved in MECC understood its value, but barriers to embedding MECC within organisations and across regions remain. In order to successfully implement and embed MECC, results suggest a need for it to be nationally driven, the inclusion of a co-ordinator role, rebranding of MECC, and further development of the MECC link network. MECC is valued by those who use it, and has real potential to meet the needs of the public's health and the aims of health and social care strategy in England.

## Barriers and enablers to implementing Making Every Contact Count brief behavioural interventions– a survey study

O. Meade<sup>1</sup>, C. Noone<sup>1</sup>, A. Lawless<sup>2</sup>, M. O'Brien<sup>2</sup>, J. Mc Sharry<sup>3</sup>, M. Byrne<sup>1</sup>

<sup>1</sup>NUI Galway, Ireland

<sup>2</sup>Health Service Executive, Ireland

<sup>3</sup>National University of Ireland, Galway, Ireland

### Background:

The public health impact of the Irish Making Every Contact Count (MECC) brief intervention programme is dependent on delivery of MECC by healthcare professionals. The study aimed to identify and quantify barriers and enablers to MECC implementation.

### Methods:

A cross-sectional questionnaire based on the Theoretical Domains Framework (TDF) was distributed online to healthcare professionals who had completed the MECC online training programme. Exploratory factor analysis resulted in an eleven-factor TDF structure. Logistic regressions assessed the relationship between each modifiable barrier and enabler and the delivery of MECC interventions.

### Findings:

Seventy-nine percent of participants (n=283/357) had delivered a MECC brief intervention. In the simple logistic regressions, 'Knowledge' (OR = 1.65 [1.16, 2.32]), 'Skills' (OR = 2.24 [1.61, 3.13]), 'Professional Role' (OR = 2.99 [1.98, 4.52]), 'Beliefs about capabilities' (OR = 2.27 [1.63, 3.17]), 'Optimistic Beliefs about consequences' (OR = 2.76 [1.67, 4.55]), 'Intentions/goals' (OR = 5.33 [3.21, 8.87]), 'Barriers to prioritisation' (OR = .64 [.48, .87]), 'Fit with clinical practice' (OR = 3.40 [2.20, 5.24]), 'Environmental Resources' (OR = 1.66 [1.23, 2.25]), 'Social Influences' (OR = 1.89 [1.32, 2.70]) and 'Negative Emotions' (OR = .36 [.25, .50]) were all significantly associated with MECC delivery. In the multiple logistic regression (Nagelkerke's R<sup>2</sup>= .33) the significant predictors of delivering MECC interventions were 'social professional role' (OR = 1.82 [1.08, .06]), 'optimistic beliefs about consequences' (OR = .42 [.18, .97]), 'intentions/goals' (OR = 4.18 [1.79, 9.80]) and 'negative emotions' (OR = .50 [.33, .77]).

### Conclusion:

Interventions to target social/professional roles, intentions/goals and negative emotions could be effective in enhancing the implementation of MECC by healthcare professionals.

# Consumption of sugar-sweetened beverages and water: Discussing health implications of drink choice and potential interventions

11:30 - 13:00

Warsaw

Amy Rodger

## From the fundamentals to the importance of hydration for health in the general population

T. Vanhaecke<sup>1</sup>

<sup>1</sup>Danone Research, France

We have long understood that water is essential to life. From early experiments on water's importance for survival in extreme environments to a thorough understanding of how hydration affects sports performance and safety, the importance of replacing body water losses is well-known and markers of water loss dehydration are well-understood. However, outside of sport and occupational health, water has remained to a large extent an essential but also an invisible nutrient. The past decade marked a turning point in considering the importance of water and hydration for the general population, with significant advances in our understanding of water, hydration, and health. This shift in thinking about the role of hydration in the general population was largely driven by examining physiological differences between otherwise healthy individuals whose habitual, ad libitum drinking habits differed, in order to identify markers that may better discriminate low- and high-volume drinkers. Aside from obvious differences in urinary volume and concentration, an emerging body of evidence links differences in fluid intake with small, but biologically significant, differences in vasopressin (copeptin), glomerular filtration rate, and risk for diabetes, metabolic syndrome, and markers of metabolic health. These findings suggest to examine what we consider optimal hydration from the perspective of long-term health outcomes. This talk will cover the basics of hydration physiology, relevant biomarkers for assessing hydration in the general population, key advances in the hydration and health sciences and practical considerations on how to promote healthier drinking habits in the general population.



## Cravings for non-alcoholic drinks including sugar-sweetened beverages

J. McGreen<sup>1</sup>

<sup>1</sup>Flinders University, Australia

### Background:

Cravings for a range of substances including drugs, alcohol, and food have been shown to predict subsequent consumption or use. However, this link has not yet been systematically examined for beverages other than alcohol. The present study aimed to provide a comprehensive investigation of cravings for non-alcoholic beverages and their link to consumption.

### Methods:

In a cross-sectional design, 128 undergraduate students (17-25 years) completed a craving and consumption diary over a period of a week.

### Findings:

Cravings were reported for a range of beverages, including tea, juice, and flavoured milk, but by far the most craved beverages were water, coffee, and soft drink. Stronger cravings were associated with a greater likelihood of drinking and drinking more of the craved beverage. This was particularly the case for soft drink. Unlike water, cravings for coffee and soft drink were triggered by factors other than thirst, and the number of cravings predicted the total amount drunk over the week.

### Discussion:

The findings demonstrate the existence of cravings for non-alcoholic beverages such as soft drink, and point to these cravings as a potential target for reducing consumption.

## Increasing motivation for bottled water through advertisements

M.A. Claassen<sup>1</sup>, E. Papies<sup>1</sup>

<sup>1</sup>University of Glasgow, United Kingdom

**Background:** Despite its numerous health benefits, consumers' daily water consumption remains below the recommend level. Previous research has shown that the degree to which drinks are thought of in terms of consuming and enjoying them (i.e., simulations) predicts intake. Here, we examined whether advertisements framed in terms of consumption and reward simulations increases motivation for a fictitious bottled water. **Methods:** In two pre-registered online experiments (Nexp1 = 984; Nexp2 = 786), participants immersed themselves in situations shown in advertisements that highlighted the rewarding consumption experience of water (e.g., "refresh all your senses with this smooth, cool water"), health consequences of drinking water (e.g., "this water takes care of your health"), or control advertisements. We assessed participants' descriptions of the bottled water with a Feature Listing task. Responses were coded for features related to consumption and reward, and positive long-term health consequences. We also measured ratings of attractiveness (Exp. 1), desire, and Willingness To Pay (WTP; Exp. 1 and 2). **Findings:** Simulation-enhanced advertisements increased the number of consumption and reward features, and health-focused advertisements increased the number of health features mentioned. Moreover, significant indirect effects showed that simulation-enhanced advertisements increased attractiveness (Exp. 1), desire, and WTP (Exp. 1 and 2) through an increase in consumption and reward features, whereas health-focused advertisements increased these ratings through an increase in health features. The effect through consumption and reward was stronger. **Discussion:** Emphasizing the immediate reward of water may be more effective in increasing motivation for bottled water than health advertisements.

## Reducing sugar-sweetened beverage consumption in children: a cluster randomized control trial in schools (Belgium)

K. Castetbon<sup>1</sup>, A. Bellanger<sup>1</sup>, I. Thiebaut<sup>2</sup>, L. Desbouys<sup>1</sup>

<sup>1</sup>Université libre de Bruxelles, Belgium

<sup>2</sup>Club Européen des Diététiciens de l'Enfance, Belgium

**Background:** Our objective is to evaluate, through a cluster randomized controlled trial, the long-term effectiveness of nutrition- and sustainability-based interventions on the reduction in sugar-sweetened beverages (SSB) intake and on the increase in tap water consumption in primary grade children. We search to measure whether combination of levers focused on individual health (nutrition) and/or on collective norms (sustainability) may enhance effectiveness of such interventions.

**Methods:** French-speaking Belgian primary schools (n=48, corresponding to around 4.400 3rd to 5th graders) were randomized using a factorial plan: (i) control; (ii) nutrition-based intervention; (iii) sustainability-based intervention; and (iv) both. In 2021, a first wave of data collection was implemented among children, parents and school staff. Interventions (videos, water breaks, provision of posters, flyers, reusable cups and glass bottles...) take place from 2022 to June 2023. In 2021, 2022 and 2023, daily mean beverage consumption will be estimated through a 4-day diary adapted to the responders' age.

**Findings:** School participation rate (30%) varied according to region (Brussels: 22%; Wallonia: 33%) and to the school size (from 21% in schools including >135 pupils to 38% in those including <90 pupils). The first data collection at schools showed that the majority already implemented nutrition- or sustainability-based actions but with a high heterogeneity.

**Discussion:** Despite the Covid-19 constraints and pre-existing actions, schools still were keen to participate in our research project. Indeed, the actions, developed as comprehensive but easily included in the daily school life, were well-perceived. Future interventions should ensure actions fit in with existing school policies.

## Can a simple plan change a complex behaviour? Implementation intentions and water drinking

A. Rodger<sup>1</sup>, A. Vezevicius<sup>1</sup>, E. Papies<sup>1</sup>

<sup>1</sup>University of Glasgow, United Kingdom

**Background:** Despite the importance of adequate hydration, current water intake interventions are ineffective. This mixed-methods study used implementation intentions to try and increase participants' self-reported water intake over five days. **Methods:** One hundred participants received an educational quiz to increase their hydration knowledge and water drinking motivation. Participants were then randomly assigned to the control or intervention group. We asked both groups to drink three additional glasses of water a day, however, the intervention group created three implementation intentions to help them do so. Participants completed a qualitative survey on day five that assessed their experience of trying to increase their water intake, and we analysed this using Thematic Analysis. **Findings:** The implementation intentions did not significantly increase water intake compared to the control group. Most participants regardless of group increased their average daily water intake from baseline. Participants needed to engage in the stages of remembering, preparing, and drinking to have a water drinking occasion and found this effortful. The most common barrier to drinking water was not remembering followed by effortful preparation behaviours. Participants needed to be motivated to engage in these stages and their motivation was influenced by their appraisal of the study task's helpfulness, feelings of accountability, and experience of reward. Information from the educational quiz allowed participants to connect their water drinking behaviour to rewards. **Discussion:** Overall, habit, knowledge, and reward are needed for adequate water drinking behaviour. Implementation intentions facilitated goal-directed behaviour rather than creating instant habits and failed to plan for preparation behaviours.

# Utility and applications of Bayesian methods in health psychology: theory building and evidence evolution

11:30 - 13:00

Bratislava

Aliya Amirova

## Bayes factors in health psychology to interpret statistically non-significant findings: is the p-value enough?

E. Beard<sup>1</sup>

<sup>1</sup>University College London, Research Department of Behavioural Science and Health, United Kingdom

There have been calls in psychology for a move to Bayesian analysis. However, such approaches are not available in traditional statistical packages and are not taught as a core part of most undergraduate and postgraduate degrees. One component of Bayesian analysis which offers a compromise, Bayes factors, can be used as an adjunct to traditional Frequentist hypothesis testing. This presentation will cover the possible contributions of Bayes factors to health psychology research including their ability to differentiate, unlike the p value, lack of strong evidence for an effect and evidence for lack of an effect. Possible sensitivity analyses using robustness regions, the limitations of this approach and alternatives will also be considered. Real life data looking at a possible gateway between e-cigarette use and smoking will be used as an illustration of this approach. Advice on the calculation of Bayes factors will be given.

## Expert Elicitation, Prior-Data Conflicts, Bayes Factors for Replication Effects, and the Bayes Truth Serum

R. Van De Schoot<sup>1</sup>

<sup>1</sup>Utrecht University, Netherlands

The popularity and use of Bayesian methods have increased across many research domains. In this presentation, I will demonstrate how some less familiar Bayesian methods can be used: expert elicitation, testing for prior-data conflicts, the Bayesian Truth Serum, and testing for replication effects via Bayes Factors. I will demonstrate these methods using a series of four studies investigating the use of questionable research practices (QRPs). In four studies concerning 765 Ph.D. candidates, we investigated whether Ph.D. candidates can differentiate between ethical and unethical or even fraudulent research practices. We probed the Ph.D.'s' willingness to publish research from such practices and tested whether this is influenced by (un)ethical behavior pressure from supervisors or peers. Furthermore, 36 academic leaders (deans, vice-deans, and heads of research) were interviewed and asked to predict what Ph.D.'s would answer for different vignettes. Our study shows, and replicates, that some Ph.D. candidates are willing to publish results deriving from even blatant fraudulent behavior—data fabrication. Additionally, some academic leaders underestimated this behavior, which is alarming. Academic leaders have to keep in mind that Ph.D. candidates can be under more pressure than they realize and might be susceptible to using QRPs.

## Application of Bayesian approach in mixed methods reviews in health psychology

A. Amirova<sup>1</sup>

<sup>1</sup>King's College London, United Kingdom

MRC framework for designing complex interventions urges researchers to consider evidence from diverse sources when developing interventions. Several methods have been proposed, including the use of mixed-methods studies where one type of evidence (e.g., qualitative) informs the research design of the complementing study (e.g., quantitative). However, it is less clear how to compare findings from a broad range of studies (qualitative and quantitative) and how to estimate uncertainty in the evidence. The Bayesian approach presents a unique opportunity for research informing complex intervention development by providing a workflow and analysis equipped to combine different evidence and evaluate uncertainty in the evidence. This presentation aims to illustrate applications of the Bayesian approach in informing behaviour change interventions using a systematic review on physical activity barriers and enablers in HF as an example. Qualitative evidence was annotated using the Theoretical Domains Framework and represented as a prior distribution using an expert elicitation task. The maximum a posteriori probability (MAP) was calculated as a summary statistic for the probability distribution for the log Odds Ratio value estimating the relationship between physical activity and each determinant, according to qualitative evidence alone, quantitative evidence, and qualitative and quantitative evidence combined. The Bayesian approach enabled comparative predictions about barriers and enablers, helped evaluate the extent of uncertainty in the evidence and enabled the combination of qualitative and quantitative evidence in a single synthesis.



## Reporting standards for studies applying Bayesian statistics: WAMBS checklist

S. Depaoli<sup>1</sup>

<sup>1</sup>University of California, Merced, United States

Bayesian estimation methods are being used to a greater extent in the social and behavioral sciences, including within Health Psychology. There has been a steady rise of use, especially within the context of implementing more complex models. There are many advantages to using this estimation framework. However, evidence suggests that thorough execution and reporting of Bayesian methods is not the norm. Researchers are not intentionally mishandling the methods. Rather, there are so many nuances to proper implementation that it can be difficult to execute each component correctly without a deep understanding of the process. There are many dangers to naïvely applying Bayesian statistics, including misinterpretation of results, or even reporting something that is completely wrong. Therefore, I highlight several key points in this talk that should be followed when conducting and reporting Bayesian methods. These points, if followed, will aid in reducing the ambiguity of results and increase the transparency of Bayesian research conducted within Health Psychology. Much of this talk is devoted to proper implementation and reporting, but I will also introduce a useful checklist tool for reviewers of Bayesian work (e.g., when reviewing a manuscript or a grant application).

# Sleep and self-enhancing behaviours

11:30 - 13:00

Kiev

Laura S. Belmon

## Individual differences in sense-of-purpose moderates link between sleep and next-day anticipation of positive events

J. Wen<sup>1</sup>, P. Klaiber<sup>1</sup>, K. Leger<sup>2</sup>, P. Hill<sup>3</sup>, G. Pfund<sup>3</sup>, N. Sin<sup>1</sup>

<sup>1</sup>University of British Columbia, Department of Psychology, Canada

<sup>2</sup>University of Kentucky, United States

<sup>3</sup>University of Washington in St. Louise, United States

**Background:** Poor night-to-night sleep has been consistently linked higher odds of reporting more stressors and fewer positive events (PE) the next day, but research has not considered how nightly sleep predicts event anticipation. However, the link between nightly sleep and next-day event anticipation has been largely unexplored. Furthermore, people with a higher sense of purpose are less reactive to daily stressors, and thus may be more resilient to the effects of poor sleep. Therefore, this study examined purpose as a moderator of the link between sleep and next-day stressor and PE anticipation.

**Methods:** In this pre-registered study, participants (N = 354) completed a baseline survey where they reported their sense of purpose and 10 consecutive weekdays of morning surveys, where they reported sleep and stressor and PE anticipation.

**Results:** Results from multilevel models suggested that people who had better night-to-night sleep as well as with greater sense of purpose reported lower stressor, and higher PE, anticipation. Sense of purpose moderated the within-person association between sleep efficiency and PE anticipation, such that more purposeful individuals tended to report higher PE anticipation following nights of less efficient-than-usual sleep. Inversely, people with lower sense of purpose reported less PE anticipation after nights of less efficient-than-usual sleep.

**Conclusion:** Our finding suggests that both better night-to-night sleep as well as higher sense of purpose was consequential to morning expectations of stressor or PE occurrence. It is possible that purposeful individuals may be more resilient to the effects of poor sleep on morning expectations of PE.

## Effects of Childhood Trauma on Sleep Quality and Stress-related Variables in Adulthood: Two Multilevel Studies

D. O'Connor<sup>1</sup>, D. Branley-Bell<sup>2</sup>, J. Green<sup>1</sup>, E. Ferguson<sup>3</sup>, R. O'Carroll<sup>4</sup>, R. O'Connor<sup>5</sup>

<sup>1</sup>University of Leeds, United Kingdom

<sup>2</sup>Northumbria University, United Kingdom

<sup>3</sup>University of Nottingham, United Kingdom

<sup>4</sup>University of Stirling, United Kingdom

<sup>5</sup>University of Glasgow, United Kingdom

**Background:** Childhood trauma has been found to have serious negative consequences for mental and physical health in adulthood as well as increasing risk of suicide. However, the precise pathways through which trauma influences health outcomes is unclear. To this end, this research aimed to investigate whether childhood trauma-related disruptions to sleep quality and pre-sleep factors in adulthood was an important potential pathway. **Methods:** 150 participants (95 with suicide ideation/attempt history) were recruited to Study 1 and 194 participants (75 with suicide ideation/attempt history) to Study 2. Participants completed the Childhood Trauma Questionnaire before commencing a 7-day online diary study. In Study 1 measures of daily stress, mood and sleep quality were completed at the end of day. In Study 2 perseverative cognition and stress measures were completed at the end of day and sleep quality measures were completed the following morning. **Findings:** Hierarchical linear modelling analyses found higher levels of childhood neglect were associated with poorer daily sleep quality, shorter sleep duration and greater sleep onset latency in Study 1 and with poorer daily sleep quality in Study 2. Higher childhood neglect and abuse were associated with higher daily perceived stress and daily perseverative cognition. Multilevel mediation analyses also found that childhood trauma variables had indirect effects on sleep quality outcomes via daily stress-related vulnerability variables. **Discussion:** These findings highlight the importance of investigating distal and proximal risk factors simultaneously. Personalized medicine informed interventions ought to target these modifiable stress-related vulnerability variables in individuals with a history of childhood trauma.

## Does social media use impact sleep quality? Moving beyond self-report methodology

H. Breare<sup>1</sup>, P. Clarke<sup>1</sup>, B. Mullan<sup>1,2</sup>, T. McAlpine<sup>1</sup>

<sup>1</sup>Curtin University, Australia

<sup>2</sup>WA Cancer Prevention Research Unit (WACPRU), Australia

**Background:** Sleep deprivation is a recognised health issue for university students who may balance academic, social and employment demands. This lack of restorative sleep can be detrimental for assimilating new information, academic performance and physical and mental health. Increasing use of social media may play a specific role in contributing to students' poor-quality sleep. The aim of this study was to examine the relationship between social media use and two indicators of sleep quality (i.e., sleep duration and sleep efficiency).

**Methods:** A longitudinal repeated measures design was used to assess social media and sleep quality in university students (N = 32) over two weeks. Participants wore an ActiGraph GT9X Link activity monitor to bed each night to measure their sleep quality. Social media use was measured via screenshots of daily social media use.

**Findings:** Bayesian linear regressions and Bayesian linear mixed models revealed no support for an association between social media use and indicators of sleep quality, at both the between and within-participant levels. However, a fixed effect of using social media before bed revealed a 53.25% and 82.85% probability of a significant association with sleep duration and sleep efficiency, respectively.

**Conclusions:** Prolonged social media use did not impact sleep quality, however the timing of social media when used before bed was likely to impact sleep. Social media may activate potentially disruptive cognitive processes, which may be detrimental during the sleep period. Our study may guide future sleep recommendations to support positive sleep outcomes for university students.

## Promoting children's sleep health: Intervention Mapping meets Health in all Policies

L.S. Belmon<sup>1,2</sup>, M.M. van Stralen<sup>3</sup>, I.A. Harmsen<sup>2</sup>, K. Den Hertog<sup>2</sup>, R.A. Ruiter<sup>4</sup>, V. Busch<sup>2</sup>

<sup>1</sup>Amsterdam UMC, Vrije Universiteit Amsterdam, Department of Public and Occupational Health, Amsterdam Public Health research institute, Netherlands

<sup>2</sup>Public Health Service (GGD), City of Amsterdam, Amsterdam, Netherlands

<sup>3</sup>Faculty of Science and Amsterdam Public Health research institute, department of Health Sciences, Vrije Universiteit Amsterdam, Netherlands

<sup>4</sup>Department of Work and Social Psychology, Maastricht University, Maastricht, Netherlands

### Background

To design a comprehensive approach to promote children's sleep health in Amsterdam, The Netherlands, we combined Intervention Mapping (IM) with the Health in All Policies (HiAP) perspective. We aimed to create an approach that fits municipal infrastructures and relevant policy domains across sectors.

### Methods

We conducted a needs assessment, including a systematic review, two concept mapping studies among professionals (n=27), parents (n=33) and children (n=45), and one cross-sectional sleep diary study among parents and children (n=382). Subsequently, semi-structured interviews (n=64) with stakeholders from policy, practice and science, provided information on potential assets. Next, we specified program outcomes and objectives and made a blueprint for the development of a multi-sector program.

### Results

We created a blueprint for the for development of a children's sleep health promotion program. This blueprint included a logic model of the problem, a logic model of change, and an overview of the existing organizational structure of local policy and practice assets. Furthermore, it included an overview of policy sectors in- and outside the public health domain and potential opportunities for each sector to promote children's sleep health. The program production resulted in a policy brief for the local government.

### Discussion

Combining IM and HiAP proved valuable for designing a blueprint for the development of an integrated multi-sector program to promote children's sleep health. This blueprint may facilitate other health promotion professionals to apply our combined IM/HiAP approach, develop programs that fit the local infrastructures, and incorporate relevant policy sectors outside the public health domain.

## Does general and academic procrastination influence bedtime procrastination? The role of routines-related variables

A. Oliveira<sup>1</sup>, B. Pereira<sup>1</sup>, P. Rosário<sup>1</sup>, J.C. Núñez<sup>2</sup>, P. Magalhães<sup>1</sup>

<sup>1</sup>Psychology Research Center, School of Psychology, University of Minho, Portugal

<sup>2</sup>Faculty of Psychology, University of Oviedo, Spain

**Background:** Sleep influences individuals' functioning in several domains, with sleep insufficiency considered a preeminent health issue. One of the reasons for sleep insufficiency is bedtime procrastination (BP), i.e., postponing the time of going to bed without external reasons. The goal of the current study is to analyze the relationships between BP, general procrastination, academic procrastination, and routine-related factors, which is aligned with the UN Sustainable Goals three and four. **Methods:** Four hundred and forty-six college students participated in the present cross-section study. Participants filled out self-reported questionnaires via an online survey. The mediating effects of wake-up time and dinner time on the relationship between BP and general and academic procrastination, and the perceived importance of sleep were analyzed through path analysis. **Findings:** Results confirm a partial mediation model (AIC = 37.929, BIC = 111.735). General procrastination, academic procrastination, and perceived importance of sleep had direct effects on BP. Additionally, academic, and general procrastination were positively associated with BP; perceived importance of sleep was negatively associated with BP. There were found indirect effects of perceived importance of sleep and general procrastination on BP through the mediating role of wake-up time and dinner time. **Discussion:** Personal routines (i.e., wake-up time and dinner time), individual characteristics (i.e., general, and academic procrastination), and beliefs (i.e., perceived importance of sleep) influences BP. Current results emphasized the complexity of BP. Regarding implications for practice, the promotion of strategies that help to accomplish routines (e.g., dinnertime) may be important to reduce BP.

## The effect of a body scan intervention on interoceptive processes and the HEP

S.A. Mai-Lippold<sup>1</sup>, D. Schultchen<sup>1</sup>, M. Messner<sup>1</sup>, L. Desdentado<sup>2</sup>, M. Laskowski<sup>1</sup>, O. Pollatos<sup>1</sup>

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<sup>2</sup>Department of Personality, Evaluation, and Psychological Treatments, University of Valencia, Spain

**Background:** Impaired interoceptive abilities in clinical samples point out the relevance to improve interoception. While an impact of a body scan meditation on cognitive and physiological variables was shown, there is a lack of knowledge regarding effects on interoception. This study aimed to enhance interoceptive dimensions, including the heartbeat-evoked brain potential (HEP), with a body scan.

**Methods:** 49 healthy students were randomized to an intervention group (n = 25) or to a control group (n = 24). The intervention group conducted a 20-min audio-guided body scan for 8 weeks. The control group listened to an audio book. Interoceptive accuracy, assessed by a heartbeat detection task, sensibility, acquired by confidence ratings, and the HEP, measured by EEG, were ascertained before and after the intervention.

**Findings:** There was no difference between the groups in interoceptive accuracy, sensibility and the HEP after the intervention. For both groups, an improvement over time was observed in accuracy,  $F(1, 47) = 18.4$ ,  $p < .001$ ,  $\eta^2p = .28$ , and sensibility,  $F(1, 47) = 13.9$ ,  $p < .001$ ,  $\eta^2p = .23$ . While accuracy predicted centroparietooccipital HEPs at t1 ( $\beta = 1.8$ ,  $p = .02$ ), sensibility predicted HEPs at t2 ( $\beta = -.23$ ,  $p = .02$ ).

**Discussion:** The findings indicate an improvement of interoceptive abilities by training, although the body scan might have been too unspecific. The potential of the HEP as an additional marker of interoceptive processing is underlined. Future studies should target improvements of interoception in clinical samples using trainings of concrete interoceptive modalities.



# Implementation in Mental Health and Social Exclusion

14:00 - 15:30

London

Emily Oliver

## Treating distress in long-term conditions: Outcomes for an Improving Access to Psychological Therapy service

J. Hudson<sup>1</sup>, N. Seaton<sup>1</sup>, S. Norton<sup>1</sup>, K. Hulme<sup>1</sup>, R. Moss-Morris<sup>1</sup>

<sup>1</sup>King's College London, United Kingdom

**Background:** Long-term conditions (LTC) impact mental health. Improving Access to Psychological Therapies (IAPT) services provide mental health treatments for LTC patients in England. Nationally reported IAPT data suggest LTC patients have poorer outcomes compared with LTC absent patients. Why these differences occur remains unknown. Socio-demographic and clinical variables may confound the association between LTC status and treatment outcomes. This study aimed to explore the association of LTC status with demographic and clinical factors, and mental health outcomes.

**Methods:** Anonymised patient-level data (n=6,610) from one IAPT service during January 2019 – October 2020 were used to compare differences between LTC present and absent groups using a pre-post cohort design. Binary logistic regression and multiple linear regression models were constructed for the binary outcome variables (mental health recovery and mental health reliable improvement) and continuous outcomes (distress; PHQ-ADS and functioning; WSAS), respectively. All models statistically controlled for socio-demographic and clinical variables.

**Results:** LTC patients were more likely female, older, from a Black or Mixed & Other ethnic background and had greater social deprivation. Having an LTC showed a statistically significant association with recovery (Odds Ratio, OR = 0.86), reliable improvement, OR=0.81), psychological distress ( $\beta$ =0.05) and functioning ( $\beta$ =0.05), whilst controlling for sociodemographic and clinical baseline variables.

**Conclusions:** LTC status has a negative impact on mental health outcomes in IAPT services, independent of socio-demographic and clinical variables. This demonstrates a need for the application of health psychology theories to guide the adaptation of primary care mental health treatments for people with LTCs.

## Co-location in community spaces increases access to public mental health services by neutralising psychological barriers

F. Duncan<sup>1</sup>, C. Baskin<sup>2</sup>, E. Adams<sup>3</sup>, S. Gnani<sup>2</sup>, G. Samuel<sup>4</sup>, E. Oliver<sup>1</sup>

<sup>1</sup>Durham University, United Kingdom

<sup>2</sup>Imperial College London, United Kingdom

<sup>3</sup>Newcastle University, United Kingdom

<sup>4</sup>McPin Foundation, United Kingdom

### Background:

Physically co-locating services has established effectiveness in health settings, enhancing access to services addressing critical social determinants of poor mental health such as violence, discrimination, poverty, social isolation, and job or housing insecurity. This study aimed to understand how, and why, co-locating in community-based settings might facilitate improved public mental health outcomes and reduce mental health inequalities.

### Methods:

This realist analysis was based on semi-structured interviews with 32 service providers, 30 service users, and four focus groups across six different co-location case study sites in England, UK. These sites included a library, a foodbank, a heritage site and three community hubs; for a minority ethnic population, those with lived experience of mental health problems, and those experiencing social isolation and poverty. Data were analysed to identify contextual factors, mechanisms and outcomes.

### Findings:

Co-location reduces/neutralises psychological barriers to access and engagement with services through three mechanisms: 1) Trust, confidence and a feeling of psychological safety created by individual community organisations transfers to the co-located service; 2) Enhanced visibility and cross-service signposting reduces users' uncertainty regarding service suitability and efficacy; 3) Emotional support and physical proximity reduces stresses and effort associated with accessing a new service.

### Discussion:

Addressing psychological barriers to service access and engagement is especially important for people in crisis, those dealing with multiple complex challenges including poverty and/or those who have previously experienced a lack of support or stigma when accessing services. As such, these co-location service models can act to reduce mental health inequalities.

## Autonomy in co-located mental health services: impacts on staff and service users

E. Oliver<sup>1,2</sup>, E. Adams<sup>3</sup>, C. Baskin<sup>4</sup>, F. Duncan<sup>1</sup>, G. Samuel<sup>5</sup>, S. Gnani<sup>4</sup>

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**Background:** Co-located support services improve mental health outcomes, however, mechanisms underpinning effects are unclear. There has additionally been limited exploration of community-based co-location despite its potential to widen access. Grounded in psychological (e.g., self-determination) and sociological (e.g., Archer's morphogenetic) theory, we centred autonomy as a motivating and salutogenic concept and explored: (i) how autonomy is influenced by differing service models, and (ii) implications for staff and service users.

**Methods:** Six case study sites in England were selected with varied geographies, models of co-location, services, and target populations. We held interviews and focus groups with 30 service users and 32 service providers, and hosted two stakeholder workshops to review findings. Manzano's (2016) three-part approach to realist evaluation analysis was adopted.

**Findings:** A range of programme theories were supported. Contexts facilitating staff autonomy included the absence of statutory resource and reporting restrictions and limited 'metrification'. In turn, this created conditions for person-centred and holistic care, aligned with service provider values. Service users experienced autonomy through dignified and volitional engagements, regaining control, and shaping their support experience. In some cases, unintended consequences undermined autonomy (e.g., lack of structure; insecure funding). Agents shaped the system through fostering cultures of trust, and valuing 'boundary spanning' ways of working.

**Discussion:** Co-locating mental health services in community assets can shape both personal and service-level autonomy that, in turn, supports outcomes. The importance of system-focused work that recognises the unique and cumulative effects of individuals is reinforced. Policy and funding systems that enable sustainable community-based co-location are recommended.

## Barriers of the care system for adolescents with emotional and behavioural problems: care providers' perspectives

L. Bosakova<sup>1</sup>, Z. Dankulincova Veselska<sup>1</sup>

<sup>1</sup>PJ Safarik University in Kosice, Slovakia

**Background:** Emotional and behavioural problems (EBP) present most common mental health issues during adolescence. Despite their increased incidence in last years, care system for adolescents with EBP is far from optimal. To achieve promising improvements, it is important to identify and understand also barriers and pitfalls of the care system. Care providers might be crucial in gaining such a knowledge. We therefore examined perspectives of the care providers on the urgency and feasibility of the potential improvements of the care system for adolescents with EBP.

**Methods:** We used Concept mapping, participatory mixed-method approach, based on qualitative data collection and quantitative data analysis. We used Gap-Zone to identify measures that may be less likely to mobilize action, i.e. measures rated as highly urgent but low on feasibility, which may expose barriers that might prevent action on critical factors. Altogether, 33 care providers from 17 institutions participated in our study, including psychologists, pedagogues for children with special needs, teachers, educational counsellors, social workers and child psychiatrists.

**Results:** Care providers identified 13 critical barriers of the care system having high urgency but low feasibility. These were mainly related to comprehensive change of the school system; increasing of personal capacities and ensuring of sustainable financing in the care system; providing the complex multidisciplinary services "under one roof"; unification of the diagnostic structure; creation of the framework for parallel service delivery; and creating a participatory tool for parental involvement.

**Conclusions:** Care providers identified significant pitfalls which might further hinder the improvements of the care system.

## Mutual communication and relationship between health care providers and socially excluded Roma

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<sup>2</sup>Palacky University in Olomouc, Olomouc University Social Health Institute, Olomouc, Czech Republic

<sup>3</sup>Department of Christian Social Work, Sts Cyril and Methodius Faculty of Theology, Palacky University in Olomouc, Olomouc, Czech Republic

**Background:** Roma are the biggest and the most disadvantaged ethnic minority in Europe facing discrimination in all aspects of life including access to health care (HC). The aim of this study was to explore mutual communication and relationship between HC providers and socially excluded Roma.

**Methods:** Reported findings are from a qualitative study focused on health and access to HC conducted in the Olomouc Region in the Czech Republic. We conducted 23 semi-structured interviews with socially excluded Roma and 39 interviews with relevant stakeholders of diverse specializations related to the topics of social exclusion, health, and HC. Thematic analysis of the transcribed audio recordings was performed in NVivo 12.

**Findings:** Following themes related to communication between HC providers and socially excluded Roma were identified: 1. causes of poor communication (mutual prejudices - related expectations, communication skills of communicating partners, patients' health literacy, ability to understand information) 2. manifestations of poor communication (rushed, unfriendly, inappropriate for patients' health literacy), 3. consequences of poor communication (shame to ask questions, misconstruction or misunderstanding of information, distrust, perceived quality of HC, avoidance of HC).

**Discussion:** Communication between HC providers and socially excluded Roma is burdened by mutual prejudices, mistrust, and communication errors on both sides. It affects their relationship, creates a significant barrier in access to HC, has an impact on the perceived quality of HC, and on future help-seeking behaviour of socially excluded Roma. Communication training for HC providers might promote effective communication with patients from ethnic minorities and with lower health literacy.

# Mechanisms of action of behaviour change interventions: Challenges in definitions and measurement

14:00 - 15:30

Rome

Marie Johnston

## Mechanisms of action of behaviour change interventions: Challenges in definitions and measurement

T. Cornelius<sup>1</sup>, S. Michie<sup>2</sup>, D. Dixon<sup>3</sup>, M. Johnston<sup>3</sup>

<sup>1</sup>Columbia University Irving Medical Center, United States

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**Purpose.** This round table discussion will be led by international experts in behaviour change science and process research, focussing on mechanisms of action and their measurement.

**Objectives.** (1) Define and discuss the importance of mechanisms for behavioural health research. (2) Differentiate mechanisms and their measures and identify barriers to utilizing validated measures of mechanisms in behavioural science (3) Introduce methods of validating measures. (4) Discuss how to move the field forward towards better measures of mechanisms of action in behaviour change.

**Rationale.** Poor specification and measurement of mechanisms of action may result in misleading findings and consequently problems in evidence synthesis, the advancement of theory and the development of interventions. We will facilitate discussion of the benefits of improved definition, measurement and curation of valid measures of mechanisms, as well as challenges, and their solutions.

**Summary.** Dr. Susan Michie will begin by defining mechanisms of action coded by the UK-based Human Behaviour Change Project (HBCP), including what they are, how they are defined, and how their associations with behaviour change techniques can enable intervention development and evaluation, and theory advance. Next, Dr. Talea Cornelius will discuss the importance of valid measurement of these mechanisms, correspondence between measures housed in the US-based Science of Behavior Change (SOBC) measures repository and HBCP mechanisms, and the challenges associated with matching measures to mechanisms. She will additionally discuss the validation of measures of mechanisms with respect to the SOBC experimental medicine approach. Finally, Dr. Diane Dixon will discuss measurement validation in terms of discriminant content validity and the details of this method. Dr. Marie Johnston, as chair of the roundtable, will note the challenges associated with widespread adoption of good measurement of mechanisms in the field of behaviour change.



# Physical activity, sedentary behaviour and alcohol

14:00 - 15:30

Paris

Richard Steel

## The Longitudinal Associations Between Wearable Technology, Physical Activity and Self-Determined Motivation

R. Steel<sup>1</sup>

<sup>1</sup>Nottingham Trent University, United Kingdom

**Objective:** Wearable technology has been posited as a potential intervention for improving adherence to physical activity and reducing sedentary behaviour. However, the long-term effectiveness of these devices is questionable and little attention has been paid to the motivational processes that drive physical activity behaviour. The aim of this study was to examine the effectiveness of wearable technology for improving body composition and physical activity, and also to explore the associations with self-determined motivation.

**Methods:** Fifty-eight physical activity participants completed questionnaires measuring their physical activity and motivation on a monthly basis for a period of six months. In addition, body composition was measured at baseline and at the end of the study.

**Results:** Participants who used wearable technology did not improve their body composition over the duration of the study. Moreover, participants using wearable technology experienced a decline in physical activity levels when compared with non-users. Furthermore, an association emerged between introjected motivation and wearable technology use.

**Conclusions:** This study provides further evidence that wearable technology may not be effective for improving long-term physical activity adherence. Furthermore, it suggests introjected motivation may be an important mechanism within this relationship.

## New-onset alcohol use disorder after bariatric surgery : an interpretative phenomenological analysis

E. ER<sup>1,2</sup>, C. FLAHAULT<sup>3,4</sup>, A. ETIENNE<sup>1,2</sup>

<sup>1</sup>Liège University, Belgium

<sup>2</sup>Research Unit for a life-Course perspective on Health and Education, Belgium

<sup>3</sup>Paris University, France

<sup>4</sup>Laboratory of Psychopathology and Health Processes, France

**Background :** Obesity has reached alarming proportions. Bariatric surgery is considered as the best long-term solution for significant weight loss. However, studies have demonstrated that the prevalence of alcohol use disorder (AUD) increases postoperatively, with an important proportion of patients having no antecedents of alcohol problems preoperatively. This study aims to explore the experiences of people who developed an AUD after bariatric surgery and understand how they make sense of the onset of this disorder.

**Methods:** Four individuals who had undergone bariatric surgery and presented an AUD took part in a semi-directed interview. Interpretative phenomenological analysis was conducted for data analysis.

**Findings:** Seven major themes were identified: 1) history of alcohol consumption before versus after bariatric surgery ; 2) from food before bariatric surgery to alcohol afterward as a strategy to cope with emotions; 3) choice of alcohol among other substances or activities ; 4) causes of postoperative AUD: involvement of numerous factors including causes related explicitly to bariatric surgery; 5) experience of postoperative AUD ; 6) evaluation of bypass ; 7) lack of information about the risks of postoperative AUD before surgery and imagined impact of advance information. Four meaning-making profiles of AUD were developed based on the participants' discourse.

**Discussion:** Developing an AUD after bariatric surgery was described as a difficult experience. Participants identified various factors that led them to develop this disorder; some of these factors were directly related to the operation. Results indicate the need for prevention measures aiming to limit the appearance of AUD post-surgery.

## Identifying conducive contexts and mechanisms of sedentary behavior interventions in older adults: a realist review

L. Van de Velde<sup>1</sup>, G. Cardon<sup>1</sup>, D. Van Dyck<sup>1</sup>, S. Chastin<sup>2</sup>, E. Lauwerier<sup>1</sup>, S. Compernelle<sup>1</sup>

<sup>1</sup>Ghent University, Belgium

<sup>2</sup>Glasgow Caledonian University, United Kingdom

**Purpose:** Little in-depth information is available on how interventions aimed at the reduction of older adults' sedentary behavior (SB) work in different contexts. Therefore, this study aimed to unpack the mechanisms of how existing interventions work or fail to work in particular contexts in order to optimize the development and implementation of future SB interventions.

**Methods:** A realist review was conducted according to the process recommended by Pawson et al.: (1) research questions were defined, and an initial program theory (IPT) was established, (2) evidence was searched and appraised based on relevance and rigor, (3) data were extracted and analyzed using retroductive techniques, and (4) conclusions were drawn. This iterative process resulted in a final program theory that can be used to identify which context(s) trigger(s) which mechanism(s), and in turn might elicit which outcome(s).

**Results:** The Dual-Process Theory of Sedentary Behavior, and the Elaboration Likelihood Model of Persuasion were used to formulate the IPT consisting of three main assumptions: (1) the level of motivation, the available opportunities, and the functional capabilities influence how older adults respond to the offered resources, (2) resources including social support, feedback, goal setting, self-monitoring and information about health consequences are successful to reduce SB if the context is conducive, and (3) increasing motivation, awareness, and self-regulation skills are expected responses needed to achieve a reduction in SB.

**Conclusions:** Successful SB interventions are complex and should be tailored to older adults' context to trigger psychosocial responses needed to achieve behavior change.

## Within-person predictors of moderate-to-vigorous physical activity: Systematic review of Ecological Momentary Assessment studies

V. Schneider<sup>1</sup>, O. Perski<sup>1</sup>, D. Kwasnicka<sup>2,3</sup>, G. ten Hoor<sup>4</sup>, N. Lorbeer<sup>5</sup>, S. Di Maio<sup>5</sup>, D. Powell<sup>6</sup>, D. Kale<sup>1</sup>, B. Asare<sup>6,7</sup>, F. Naughton<sup>8</sup>, P. Gellert<sup>9</sup>, P. Verboon<sup>10</sup>, J. Keller<sup>5</sup>

<sup>1</sup>University College London, United Kingdom

<sup>2</sup>University of Melbourne, Australia

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<sup>4</sup>Maastricht University, Netherlands

<sup>5</sup>Freie Universität Berlin, Germany

<sup>6</sup>University of Aberdeen, United Kingdom

<sup>7</sup>Curtin University, Australia

<sup>8</sup>University of East Anglia, United Kingdom

<sup>9</sup>Charité Berlin, Germany

<sup>10</sup>Open University of the Netherlands, Netherlands

**Background:** Ecological Momentary Assessment (EMA) enables real-time sampling of physical activity and analysis of within-person processes, which reflects a valuable methodological approach to inform theory and intervention design. We aimed to synthesise findings from EMA studies to summarise within-person associations of psychological (e.g., affect) and contextual (e.g., weather) factors with moderate-to-vigorous physical activity (MVPA).

**Methods:** We systematically searched Ovid MEDLINE, Embase, PsycINFO and Web of Science as part of a larger review, and included studies that reported  $\geq 1$  within-person association(s) of a psychological or contextual EMA-measured predictor with an EMA-measured MVPA outcome in adults from non-clinical populations. Predictors describing similar constructs were categorised into higher-order constructs.

**Findings:** Of 187 EMA physical activity studies from the overarching review, 29 MVPA studies from 25 projects (3,498 participants) reporting 92 within-person associations were included. The most frequent EMA-assessed predictor category was negative affect (22 within-person associations), followed by cognitive factors (15), positive affect (13), and social influences (11). Only for 5 contextual factors, within-person associations with MVPA were reported across 4 studies. Cognitive factors showed the highest proportion of significant MVPA associations (13/15; 86.7%).

**Discussion:** Frequent within-level relationships between cognitive factors and MVPA support assumptions from health behaviour change models and highlight the importance to examine behaviour change not only at the between-person, but also at the within-person level. To learn more about opportune situations to promote MVPA in individuals, more EMA studies should assess and report on contextual influences of MVPA by using digital technologies (e.g., momentary location by GPS tracking).

## The relation between physical activity and executive functions in childhood: an inter- and intraindividual approach

A. Eppinger Ruiz de Zarate<sup>1</sup>, D. Powell<sup>2</sup>, J. Kühnhausen<sup>3</sup>, G.(. Stadler<sup>4</sup>, C. Gawrilow<sup>5</sup>

<sup>1</sup>University of Tübingen, Germany

<sup>2</sup>University of Aberdeen, United Kingdom

<sup>3</sup>University Hospital of Tübingen, Germany

<sup>4</sup>Charité - Universitätsmedizin Berlin, Germany

<sup>5</sup>Universität Tübingen, Germany

**Background:** Humans profit highly from physical activity (PA) in physiological and cognitive health aspects. Positive effects of moderate-to-vigorous PA (MVPA) on executive functions have often been found in adults. However, findings in childhood are less congruent. This may be attributed to the examination on a between-person level (interindividual) rather than within individuals (intraindividual). In our study, we expected MVPA to be positively related to working memory (WM) on both the inter- and the intraindividual level across the day.

**Methods:** We implemented an ambulatory assessment study over 18 days repeated three times (approx. 6 months apart), during which 64 German schoolchildren (10-12 years) wore actigraphs (GT3X+) and completed a WM-task in the morning, afternoon, and evening. Data was analyzed using multilevel modeling.

**Findings:** Congruently to our hypotheses, we found a positive interindividual association between MVPA and WM in the morning ( $\beta = 8.68$ ,  $p = .035$ ) and afternoon ( $\beta = 12.34$ ,  $p = .037$ ). However, in the evening, we found MVPA to be negatively related to WM-performance on an intraindividual level ( $\beta = -2.70$ ,  $p = .047$ ). We further found an association with intelligence and gender across all day times, and controlled for time, weekend, age, and sleep quality for the morning assessment.

**Discussion:** Our findings suggest the association between PA and WM in childhood to depend on the examination level. We emphasize the importance of ambulatory assessment when examining this relationship, as relevant theories in this area imply PA to be related to executive functions within rather than between persons.

## Appearance-schema, trait physical anxiety and contextual online exposure increase body dissatisfaction and body anxiety

M. Boza<sup>1</sup>

<sup>1</sup>Alexandru Ioan Cuza University of Iasi, Romania

**Background.** The aim of this research is to experimentally test the influence of appearance-schema, trait physical anxiety, and the context of online appearance exposure on body dissatisfaction and body anxiety. Appearance schemas and trait anxiety are stable personal factors with a strong influence on information processing, but contextual factors may also be important.

**Methods.** First, 104 women, recruited online, filled physical appearance traits anxiety scale, and appearance schemas inventory. After 2 weeks they were shown female images posted on Instagram (online exposure) labeled as „fitness”/ „beauty” and no photos for control group. Then contour drawing rating scale and state anxiety appearance scale were measured.

**Results.** ANOVA revealed a main effect of schema on state body anxiety ( $F=44.9, p<.001$ ) schematics being more anxious about their appearance. There is a significant discrepancy between actual and ideal body perception ( $F=119, p<.001$ ), all participants considering that their ideal body should be slimmer. ANOVA repeated measures showed a main effect of trait anxiety ( $F=4.79, p=.031$ ) and an interaction effect anxiety x dissatisfaction ( $F=15.85, p<.001$ ), the more anxious being also more dissatisfied of their own body. Also there are two interaction effects between context x dissatisfaction ( $F=3.95, p=.022$ ) and schema x dissatisfaction ( $F=28.2, p<.001$ ) showing that schematics and those exposed to the “fitness” context were more dissatisfied with their body.

**Discussion.** The findings show the importance of personal and contextual factors affecting body perception. Decreasing overall preoccupation and importance of appearance, investing in other self attributes and limiting certain types or contexts of online exposure could decrease body dissatisfaction and appearance anxiety.

# Considerations for Development and Evaluation of Digital Health Projects

14:00 - 15:30

Berlin

Ann DeSmet



## The importance of contextual factors in smoking relapse: Ecological momentary assessment

M. Elling<sup>1</sup>, H. de Vries<sup>1</sup>, R. Crutzen<sup>1</sup>

<sup>1</sup>Maastricht University/CAPHRI, Netherlands

**Background:** To prevent the highly prevalent problem of smoking relapse among people who recently quit smoking, (digital/just-in-time) interventions could provide assistance in high-risk situations for relapse. Besides information on motivational factors, data is needed about these contextual factors leading to temptations and lapses among Dutch smokers. Therefore, we explored which contextual factors (e.g., activity, social setting, location) are associated with temptations and lapses in the first 14 days of a quit attempt.

**Methods:** In a within-person case-control design among smokers (N=97), ecological momentary assessments (k=6007) were conducted using a smartphone app with three separate assessment types: (1) at 4 semi-random times during the day, (2) when participants felt a temptation, (3) when participants smoked. Generalized linear mixed models were used to test for differences between assessment types in each contextual factor.

**Findings:** Multiple contextual factors related to the onset of temptations and lapses were found. For example, work (vs. no work) was associated with lower risk of temptations (OR=0.73; 95% CI 0.62-0.86) and lapses (OR=0.71; 95% CI 0.55-0.90), whereas leisure (vs. no leisure) was associated with increased risk of temptations (OR=1.21; 95% CI 1.05-1.38) and lapses (OR=1.45; 95% CI 1.20-1.76). Contextual factors associated with the transition from temptations to lapses were also found, e.g., the presence of smoking individuals in the environment was associated with increased risk of lapses (OR=3.10; 95% CI 2.13-4.51).

**Discussion:** Our results suggest that future smoking cessation interventions and studies should not only be tailored towards personal motivational factors but also to personal contextual factors.

## Acceptability and usability of low-cost activity trackers among adults of lower socio-economic status

A. DeSmet<sup>1</sup>, E. Castagnos<sup>1</sup>, S. Kassas<sup>2</sup>, C. Culot<sup>3</sup>

<sup>1</sup>Université libre de Bruxelles, Belgium

<sup>2</sup>Université Libre de Bruxelles, Belgium

<sup>3</sup>Université Libre de Bruxelles, Belgium

**Background:** Activity trackers are a viable tool in health promotion. Adoption of activity trackers among adults of low socio-economic status (SES) is lagging, despite the availability of low-cost options. Insights in perception of acceptability, usability, and mechanisms of action among low SES adults may help reduce barriers for adoption.

**Aims and methodology:** A mixed-method study combined a quantitative survey on usability, acceptability, and mechanisms of action, with a semi-structured interview to explore low SES adults' experiences of two low-cost (<50€) activity trackers. Participants used each tracker for one week (randomized order). Participants received a 50€ incentive for participation.

**Results:** Participants (n=7, n=3 female, age M=29.4+-4.6, family income M=€1125+-803) found the trackers low-moderately easy to use (Xiaomi M=2.74+-0.09; Huawei M=2.90+-0.26, on a 1-5 scale). Participants appreciated Xiaomi more than Huawei. They felt Xiaomi's information was easy to understand and accurate, and it was comfortable (M>=4 on a 1-5 scale) but had for both trackers concerns about data confidentiality (M=3.14+-1.68). Intention to reuse was moderate (Xiaomi M=3.29+-1.11; Huawei M=3.00+-1.29). Participants would be willing to buy a tracker if it costs max. 20-50€. Participants had low to moderate perceptions that the trackers encouraged them to create awareness, set activity goals, prompted them to move, provided social comparison or positive encouragement (all below 3-3.5/5). This study is ongoing, data collection (n=15) ends May 2022.

**Conclusion:** Despite an appreciation of functionalities, interest is low, and participants did not greatly experience the mechanisms in the trackers or apps that could lead to behaviour change.

## Determinants of patients' (decision to use) online access to general practice medical records

R. Thielmann<sup>1</sup>, C. Hoving<sup>1</sup>, J. Cals<sup>1</sup>, R. Crutzen<sup>1</sup>

<sup>1</sup>Maastricht University/CAPHRI, Netherlands

**Background:** Patient online access to medical records is assumed to foster patient empowerment and advance patient-centered healthcare. Despite high patient interest, user rates often remain low. Insight into the determinants associated with patients' use of online access and the extent of decisional conflict experienced for their choice regarding use is limited. This study therefore aims to identify the most relevant determinants associated with 1) patients' use of online access to their general practice medical records and 2) extent of decisional conflict experienced for the choice regarding use.

**Method:** A nationwide online survey study was conducted among Dutch adults. Twenty-three socio-cognitive determinants (beliefs) were examined in terms of relevance for use of online access (N=1888) and decisional conflict regarding use (N=3404). The Confidence Interval-Basted Estimation of Relevance approach was used to visualize room for improvement (sample means) and all determinants and their association strengths (correlations) with use of online access and decisional conflict regarding use.

**Results:** Beliefs about easy use, secured data privacy, and feeling less anxious when using online access, rather than beliefs about online access impacting the patient-provider relationship and improving patients' healthcare management were most relevant in explaining use. Beliefs about feeling less anxious and overwhelmed by using online access along with having enough instruction for use were most relevant in explaining extent of decisional conflict.

**Discussion:** Efforts to support the adoption of online access should emphasize on secured data privacy, facilitate easy use, and to lower decisional conflict regarding use highlight affective benefits of online access.

## Making sense of the impact of sexual health website Sense.info: results from a think-aloud study

G. Metz<sup>1</sup>

<sup>1</sup>Maastricht University, Netherlands

**Background:** The study aimed to gain insight into the potential impact of Dutch sexual health website Sense.info and to find explanations for use data patterns, specifically for its page on chlamydia (104,557 pageviews in 2020). <Chlamydia> mainly focuses on motivating to do an STI-test. Use data revealed that 14% of the 35,347 transfers from this page led to the STI-test page and 41% of transfers led to a page with links to pages on other STIs. A high bounce rate (79%) and relatively high exit rate were reported (69%).

**Method:** A think-aloud study combined with semi-structured interviews, followed by thematic analysis, was carried out (N=15, Mage=20, SDage=2.5).

**Findings:** Participants mainly stated they would visit <Chlamydia> for self-diagnosis. Not all participants noticed the <STI-test> button on the page and recommended a more prominent spot for it. They mentioned that they might use other ways of scheduling an STI-test than Sense (e.g., general practitioner). Overall, the overview of symptoms would stimulate participants to get tested and/or to use condoms.

**Discussion:** The page seems to be relatively successful in stimulating to do an STI-test, but optimisation is possible. The self-diagnosis reason could be a first explanation for the high percentage of visitors transferring to information on other STIs. Participants using different ways to get tested could be an explanation for the users not clicking on <STI-test> and for high bounce- and exit-rates. These results show how a think-aloud study combined with semi-structured interviews can offer insights in the potential impact of web-based interventions.

## Wrapped digital fRCT: Working with young people to develop a recruitment and retention strategy

K. Newby<sup>1</sup>, L. Schumacher<sup>1</sup>, K. Kwah<sup>1</sup>, B. Katherine<sup>1</sup>, J. Bailey<sup>2</sup>, S. Bremner<sup>3</sup>, L. Jackson<sup>4</sup>, R. Crutzen<sup>5</sup>

<sup>1</sup>University of Hertfordshire, United Kingdom

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<sup>4</sup>University of Birmingham, United Kingdom

<sup>5</sup>Maastricht University, Netherlands

### Background

Failure to meet recruitment and retention targets can have a negative impact on study reliability, and costs. What determines successful recruitment and retention is not well evidenced, especially for digital trials. As part of a feasibility randomised controlled trial (fRCT), this study aimed to develop and test a strategy to recruit 230 participants (16-24 years) and retain 70% at 12 months.

### Methods

The strategy was co-developed by researchers and the Wrapped Patient and Public Involvement (PPI) group, consisting of five young people meeting eligibility criteria for the fRCT. Candidate strategies, identified through a rapid review, were iteratively reviewed, and then either rejected or retained/refined, through a series of workshops held by researchers and PPI group. To support decision making, PPI members sought feedback from peers via three focus groups (n=15) co-facilitated with researchers.

### Findings

Six recruitment adverts emphasising different value propositions were selected for use (e.g. altruism, financial gain). An incentive schedule was selected whereby vouchers provided per activity reflected increasing time/effort required (baseline survey: £5, M3: survey £5, M3 test kit: £15, M6 survey: £10, M12 survey: £15, M12 test kit: £20). Use, tone, format, and timing of communications used to prompt and remind participants to complete activities were also selected. To date, 91% of participants have been retained at M3 survey, and 72% at M3 test kit.

### Discussion

Recruitment and retention achieved to date compares favourably with other digital trials. On completion, the strategy will be further reviewed/finalised with the PPI group prior to the main trial.

# Research on cancer screening participation: from a specific approach to an integrated model

14:00 - 15:30

Vienna

Ronan O'Carroll

## Exploring reasons for non-participation in colorectal cancer screening: a systematic review of qualitative studies

A. Le Bonniec<sup>1</sup>, O. Meade<sup>1</sup>, M. Fredrix<sup>2</sup>, E. Morrissey<sup>1</sup>, R. O'Carroll<sup>3</sup>, P. Murphy<sup>4</sup>, A. Murphy<sup>4</sup>, J. Mc Sharry<sup>5</sup>

<sup>1</sup>Health Behaviour Change Research Group, School of Psychology, NUI Galway, Galway, Ireland

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<sup>3</sup>University of Stirling, United Kingdom

<sup>4</sup>HRB Primary Care Clinical Trials Network Ireland, Discipline of General Practice, NUI Galway, Galway, Ireland

<sup>5</sup>National University of Ireland, Galway, Ireland

**Background:** Worldwide, colorectal cancer is a burden in terms of health, quality of life, and healthcare costs. Despite the existence of colorectal cancer screening programmes in many countries, global uptake remains low. Assessing non-participants' barriers, perceptions and attitudes towards screening is essential for the development of interventions to encourage participation. This systematic review aimed to analyse qualitative literature to explore reasons that eligible people do not participate in colorectal cancer screening when invited to participate.

**Methods:** Systematic searches were conducted in five databases in May 2021. Qualitative studies exploring the views of non-participants in colorectal cancer screening programmes were included. The meta-ethnography method was used to extract and analyse the results from included studies. Critical appraisal of included studies was performed using the Critical Appraisal Skills Programme (CASP) checklist for qualitative studies.

**Findings:** Thirteen studies were included. Three main themes and eight sub-themes were developed across studies: (1) Ambivalence towards screening, with non-participants expressing intention to participate but failing to feel personally concerned; (2) Negative emotional reactions to screening invitation such as fear, discomfort, embarrassment or denial; and (3) Lack of capability such as practical constraints, poor relationships with healthcare professionals or lack of knowledge.

**Discussion:** Findings suggest that non-participation in screening may be due to ambivalent attitudes, misunderstanding or lack of support rather than a clear refusal of screening. Media awareness campaigns, developing practical approaches to overcome barriers or using persuasive messages to highlight benefits of screening for people without symptoms may be beneficial in increasing screening uptake.

## A decision aid on mammography screening: Do knowledge and attitude mediate the effect on intention?

M. Reder<sup>1</sup>, R. Runge<sup>2</sup>, R. Soellner<sup>1</sup>, P. Kolip<sup>3</sup>

<sup>1</sup>University of Hildesheim, Germany

<sup>2</sup>University of Hildesheim, Germany

<sup>3</sup>Bielefeld University, Germany

**Background:** After receiving a decision aid on mammography screening, more women made an informed choice. Post intervention, they had higher knowledge levels and lower uptake intention. Attitude at post-intervention was similar in the decision aid and control group. The objective of this analysis is to test a mediation model integrating the dimensions of informed choice (knowledge, attitude, intention) within the predictive model of the Reasoned Action Approach.

**Methods:** Using a sample of 913 women invited for the mammography screening for the first time in Germany, we tested a latent serial mediation model to assess in how far knowledge and attitude mediate the effect of the decision aid on uptake intention.

**Findings:** In this serial mediation model controlled for pre-intervention levels of knowledge, attitude, and intention, the specific indirect effect of the decision aid via knowledge (first mediator) and attitude (second mediator) on uptake intention was significant ( $-0.181$ ,  $p = .040$ ). The total indirect effect ( $-0.073$ ,  $p = .270$ ) and total effect ( $-0.519$ ,  $p = .246$ ) were not significant.

**Discussion:** The proposed model indicates the mechanisms by which the decision aid influences the dimensions of informed choice. A specific indirect effect as proposed by the predictive model of the Reasoned Action Approach integrating all three dimensions of informed choice appears important.



## Exploring the implementation of text message reminders for cervical screening in Ireland

J. Mc Sharry<sup>1</sup>, M. Fredrix<sup>2</sup>, E. McLaughlin<sup>3</sup>, A. Collins<sup>3</sup>, H. Molloy<sup>3</sup>, A. Shiels<sup>3</sup>, C. Mason Mohan<sup>3</sup>

<sup>1</sup>National University of Ireland, Galway, Ireland

<sup>2</sup>The Open Universiteit, Netherlands

<sup>3</sup>National Screening Service, Ireland

### Background:

In Ireland, currently all invites for cervical screening are sent using postal letters. Using new methods to reach service users may improve attendance and reduce cost. The current study aims to use behavioural science approaches to explore the implementation of text message reminders for cervical screening in Ireland.

### Methods:

A literature review was conducted to synthesise evidence on effectiveness of text messages, and to describe the content of text messages included in existing interventions in terms of behaviour change techniques. Eighteen key stakeholders were consulted to assess acceptability and feasibility of the implementation of text messages. The literature review and stakeholder findings were then combined using the Affordability, Practicability, Effectiveness and cost-effectiveness, Acceptability, Side-effects and safety and Equity (APEASE) criteria to identify key considerations for the implementation of text messages.

### Findings:

Across studies, text messages had the potential to increase attendance at cervical screening and to be cost-effective when compared with invite letters. Concise text messages with simple reminders appeared to be as, if not more, successful than text messages using multiple behaviour change techniques.

Overall, stakeholders described the implementation of text messages as feasible and more in line with service user needs. Telephone number access, consent and GDPR were raised as barriers to implementation.

### Discussion:

Simple text messages to remind service users to book a screening appointment may be both effective and acceptable for implementation in Ireland. Behavioural science tools and techniques can be used in structuring reviews of evidence and stakeholder consultation to inform policy decisions.

## Using the Integrated Screening Action Model (I-SAM) to guide intervention development in cancer screening programmes

K. Robb<sup>1</sup>

<sup>1</sup>University of Glasgow, United Kingdom

**Background:** Cancer screening saves lives but uptake is sub-optimal and stark inequalities in uptake remain. The Integrated Screening Action Model (I-SAM) synthesised existing models of health behaviour and empirical evidence to support understanding of screening behaviour and identify targets for intervention. The key aspects of the I-SAM include: i) a sequence of stages within screening behaviour (based on the Precaution Adoption Process Model); ii) the interaction of participant and environmental influences; and iii) targets for intervention—‘capability’, ‘opportunity’, and ‘motivation’ (based on COM-B). The aim is to provide examples of how the I-SAM is being used to inform cancer screening interventions in Scotland.

**Methods:** Example 1: The Tempo Trial is a randomised controlled trial of 40,000 adults in the Scottish Bowel Screening Programme testing the impact of: i) adding a planning support intervention; and/or ii) adding a suggested deadline to the mailed invitation materials. Example 2: the adoption of the I-SAM by NHS National Services Scotland to design digital interventions to enable people to make informed choices about screening and address current inequalities.

**Findings:** The Tempo Trial targets the transition from ‘decided to act’ to ‘acting’ with ‘capability’ – planning support tool, and ‘opportunity’– suggested deadline, interventions. The digital interventions target participant and environmental influences at multiple stages unaware/unengaged/undecided/decided not to act.

**Discussion:** The I-SAM has merit in supporting a theoretical and empirical approach to intervention development in cancer screening. It will be an iterative process to test and refine the I-SAM to establish its value in improving screening for all.

# Health psychology methods: systems approaches, machine-learning, attrition, and intervention fidelity

14:00 - 15:30

Warsaw

Thomas Gültzow

## Applying systems methodologies in designing health interventions in complex systems

M. van Stralen<sup>1</sup>, D. Heemskerck<sup>2</sup>, C. Renders<sup>1</sup>, J. Piotrowski<sup>3</sup>, V. Busch<sup>4</sup>

<sup>1</sup>Vrije Universiteit Amsterdam, Netherlands

<sup>2</sup>VU University Amsterdam, Netherlands

<sup>3</sup>University of Amsterdam, Netherlands

<sup>4</sup>Municipal Health Service Amsterdam, Netherlands

**Background:** The lack of sustainable impact of many public health interventions aligns with the conceptualization of many of today's health problem as complex. Systems thinking is acknowledged as a promising approach to understand and respond to complex health problems. Our aim is to expand the knowledge on how to apply systems methodologies in designing health interventions in complex systems, applied to the health problem of inadequate sleep in Dutch teens.

**Methods:** we followed a reflective learning approach; an iterative process of mapping the system, co-designing actions, monitoring and adaption, and applied participatory system dynamic methods in each step (i.e. combining system dynamic and participatory methods). When co-designing actions, we used the Action Scale Model (ASM) to create a coherent whole-of-systems-approach that is evidence-based, feasible and that can be sustainably implemented. ASM describes four levels (i.e. events, structures, goals and beliefs), to intervene within a system, with deeper levels (i.e. goals and beliefs) providing greatest potential to change the system.

**Findings:** A Causal Loop Diagram (CLD) was created to map the 'system' of teen's sleep, depicting the causal relationships and complex feedback mechanisms that shape the interconnected 'system'. Using the CLD, we identified the most impactful leverage points to influence those different causal mechanisms. Co-creation groups conceptualized, identified and appraised actions deep within the system to ensure optimal potential for impact.

**Discussion:** The complexity of health problems should be embraced in designing interventions. Complexity asks for a reflective learning approach and system dynamics methods to initiate and react to systems changes.

# Applying machine-learning to rapidly analyse large qualitative text datasets: Comparing human and machine-assisted analysis techniques

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<sup>4</sup>University of Bristol, United Kingdom

## Background:

Machine-assisted topic analysis (MATA) uses artificial intelligence methods to assist qualitative researchers to analyse large textual datasets – allowing researchers to inform and update public health interventions ‘in real time’. We examined the potential for such approaches to support intervention implementation. We directly compared MATA and ‘human-only’ thematic analysis techniques, applied to the same dataset (1472 free-text responses from users of COVID-19 infection-control intervention ‘Germ Defence’).

## Methods:

In MATA, unsupervised topic modelling identified latent topics in the text, then researchers described topics and identified broad themes. In human-only thematic analysis, an initial codebook was developed and applied to the dataset by experienced qualitative researchers. To understand similarities and difference, formal triangulation compared findings from both methods using a ‘convergence coding matrix’.

## Findings:

Human analysis took much longer than MATA (145 vs. 40 hours). Both human analysis and MATA identified key themes about what users found helpful or unhelpful (eg. Helpful: Boosting confidence in how to perform behaviours. Unhelpful: Lack of personally-relevant content). Formal triangulation showed high similarity between findings. All MATA codes were classified as in agreement or complementary to human codes. When findings were complementary, this was frequently due to slightly differing interpretations or nuance present in the final human stage of interpreting themes.

## Conclusions:

The quality of MATA was as high as human-only thematic analysis, with substantial time savings. For simple analyses that do not require in-depth or subtle understanding of the data, MATA is a useful tool to researchers to interpret and analyse large datasets quickly.

## Assessing fidelity of receipt of a gait rehabilitation behaviour change intervention

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**Background:** Limited research has explored fidelity of receipt within behaviour change interventions. This study aimed to (i) develop a checklist to assess fidelity of receipt; and (ii) assess fidelity of receipt of two face-to face GREAT-Strides sessions within the Gait Rehabilitation in Early rheumatoid Arthritis Trial (GREAT) feasibility study

**Methods:** A two phase observational study was conducted. Phase 1: six audio-recordings of two GREAT-Strides sessions (randomly selected) were transcribed verbatim. Deductive methods were applied to identify and categorise participant verbal responses to clinician delivered behaviour change techniques (BCTs). An inductive iterative approach was used to develop a fidelity of receipt checklist.

**Phase 2:** Inter-rater reliability and fidelity of receipt of an additional 10 audio-recordings of the two GREAT-Strides sessions were assessed by two independent raters using the checklist. High fidelity of receipt was calculated as  $\geq 80\%$  of BCTs rated as being fully understood, from calibrated total scores for each individual session.

**Findings:** Phase 1: The fidelity of receipt checklist included 17 items in session 1, and 12 items in session 2. Phase 2: Inter-rater reliability of the application of both checklists was substantial (96% agreement,  $Kw = 0.88$   $p = .000$ ). Moderate fidelity was achieved in both sessions (session 1 = 70%; session 2 = 60%).

**Discussion:** This bespoke checklist can reliably assess fidelity of receipt in a gait rehabilitation behaviour change intervention. Assessing receipt of clinician delivered BCTs from the participants' perspective, adds explanatory value to behaviour change interventions and enables more comprehensive evaluation of fidelity.

# Resilience and Coping in Oncology Nurses During the COVID-19 Pandemic; An Interpretative Phenomenological Analysis

C. Atkins<sup>1</sup>, H. Poole<sup>2</sup>, L. Appleton<sup>2,3</sup>, S. Watmough<sup>3</sup>

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<sup>3</sup>The Clatterbridge Cancer Centre NHS Foundation Trust, United Kingdom

**Background:** The aim of this research was to gain an in-depth understanding of oncology nurses wellbeing experiences during the COVID-19 pandemic. Specifically, the objectives were to identify the resilience and coping strategies used by oncology nurses, to highlight the temporal nature of these and to use the data to inform interventions to reduce oncology nurses' potential for burnout and to support their mental health.

**Methods:** A mixed method qualitative study. Diaries and interviews were used to explore resilience and coping strategies amongst oncology nurses. Data were analysed using Interpretative Phenomenological Analysis (IPA). The participants comprised nine oncology nurses, aged 21-60 years who were recruited from a specialist cancer facility in the Northwest of England.

**Findings:** Four themes emerged from the data. i) Coping: adaptive and maladaptive, ii) Context of pandemic: start, and present, (iii) Repetitiveness and iv) Disappointment in role changes. The presence of burnout contributed context to the overarching theme of resilience.

**Discussion:** The findings highlight how oncology nurses displayed resilience. They were able to adapt over time as the pandemic progressed, using maladaptive coping including humour and self-blame, and adaptive coping strategies such as camaraderie through existing communication systems. The cultivation of adaptive coping strategies to improve well-being and reduce the risk of burnout is recommended. This could be achieved at an organisational level via interventions to improve resilience through strong support from leaders and teamwork. Additionally, interventions tailored to the needs of individuals would improve psychological well-being and prevent burnout to ensure continued quality patient care.

## Ethical dilemmas and well-being in teachers' work: A three-way, two-year longitudinal study

M. Heikkilä<sup>1</sup>, S. Mauno<sup>1,2</sup>, M. Herttala<sup>1</sup>, J. Minkkinen<sup>3</sup>, J. Muotka<sup>1</sup>, T. Feldt<sup>1</sup>

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The aim of the present three-way two-year longitudinal study was two-fold: First, to explore what kinds of longitudinal ethical dilemma (Acute dilemmas and Rationalization dilemmas) profiles can be identified among Finnish teachers (n=310) and second, to explore the associations of these profiles with occupational well-being (burnout, work engagement) and recovery from job strain (psychological detachment). Using Latent Profile Analysis, three longitudinal ethical dilemma profiles were identified: rare dilemmas (27%), occasional dilemmas (51%), and frequent dilemmas (22%). Teachers in the frequent dilemmas profile experienced highest burnout levels, however, their job recovery improved over time meanwhile their exhaustion decreased. Teachers in rare dilemmas profile had highest well-being in long-term. As conclusion, teachers need education and interventions to recognize ethical dilemmas and cope with them to enhance their well-being and recover from job strain.



## Longitudinal changes in personal resources during the first COVID-19 lockdown: A moderation role of anxiety

B. Basinska<sup>1</sup>, Z. Kwissa-Gajewska<sup>2</sup>, E. Gruszczynska<sup>2</sup>

<sup>1</sup>Gdansk University of Technology, Poland

<sup>2</sup>University of Social Sciences and Humanities, Poland

**Background:** Personal resources are likely to support adaptation to an uncertain, complex and unknown reality during the pandemic outbreak. Building on the Conservation of Resources theory, this study aims to verify a moderating role of generalized anxiety for changes of personal resources in non-clinical sample of working adults.

**Methods:** A heterogeneous group of 821 employees (healthcare=24.6%; education=25.9%; IT=24.6; administration=24.8%) reported data on their personal resources before (April 8 - May 12, 2019) and after (April 10 - May 24, 2020) introduction of the first lockdown due to the COVID-19 pandemic in Poland. The assessment of resources included self-efficacy, optimism, resilience, flexibility and self-protection. The generalized anxiety (GA) was rated with the GAD-7 in the second wave of the study.

**Findings:** For the total sample results revealed a decrease in self-efficacy and self-protection resources and an increase in flexibility. However, these changes differed significantly in terms of direction and amount across the occupational subgroups. Moreover, GA served as a moderator for changes in two personal resources, i.e., self-efficacy and resilience. Employees with higher GA reported higher loss of these resources, regardless of the occupation.

**Discussion:** The GA modified changes of self-efficacy and resilience during the pandemic. These findings suggest that high GA may be a vulnerability factor to loss of personal resources, while low GA may be a protective one.

# Family Health and Wellbeing

14:00 - 15:30

Kiev

Evangelos Karademas

## Resilience in Military Families

A. Skomorovsky<sup>1</sup>, J. Chamberland<sup>2</sup>, C. Wan<sup>2</sup>

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<sup>2</sup>Department of National Defence, Canada

**Background:** Spouses of military members experience various military life related stressors, including deployments and relocations, which may negatively impact their well-being. While previous research has mostly focused on the role of risk factors, little research has examined protective factors that can improve resilience in military families.

**Methods:** Recognizing the devotion and the sacrifices of military spouses, the Quality of Life among Spouses (QoL) was conducted in Canada to monitor the well-being of Canadian Armed Forces (CAF) spouses. Hierarchical regression analyses were conducted to examine the impacts of military life stressors and protective factors, including relationship quality, coping, and social support, on spousal well-being and resiliency (N = 1,444).

**Findings:** The quantitative study demonstrated that military life stressors predicted poorer psychological well-being of CAF spouses. The key stressors included work-family conflict, financial problems, employment, and relocations issues. However, relationship quality, effective coping and perceptions of availability of social support predicted better well-being and resilience among spouses.

**Discussion:** This study illuminates the impacts of military life on military families and identifies the key challenges experienced by spouses. The findings also shed light onto some of the factors that may enable well-being despite the challenges related to military life. When developing programs and services for military families, it is important for the CAF to concentrate on the protective factors that can help military families to remain resilient under stress. These results will assist military organizations and service providers to ensure that their programs are consistent with the needs of spouses of military personnel.

## A discursive examination of how pregnant women navigate and manage their position on physical activity

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**Background:** While intrapersonal factors influence pregnant women's uptake and continuation of physical activity (e.g., sickness, fatigue), research increasingly cites interpersonal factors as important. In opting for the active pregnancy for example, pregnant women may negotiate their physical activity relationship and identity amongst interpersonal factors. Examining the discursive positions pregnant women assume relative to the dominant discourses derived from their social environment, indicates how pregnant women navigate their physical activity relationship and identities relative to interpersonal factors.

**Methods:** Twelve participants were recruited. Qualitative data were collected via individual semi-structured interviews. A pluralist discourse analysis approach, comprising discursive psychology and Foucauldian Discourse Analysis (FDA), was applied. Combined approaches facilitated micro and macro subject-positions negotiated relative to antenatal physical activity relationship and identity.

**Findings:** Eight positions were discursively navigated to account for four clustered stances on physical activity ([1] Rebellious, Advocate therefore Empowered; [2] Compromised but Contented; [3] Tentative and Conflicted; [4] Vulnerable, Restricted, but Fortunate). These positions were navigated through specific discourses, revealing competing discursive constructions of identity contingent on mutable physical activity relationships and societal discourses defining maternal behaviour. Positions and discourses were plotted along an antenatal physical activity continuum, depicting a framework of discursive position management utilised by pregnant women when accounting for physical activity.

**Discussion:** This framework may guide practitioners to recognise varying discourses deployed by pregnant women when navigating their position on physical activity. Understanding discursive position management facilitates open discussions on antenatal physical activity, a topic which some research suggests is not routinely forthcoming during antenatal consultations.

## Development of mothers' health literacy: Findings from the KUNO-Kids study

M. Pawellek<sup>1,2</sup>, A. Köninger<sup>2,3</sup>, M. Melter<sup>1,2</sup>, M. Kabesch<sup>1,2</sup>, C. Apfelbacher<sup>2,4</sup>, S. Brandstetter<sup>1,2</sup>

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<sup>4</sup>Institute of Social Medicine and Health Systems Research, Otto von Guericke University Magdeburg, Germany

**Background:** Health literacy (HL) describes the capacity an individual has to access and effectively use health-related information, in order to promote and maintain good health. This study aimed to analyse the longitudinal development of HL in a large cohort of new mothers in Germany and to investigate which determinants are associated with the initial HL level and with change over time.

**Methods:** Longitudinal data from 1363 mothers participating with their child in the KUNO-Kids health study was used, collected at delivery (baseline), after 6 and 12 months, using interviews and self-report questionnaires. HL was assessed with the health care scale of the HLS-EU questionnaire. Latent growth curve models were used to analyse average trajectories and predictors of HL in the total sample and in the subgroup of first-time mothers.

**Findings:** HL increased over one year, both in the total sample (1.188, SE=0.087,  $p<.001$ ) and in first-time mothers (1.357, SE=0.113,  $p<.001$ ), with a steeper trajectory for mothers with lower HL at baseline. Education, social status, social support, former smoking and child health were positively associated with HL at baseline, parenting stress, overweight before pregnancy and child birth weight were negatively associated. Better physical health, more doctors visited during pregnancy and primiparity were associated with a steeper increase in HL.

**Discussion:** Overall, new mothers became slightly more health literate during their child's first year of life. However, some groups of mothers could benefit from support in developing HL skills even before child birth.

## The interplay between self-efficacy and self-regulation indicators of child food intake among parent-child dyads

A. Banik<sup>1</sup>, K. Zarychta<sup>1</sup>, E. Kulis<sup>1</sup>, K. Lobczowska<sup>1</sup>, M. Siwa<sup>1</sup>, D. Wietrzykowska<sup>1</sup>, H. Zaleskiewicz<sup>1</sup>, Z. Szczuka<sup>1</sup>

<sup>1</sup>SWPS University of Social Sciences and Humanities, Poland

**Background:** Self-efficacy and self-regulation strategies (distraction and suppression) are well-known modifiable predictors of food intake. This dyadic study aimed to investigate prospectively the effects of parental and child self-efficacy (measured at Time 1; T1) on child food intake (namely, fruit and vegetable as well as energy-dense food intake measured at Time 2; T2) through parental and child self-regulation strategies (measured at T1).

**Methods:** 924 parent-child dyads (N = 1,848 individuals) participated at T1. Parents' mean age was 36.27 (SD = 5.52), 88.9% were women. Children's mean age was 8.23 (SD = 1.41), 54.3% were girls. Participants provided self-reported data at T1 and T2 (10-month follow-up). To test the indirect effects path analyses with maximum likelihood estimation were conducted.

**Findings:** Higher levels of parental self-efficacy (T1) explained higher child fruit and vegetable intake (T2, 10-month follow-up) through sequentially operating mediators: child self-efficacy and parental or child distraction (T1). Parental and child suppression did not mediate the effects of parental or child self-efficacy on child fruit and vegetable intake.

**Discussion:** The results of this study suggest that the interplay between both parental and child self-efficacy as well as distraction strategies should be taken into account when developing interventions promoting fruit and vegetable intake among children.

## The development of evidence-based guidance for parents on talking to children about weight

F. Gillison<sup>1</sup>, E. Grey<sup>1</sup>, A. Chater<sup>2</sup>, L. Atkinson<sup>3</sup>, A. Gahagan<sup>4</sup>

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**Background:** Effective interventions to promote a healthy childhood weight require parental involvement. Parents report concern that talking to children about weight could harm their wellbeing, leading to reluctance to engage with child weight monitoring programmes and interventions. This study aimed to reduce this barrier by developing and piloting a practical, evidence-based tool to guide parents in talking to children about weight in a supportive way.

**Methods:** A modified-Delphi approach was undertaken with 28 stakeholders (including practitioners, parents, public health specialists, academics) to guide the process of translating underpinning empirical research into a guidance resource for parents. An initial prototype was created by mapping the content to underpinning research, informed by health communication theory, and shared with Delphi stakeholders alongside the evidence. The final version of the guidance document was piloted with 10 parents following the receipt of a feedback letter telling them that their child was overweight, and 16 school nurses. Feedback was obtained through interview.

**Findings:** Agreement on the tone, content and format of the guidance document was reached after two Delphi rounds; contradictory views were discussed during an online workshop between rounds. The pilot study showed the guidance to be relevant, confidence-building (for health professionals and parents), non-stigmatising and acceptable.

**Discussion:** This process demonstrated the possibility of creating a tool that is evidence-based, relevant and acceptable to stakeholders in a sensitive area where limited research exists. Further testing is needed to evaluate the impact on children and families, including their engagement in children's weight monitoring and management services.

## Psychomotor development in early childhood: marginalized Roma children score worse in all domains

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<sup>4</sup>University of Leuven, KU Leuven, Environment and Health, Youth Health Care, Leuven, Belgium

**Background:** Unfavourable contextual circumstances are likely to affect health and development of children from marginalized Roma communities (MRC). Our study aim was to explore the differences in psychomotor development between children from marginalized Roma and from the majority population aged 24-36 months and the mediation effect of maternal education.

**Methods:** Reported findings are from a RomaREACH cross-sectional pilot study conducted in Slovakia. The Caregiver Reported Early Childhood Development Instruments questionnaire was administered to assess motor, cognitive, language and social-emotional development of children. The sample consisted of 54 mother-child dyads from MRC and 99 dyads from the majority population. The effect of ethnicity on development was assessed for each developmental domain adjusted for gender, age, child's gestational age, mother's age and mother's education using linear regression models. Mediating effect of mother's education was assessed using the Sobel test.

**Findings:** We found significant differences between children from MRC and those from the majority population in all developmental domains. Children from MRC were more likely to score lower in the cognitive (regression coefficient, B/95%-confidence interval) (-0.56/-1.97;-0.14), motor (-0.58/-1.07;-0.09), language (-0.74/-1.26;-0.21), social-emotional (-0.47/-0.88;-0.07) and the overall domain (B/CI: -0.89/-1.46;-0.32). Maternal education mediated all associations ( $p < 0.05$ ) and accounted for a part of the associations between ethnicity and developmental outcomes.

**Discussion:** Our findings suggest a significant delay in the development of children from MRC compared to their peers from the majority population. Low maternal education is likely to contribute to developmental delays of children, which may translate into further problems later in life.



# Physical Activity and Sedentary Behaviour

15:30 - 17:00

Jane Walsh

## Self-efficacy, sedentary behaviour, and sedentary habits: A longitudinal general population study

D. Wietrzykowska<sup>1</sup>, A. Banik<sup>2</sup>, E. Kulis<sup>2</sup>, Z. Szczuka<sup>3</sup>, M. Siwa<sup>1</sup>, H. Zaleśkiewicz<sup>2</sup>, A. Luszczynska<sup>3</sup>

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**Background:** Informed by the Health Action Process Approach the study investigated whether phase-specific self-efficacy may predict sedentary behaviour (SB). It has been hypothesised that maintenance self-efficacy and recovery self-efficacy measured at the baseline (Time 1; T1) would predict SB time, the number of active breaks, and SB habit at the follow-up (Time 2; T2).

**Methods:** Participants (N = 442; aged 11-83 years; M = 34.4; SD = 17.6; 66.6% women) were recruited. SB, SB habits, and self-efficacy were self-reported. The study spanned 10 weeks between T1 and T2 measurements.

**Findings:** The results confirm recovery self-efficacy being an independent predictor of SB habit ( $\beta = -0.21$ ;  $p < 0.001$ ), with higher levels of recovery self-efficacy being associated with lower levels of SB habit. No effects of recovery or maintenance self-efficacy on active breaks or SB time were found.

**Discussion:** The findings add to existing evidence on associations between self-efficacy and SB or SB habits, providing evidence, for the associations between phase-specific self-efficacy and automaticity of SB. Future studies may establish whether the interventions tailored to enhance recovery self-efficacy, may result in lower SB habit.

## Sedentary behavior and physical activity in the context of daily activities, contexts, and environments

P. ten Broeke<sup>1</sup>, M. Eversdijk<sup>1</sup>, E. Bijleveld<sup>1</sup>

<sup>1</sup>Radboud University, Netherlands

### Background:

To improve health and wellbeing, people should sit less and move more. To inform the design of interventions, we explored the psychological, social, and environmental circumstances in which people typically engage in sedentary behavior versus physical activity, using an innovative stimulated-recall methodology.

### Methods:

On day one, 36 university students continuously wore an activity monitor. On day two, participants were presented with a schematic visualization of their previous-day activity data, in which relevant episodes of sedentary behavior, light physical activity (LPA) and moderate-to-vigorous physical activity (MVPA) were highlighted. For each episode, participants answered a set of interview questions regarding the purpose of the activity, the social and built environment, and mental states.

### Findings:

Long sitting episodes were identified by participants as 'Watching TV/Netflix' (22%), 'Working on a computer' (18%), 'Following a lecture' (17%) or a 'Social activity' (15%). LPA was identified as 'Doing preparations' (47%) or 'Cooking' (24%). MVPA was identified as 'Walking' (38%), 'Cycling' (36%) or 'Sports' (22%). Long sitting episodes mostly happened 'At home' (68%) or 'University' (14%), LPA 'At home' (75%), and MVPA 'Outside' (92%). Participants reported higher mental fatigue for sitting episodes compared to LPA ( $p = .002$ ) and MVPA ( $p < .001$ ).

### Discussion:

Our findings provide a detailed characterization of the contextual characteristics of prolonged sitting versus LPA versus MVPA, and their function in people's daily life. To explain, predict, or change sitting behavior, researchers and practitioners should acknowledge the role of these movement-related behaviors in the context of people's daily lives.

# Sitting is not a meaningful behaviour: Goal prioritisation and sitting

B. Gardner<sup>1,2</sup>, P. ten Broeke<sup>3</sup>, D. Beckers<sup>3</sup>, S. Geurts<sup>3</sup>, E. Bijleveld<sup>3</sup>

<sup>1</sup>King's College London, United Kingdom

<sup>2</sup>University of Surrey, United Kingdom

<sup>3</sup>Radboud University, Netherlands

## Background:

Individual-level sedentary behaviour reduction interventions typically involve providing information about the dangers of sitting or supporting people to set goals and plans to reduce their sitting. Such interventions rarely address why people sit. This study explores how sitting fits into and facilitates everyday goal pursuit and explores implications for sitting reduction interventions.

## Methods:

Narrative review of theory and empirical evidence around goal hierarchies, and the personally meaningful goals that are facilitated by prolonged sitting.

## Findings:

The review demonstrates that sitting is rarely a meaningful behaviour, and instead is incidental, incurred when pursuing goals that happen to be facilitated by sitting. For example, evidence among office workers demonstrates that, in the pursuit of work goals, people sit while journeying to and from work, sit to undertake work tasks, and sit to disconnect from work in the evenings. Crucially, when the instrumental value of sitting for achieving meaningful goals changes, this affects engagement in sitting: when office workers worked from home during the 2020 Covid-19 pandemic for example, and so no longer had to commute, sitting time increased.

## Discussion:

Acknowledging and capitalising on the higher-order goals that are served by sitting could benefit the design of sitting reduction interventions. We propose a fundamental distinction between sitting reduction interventions that are congruent with high-priority goals, and those that require disruption of high-priority goals, which can cause frustration and reactance from recipients. We encourage intervention designers to adapt their designs to recipients' pre-existing goal priorities as much as possible.

## Insights into mechanisms of planning interventions: the effects on self-reported habit and collaborative social control

E. Kulis<sup>1</sup>, Z. Szczuka<sup>1</sup>, M. Siwa<sup>2</sup>, A. Banik<sup>1</sup>, D. Wietrzykowska<sup>1</sup>, H. Zaleskiewicz<sup>1</sup>, A. Luszczynska<sup>3</sup>

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**Background:** Although the mechanisms explaining the effects of individual (“I-for-me”) planning intervention, much less is known about the effects of dyadic (“We-for-me”) planning, or collaborative (“We-for-us”) planning. In this study, the three planning conditions were compared in terms of their long-term effects on physical activity (PA) habit and collaborative social control.

**Methods:** N = 320 adults participated in a randomized controlled trial (ClinicalTrials.gov registration no. NCT03011385) with individual, dyadic, or collaborative PA planning condition and an active control condition. The inclusion criteria referred to low PA levels (below the WHO recommendations) or a physician’s recommendation for a PA increase due to a chronic illness (e.g., type 2-diabetes). Self-reports of PA habit and collaborative social control were measured at baseline (1-week before intervention) and 9-week follow-up (T3, 7-weeks after intervention).

**Findings:** Linear mixed-models analyses indicated that at 9-week follow-up, participants in the individual and collaborative planning conditions increased their PA habit of 0.52 and 0.53 points (reported on a scale ranging from 1 to 4), respectively. At 9-week follow-up increased levels of perceived collaborative social control were observed in dyadic and collaborative planning conditions (of 0.30 and 0.32 points, respectively). The respective interactions of Time x Condition (experimental versus control group) were significant.

**Discussion:** The observed distinct effects of the three types of planning effects on PA habit and collaborative social control provide arguments for the specificity of the way in which the individual, dyadic, and collaborative planning operate.

## Designing for active office work

I. Damen<sup>1</sup>

<sup>1</sup>Fontys University of applied sciences, Netherlands

### Background:

Over recent years, we have seen an increase in the research and development of digital interventions and tools that target sedentary behavior at work. Although these emerging technologies show a promising new field, there is little systematic research on interaction design strategies to reduce sitting in office workers.

### Methods:

By means of a design research approach, including a scoping review and several design case-studies, we gained insights into interaction design strategies to reduce physical inactivity in office workers.

### Findings:

We found two gaps in the current landscape of sedentary behaviour and physical activity interventions using technology in the office environment. First, we observed that digital tools and interventions make limited use of existing office tools and infrastructure. Second, we found that within these tools and interventions, physical activity is considered a break from work. Our design case-studies showed that the use of organizational infrastructures in the intervention designs can stimulate reflection on current work practice and provided new insights into the social dynamics of active ways of working.

### Discussion:

Our findings and contributions suggest the need for a new conceptualization of office work, in which the norm is not sedentary behaviour but active behaviour, in an overall balanced setting supporting well-being at work. Interaction design can support this paradigm shift by facilitating and stimulating physical activity while working and posture transitions. A key principle for future research and development of supporting technologies, is to use an interdisciplinary approach in which design research and public health research reinforce each other.

# Motives, adherence and psychosocial influences on behaviour

15:30 - 17:00

Angelos Kassianos

## What if it doesn't go as planned? Adherence to physical rehabilitation following knee surgery

S.M. Yu<sup>1</sup>, Y. Ma<sup>2</sup>

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### Background:

High dropout prevalence of physical rehabilitation following knee surgery has been observed. Patients who reported high intention to participate in rehabilitation can sometimes experience a lack of action, especially in cases where planning fallacy is reported. In the framework of Theory of Planned Behavior (TPB), this study takes into consideration one element of the Health Action Process Approach (HAPA), i.e., planning (action planning and coping planning), and examines their roles for adherence to physical rehabilitation.

### Methods:

Data will be collected from physical rehabilitation centers in Beijing, China. Patients after knee surgery will be invited to complete an anonymous questionnaire ( $N \geq 200$ ). Correlation analysis will be conducted first. The moderated mediation model will be tested with bootstrapping approach.

### Expected results:

We hypothesize that attitudes, norms, perceived control, action planning, and coping planning are positively correlated with physical rehabilitation training, whereas planning fallacy is a risk factor for dropouts. In the model, general planning fallacy is expected to hinder the effect of attitudes, norms, and perceived control, which is in turn buffered by the effect of action and coping planning.

### Current stage of work:

Pilot study is being conducted to improve the comprehensiveness of the questionnaire survey.

### Discussion:

The effectiveness of the integrated model of TPB and HAPA in explaining adherence to physical rehabilitation is tested. Training programs for better planning strategies specially designed for physical rehabilitation patients are called for. These findings may facilitate both front-line practitioners and patients, especially in countries with a low doctor-patient ratio.



## Psychosocial factors influencing adherence to statins after acute coronary events. A multicenter follow-up study

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Effective lowering of cholesterol level thru statin medication is the basic element of secondary prevention after acute coronary events. Medication adherence is influenced by patients' illness representations, outcome expectancies, risk perceptions, social support, and emotional distress.

**Aims:** To describe long-term statin adherence (using medical dispensation data) among patients participating in cardiac rehabilitation after coronary events, and to analyse significant psychosocial predictors of it using established psychological factors.

**Patients and methods:** In a prospective, multicenter trial 6- and 12-month adherence to statins was evaluated (n=522, age: 60.6±9.5 year, 68.6% men). Patients were included in the trial after acute myocardial infarction (64.9%), after percutaneous coronary intervention (12.1%) or after coronary artery bypass graft operation (23%). Psychosocial predictors were measured by the Illness Perception Questionnaire Short Form and by items that operationalized constructs of the Health Action Process Approach model.

**Results:** Statin adherence was 52.9% after 6 months and 52.5% after 12 months. Using a multivariable logistic regression models from the baseline psychosocial variables significant predictors of statin adherence after 6 months were beliefs about the chronicity of heart disease (OR: 1.09, p=.018) and negative expectations about statins (OR: .64, p=0.003). A significant predictor after 12 months was only the belief about the chronicity (OR: 1.08, p=.018). Interestingly the subjective causal belief of lifestyle factors was a near significant predictor of statin adherence (OR: 1.48, p=.072).

**Conclusion:** Some factors of established psychological adherence models are significant predictors of statin adherence in cardiac patients. These cognitive factors can be influenced thru psychological technics.

## An integrated theory of planned behaviour model to understand cancer screening attendance

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**Background:** Cancer is a major public health concern worldwide and the second leading cause of death in many countries. Population-based screening programs have proven to reduce cancer mortality, as they permit early detection and early treatment. Nevertheless, screening attendance is still unsatisfactory in many populations, including Italian. According to the Theory of Planned Behaviour (TPB), screening attendance behaviour is determined by intention, which is, in turn, determined by attitude, subjective norms and perceived behavioural control (PBC). TPB has also been extended with many variables. In particular, the Action control framework bridges the intention-behaviour gap by including two Self-regulation variables – action planning and coping planning – and allows the detection of four different profiles. This study aims to (i) test a TPB model integrated with action planning, coping planning, descriptive norms, anticipated regret, cancer knowledge and (ii) understand which considered variables differentiate the profiles. **Methods:** A total of 319 Italian participants (aged 45-61) completed an online self-reported questionnaire assessing variables of interest and were categorized as unsuccessful non-intenders (13.3%), successful non-intenders (0.9%), unsuccessful intenders (67.6%), successful intenders (18.2%). **Findings:** SEM analysis confirmed the hypothesized model, and all variables were significantly correlated with the discriminant function. Successful and unsuccessful intenders showed higher levels of PBC, subjective norms and coping planning than non-intenders ( $p < .01$ ). Successful intenders reported significantly higher coping planning than unsuccessful intenders ( $p < .01$ ). **Discussion:** These findings further extend the Action control framework and could inform about key variables for tailored interventions based on TPB extensions.

## Vaccination intentions against COVID-19: Findings from three representative samples of the Portuguese population

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**Background:** Portugal, among very few countries in the world, reached more than 90% of the population vaccinated against COVID-19, with booster doses for adults and children's vaccination now also being recommended. This study aimed to estimate vaccination adherence (for primary and booster doses) among the adult population and children, and its association with theoretically grounded psychosocial and sociodemographic predictors.

**Method:** A CATI telephone survey was applied in three waves (March, May and December of 2021) to randomly selected samples of the Portuguese population over 16 years old (n T1= 1091; n T2= 1013; n T3= 1091) not yet vaccinated for COVID-19 (at T1 and T2) or not vaccinated with booster dose (at T3). Measures included sociodemographic and health status, intention to be vaccinated (or for own children's vaccination, at T3), risk perception, beliefs related to vaccination and trust in authorities.

**Findings:** Vaccination intentions were consistently high (T1= 79.2%; T2= 79%; T3= 81.7%), with low levels of vaccine hesitancy (T1= 16.7%; T2= 16.8%; T3= 13.3%) and refusal (T1= 4.1%; T2= 4.2%; T3= 4.9%). The strongest predictors of intention were vaccines perceived safety, a general positive attitude towards vaccines and medical recommendation. For children, parents' vaccination intentions were comparatively lower (estimated adherence= 51.3%; hesitancy= 33.5%; refusal= 15.2%), with strongest predictors being vaccine perceived safety, anticipated regret and perceiving few logistic barriers.

**Discussion:** Evidence on the main vaccination barriers and facilitators allowed for evidence-based management of the vaccination process, which is crucial for timely and tailored communication strategies, targeting different population groups.

## Transmission of vaccination attitudes and uptake based on Social Contagion Theory: A scoping review

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<sup>3</sup>Cyprus University of Technology, Cyprus

**Background.** Vaccine hesitancy may contribute to increased mortality rates and disease outbreaks, with various factors involved. According to the Social Contagion Theory, attitudes and behaviours of an individual can be contagious to others in their social networks. This scoping review aims to examine evidence on how attitudes and vaccination uptake are spread within social networks.

**Methods.** Databases of PubMed, PsycINFO, Embase, and Scopus were searched for studies, with the full-text of 24 studies being screened. A narrative synthesis approach was used to collate the evidence and interpret findings.

**Results.** Eleven cross-sectional studies were included. Participants held more positive vaccination attitudes and greater likelihood to get vaccinated or vaccinate their child when they were frequently exposed to positive attitudes and frequently discussing vaccinations with family and friends. We also observed that vaccination uptake was decreased when family and friends were vaccine hesitant. Homophily was identified as a significant factor that drives the results, especially with respect to race and ethnicity.

**Discussion.** This review highlights the key role that social networks play in shaping attitudes and vaccination uptake. Public health authorities should tailor interventions and involve family and friends to result in greater vaccination uptake. Future studies can conduct longitudinal experimental studies to infer causal relationships.

# How does context affect psychological predictors of alcohol consumption?

R. Cooke<sup>1</sup>

<sup>1</sup>Staffordshire University, United Kingdom

## Background

Research has shown that the context where an individual completes measures of psychological predictors of alcohol consumption can affect the responses given. It has been proposed that measures completed in a drinking context might offer better prediction of consumption than measures completed in a non-drinking context. This study tested these claims.

## Methods

Fifty university students (39 females; Mean age = 20.02) completed a survey face-to-face in a drinking context (bar) and a non-drinking context (library) using a repeated measures design. In each context, participants completed measures of intentions and perceived behavioural control (PBC). The next day, participants reported if they had consumed alcohol the previous evening via an online survey.

## Findings

Repeated measures analyses of variance showed scores were significantly higher in the bar than the library: Intentions (MBAR = 3.57; MLIBRARY = 2.06;  $F(1,48) = 13.26$ ,  $p < .001$ , partial  $\eta^2 = 0.22$ ); PBC (MBAR = 5.58; MLIBRARY = 4.40;  $F(1,48) = 26.45$ ,  $p < .001$ , partial  $\eta^2 = 0.36$ ). Logistic regressions showed that while intentions and PBC measured in the bar accounted for significant variance in consumption (Nagelkerke  $R^2 = 0.47$ ,  $p < .001$ ), intentions and PBC measured in the library did not account for significant variance in consumption (Nagelkerke  $R^2 = 0.12$ ,  $p = 0.25$ ).

## Discussion

This study shows that context can affect responses to measures of psychological predictors of alcohol consumption and the prediction of subsequent consumption. Further studies are needed to understand how and why context affects measures of psychological predictors of alcohol consumption.

## How is daily social control related to physical activity and affect in romantic partners?

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<sup>1</sup>University of Zurich, Switzerland

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Romantic partners are a major source of influence when it comes to health behaviour. One type of influence is social control, defined as the attempt to regulate and influence another person's behaviour.

In this study, we examine whether daily provision of positive and negative social control (reported by the provider) is associated with the target's same-day moderate to vigorous activity (MVPA) and affect (reported by the target). Furthermore, we explore the associations of provided positive and negative control with the provider's own MVPA and affect.

A total of N = 99 overweight romantic couples aiming to increase their MVPA were split into providers and targets. They completed daily questionnaires and wore accelerometers measuring their physical activity for 14 consecutive days.

Multilevel models indicated that on days when providers used more positive control, the targets' MVPA was higher, but no association with their affect was found. Providers' daily negative control provision was not related to any outcomes in the targets. Providers' daily use of positive control was related to higher providers' own positive affect and MVPA, and lower own negative affect. Provider's daily negative control provision was associated with lower own positive affect and higher own negative affect.

The results suggest that positive control, but not negative control, could help increase MVPA in both partners. Further research is needed to investigate whether the provision of positive and negative control influences the provider's own affect (e.g., through the partner's reaction), or whether affect determines the use of positive and negative control strategies.

## Are we (m)eating like our friends? How social friendship networks influence meat consumption

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**Background.** Social ties are an important influence on eating behavior. Yet, external validity and causality interpretations of social influence are often limited; underlying mechanisms are not fully understood. Building on an extended theory of planned behavior, we address these issues in the context of meat consumption with two research questions: (1) How strongly do social relationships affect meat consumption when controlling for homophilic selection and biased norm-perception? (2) Do socio-cognitive constructs mediate these social network effects? **Methods.** We conduct a longitudinal social network study in a cohort of 100 first-year psychology students. Measures include social relationship information, self-reported meat consumption, and its potential socio-cognitive predictors (intentions, perceived social norms, attitudes, self-efficacy, cognitive dissonance, and social identity). We plan to conduct a social network analysis supplemented by multilevel regressions. **Expected results.** We expect that friends' and acquaintances' behavior will influence individual meat consumption and that this social influence is also reflected in changes in the assessed socio-cognitive predictors. **Current stage of work.** The longitudinal data will be collected until November 2022, the preliminary analyses presented at the conference will be conducted with data collected from November 2021 to May 2022. **Discussion.** A better understanding of social influence on meat consumption in field is the basis for effective social interventions. Importantly, the proposed research will provide new theoretical contributions to how social relationships affect eating behavior. (Work in Progress Poster)

## The importance of psychosocial factors on health behaviour in pregnancy and postpartum: A systematic review

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<sup>1</sup>Vytautas Magnus university, Lithuania

**Background.** Investigating health behaviour in pregnancy and postpartum is necessary because it contributes to the health of both mother and child. However, recent research focuses more on sociodemographic factors without fully appreciating the importance of psychosocial ones. Exploring psychosocial factors is essential because pregnancy is described as a teachable moment when a woman is more likely to make changes related to health behaviour. The primary aim of this systematic review is to identify psychosocial factors and their relation to health behaviour in pregnancy and postpartum.

**Methods.** The relevant articles investigating psychosocial factors related to health behaviour (dietary, physical activity, cessation of alcohol and nicotine) in pregnancy and postpartum will be identified in four databases (Web of Science, Scopus, Academic Search Ultimate (EBSCO) and PubMed). Only quantitative empirical studies in English since 2012 on adult women without medical pathologies will be included in the analysis. To process a systematic review PRISMA guidelines will be used.

**Expected results.** We expect to identify important psychosocial factors that are related to health behaviour in pregnancy and in the period after giving birth.

**Current stage of work.** Finalization of the study protocol and forming research strategy.

**Discussion.** The identified psychosocial factors could be used in developing specific theoretical behaviour change models for women in pregnancy and postpartum. This could lead to the development of more effective prevention and intervention programmes, as the current health behaviour of women in pregnancy and postpartum do not meet doctors' recommendations even in highly developed countries.



## A computational model of health behaviour choice in couples

J. Allen<sup>1</sup>, R. Tobias<sup>1</sup>, U. Scholz<sup>1</sup>, P. Höhener<sup>2</sup>, P. Küng<sup>1</sup>

<sup>1</sup>University of Zurich, Switzerland

<sup>2</sup>University of Zürich, Switzerland

Whilst there is a good understanding of the psychological processes involved in individual health behaviour choices, understanding how these processes interact within couples is still unclear.

Motivated by previous theoretical and empirical work, we formalise the key dynamic processes for physical activity choice across couples, including positive and negative social control, and emotional and instrumental support. Through this formalism, we implement a computational model to simulate how these processes interact both within- and between-individuals, generating a time course of key attributes and decisions on whether or not to perform physical activity, either alone or together.

Extensive computer simulations pinpoint which of these psychological processes are the key drivers of health behaviour choice across a dyad, and by understanding how these different processes interact over time, we provide novel insights into dyadic health decision making. This formalism introduces interactions in commitment as a novel driver in dyadic health choice, whilst the computational implementation of this model demonstrates the importance of affective interactions to increase physical activity. We identify a range of complex dynamic behaviours we would expect to observe in couples, including abrupt increases, and peaks in the frequency of physical activity. Through these patterns we identify heuristics for the optimal times to introduce adaptive interventions.

This work demonstrates how computational models are a powerful tool in theory development, both for formalising the key processes, and understanding how they interact to generate complex phenomena.

## Condom use across different casual and committed relationships: The role of relationship characteristics

C.A. Godinho<sup>1</sup>, M. Alvarez<sup>2</sup>, R. Luz<sup>2</sup>, A. Pegado<sup>2</sup>, C. Pereira<sup>3</sup>

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<sup>2</sup>Faculdade de Psicologia, Universidade de Lisboa, Portugal

<sup>3</sup>Instituto de Ciências Sociais, Portugal

**Background:** Although condom use is more common among young adults in casual than in committed relationships, presumably related to relationship longevity and higher levels of intimacy and trust in the latter, use is nonetheless low and inconsistent. The study aimed to determine condom use in different types of relationships by extending the usual committed vs. casual comparison to a variety of casual relationships, and to examine the mediating role of different relationship characteristics in condom use.

**Method:** An online survey was completed by 959 young adults aged 18-29 years (64.4% female; 34.1% male; 1.5% non-binary); 90.8% had already had sexual intercourse. Relationships over the past year (i.e., committed, hookup, friends with benefits [FWB], and booty call [BC]), associated characteristics (e.g., commitment, intimacy), and condom use during vaginal and anal intercourse were recorded using a 7-point Likert scale.

**Findings:** Condom use for vaginal intercourse was significantly lower in committed relationships than in all other three casual relationships, whereas only committed and BC relationships differed for anal intercourse. Levels of commitment, emotional exclusiveness, acquaintance with partner, intimacy, repetition, and sexual exclusivity were significantly higher in committed, followed by FWB, hookup and BC relationships. Condom use for vaginal intercourse in BC were fully mediated by lower levels of encounter repetition and higher acquaintance with partner.

**Conclusion:** Results highlight the small gap in condom use between committed and casual relationships by demonstrating differences, but also similarities, in relationship characteristics and mechanisms associated with condom use that are important for promoting it among young adults.

# Health Behaviour

15:30 - 17:00

Barbara Mullan

## Socio-cognitive and emotional determinants of edible insect consumption in the Kongo Central province (D.R. Congo)

E. Mopendo Mwisomi<sup>1,2</sup>, O. Luminet<sup>3,4</sup>, B. Chang<sup>5,6</sup>, N. Manwanina<sup>2</sup>

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**Background:** The consumption of edible insects represents an important challenge for the future of balanced nutrition in the world. However, there are still psychological barriers that prevent its consumption, which is highly detrimental when other sources of animal proteins are scarce, which is the case in DRC (Van Huis, 2013). A previous large questionnaire study showed that consumption of insects was low in the province of Kongo Central (DRC) (Mopendo et al., 2022, in preparation). The aim of the present research was to better understand the determinants of low consumption in that province. **Methods:** We used focus groups in order to understand the determinants of low consumption in a more open answer format. The topics of discussion were organized on the basis of the theory of planned behaviour, with additional questions on habits, emotions, and demographic dimensions. Twelve focus groups were conducted in three environments (town, city and village) with a total of 146 participants. **Findings:** Consumption was low in towns due to availability issues (perceived control); very low in the village due to the negative influence of the three tribes (subjective norms); and very high in the city due to availability (perceived control) and positive evaluation of their taste (attitudes). Regarding emotions, only fear was reported but quite rarely. Eating edible insects was a habit only in cities, especially among two tribes. **Discussion:** These results will help to implement interventions to increase insect consumption in towns and villages of that province, based on existing validated interventions such as nudging.

## Young Men in Chile: Porn consumption's impact on Sexual Risk Behaviors

M. Bernales<sup>1</sup>, S. Saez<sup>1</sup>

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**Background:** Access to internet by young people has become a major health challenge. Identity and socialization are impacted by social networks. Additionally, Chile has seen a significant increase in the incidence of HIV, and young men present the highest rates of infection. The objective of this study was to explore young men beliefs regarding their sexual health behaviors. Reasoned action model was used to explore behavioral intentions regarding sexuality.

**Methods:** A qualitative ethnographic study was conducted, including 22 interviews with young men among 15 and 25 years old. Thematic analysis was carried out with the support of NVivo software.

**Results:** All participants reported a permanent consumption of porn as a source of information about sexuality, many of them stated that they never had information in their schools about sexuality and neither in their families. Porn impacts on their attitudes towards sexuality, being shared among peers impacts on subjective norms, and a perception of male control in sexual relations is encouraged, not giving space to risk perception around sexual behaviors.

**Conclusions:** Access to porn has become widespread in the male population. Young Chileans have increased their sexual risk behaviors and HIV rates have remained on the rise. The analysis from the reasoned action model allows us to appreciate that there is no behavioral intention of self-care regarding sexual life. The great challenge today is to generate public policies focused on the specific needs of young men, considering their particular contexts and weighing the influence of porn consumption on their health behaviors.

## Re-examining the associations between sleep hygiene behaviours and sleep: An exploratory investigation

T. McAlpine<sup>1</sup>, B. Mullan<sup>1</sup>, P. Clarke<sup>1</sup>

<sup>1</sup>Curtin University, Australia

**Background:** Sleep hygiene behaviours are a suggested set of behaviours people can engage in to improve sleep. However, there are numerous issues that present in the measurement of sleep hygiene, primarily, the lack of consensus as to which behaviours impact sleep and should therefore be included in scales. This study aimed to assess the association between sleep quality and a highly inclusive range of sleep hygiene behaviours to address these issues and more conclusively establish behaviours for inclusion in scales which measure sleep hygiene.

**Methods:** Cross-sectional correlational methods were used to assess participants' engagement in 35 different sleep hygiene behaviours and sleep quality over the previous week. A total of 160 participants were recruited by quota sampling to ensure a mix of good and poor sleepers.

**Results:** Multiple regression analyses revealed routine-based behaviours, such as having consistent sleep length duration, emerged as significant predictors of sleep quality ( $\beta = 0.21$ ) as did behaviours relating to perseverative cognition, like worrying about sleep ( $\beta = 0.17$ ). Other behaviours like exposure to sunlight and using the bed for activities other than sleep also emerged, however there were many assessed behaviours which are currently used in sleep hygiene scales that were not associated with sleep quality, such as not having enough time to relax before bed and napping during the day.

**Conclusions:** Overall, the results support the need to examine the association between sleep and the behaviours which are currently used in sleep hygiene scales more critically.

## Effective behavioral theories in interventions promoting condom use among heterosexual youth: a systematic review

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<sup>3</sup>Utrecht University, Netherlands

**Background:** In multiple European countries, condom use has been decreasing among youth; a group which is often disproportionately affected by sexually transmitted infections (STIs). Condom use can be influenced by many factors, resulting in a variety of promotional strategies. We undertook a systematic review to identify behavioral theories in effective interventions aimed at increasing condom use in heterosexual young men and women.

**Methods:** We searched Embase, PubMed, Scopus, Psych Info and Web of Science (2010-2021) for randomized (controlled) trials, cohort studies and other (quasi-)experimental studies. Eligible studies reported comparisons of pre- and post-intervention assessments, or compared intervention and control groups to assess the efficacy of interventions to promote condom use among young heterosexual people (16-29) in Western, high-income countries. Condom use was the primary outcome, STI diagnoses was the secondary outcome.

**Preliminary results:** The search yielded 9.670 papers, of which 76 were included in the systematic review; 11 papers also assessed STI diagnoses. The most common types of interventions are educational programs, counseling sessions and skills training. Underlying behavioral theories were reported in 48 studies (63%), predominantly the information-motivation-behavioral skills model, social-cognitive theory and social learning theory. Although many interventions increased short-term condom use (<6 months postintervention), few succeeded in long-term increases.

**Conclusion:** Study findings provide insights in which types of interventions and, which behavioral theories were used to design the interventions. Patterns in short- and long-term effectiveness can provide insights for the development of strategies promoting condom use among youth and lower their burden of STI.

# Developing health behaviour change interventions

15:30 - 17:00

Oonagh Meade



## Developing an intervention to enhance medication adherence and minimise clinical inertia in hypertension: MIAMI study

E. Morrissey<sup>1</sup>, A.W. Murphy<sup>1</sup>, P.J. Murphy<sup>1</sup>, G. Molloy<sup>1</sup>

<sup>1</sup>NUI Galway, Ireland

**Background:** Uncontrolled blood pressure is the major preventable cause of heart disease and all-cause death in Europe and globally. One of the biggest causes of poor blood pressure control is non-adherence to treatment. Despite this, discussions around medication taking are often not a routine part of the GP-patient encounter in Ireland.

**Methods:** Using the Behaviour Change Wheel as guidance, we will draw on theory and evidence to draft an intervention to maximise medication adherence and minimise clinical inertia. In April 2022 we will hold a “Collective Intelligence” workshop with approximately 20 participants, consisting of people living with hypertension, GPs, primary care nurses, pharmacists and researchers. We will use scenario based design, informed by the Extended Common Sense Self-Regulation Model, to elicit views on the proposed intervention and generate targeted intervention options.

**Expected results:** Qualitative content analysis will inform the descriptive and exploratory analysis. A finalised intervention will be developed based on this.

**Current stage of work:** We have used the Behaviour Change Wheel to understand the target behaviours, and propose some possible intervention options. We are currently designing the materials for the Collective Intelligence workshop.

**Discussion:** An intervention to maximise adherence and minimise clinical inertia will be developed. It will be tailored to the Irish context, grounded in theory and evidence and driven by stakeholder involvement. The potential health impact of improved management of hypertension is immense, both in Ireland and Europe. These impacts will be realisable in the longer term should a definitive trial of this intervention prove effective.

## Individual pathways of changing interaction habits: Qualitative process evaluation of a training intervention

E. Renko<sup>1,2</sup>, M. Puolamäki<sup>1,2</sup>, M. Palsola<sup>1,2</sup>, N. Hankonen<sup>1,2</sup>

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<sup>2</sup>Tampere University, Finland

**Background:** Motivational interaction in physical activity (PA) promotion has various benefits but we do not yet know how professionals can best adopt motivating interaction styles. This study views interaction behaviours partly habitual, and approaches learning new interaction styles as behaviour change, using e.g. habit theory and complex systems perspectives. It investigates interaction training participants' experiences of how and why the changes in their interaction habits happen.

**Methods:** This qualitative process evaluation will be done within a feasibility study of the training intervention. The intervention aims to teach PA and sports professionals (based on self-determination theory, SDT) various interaction behaviour-change strategies, including habit-formation/breaking strategies. A longitudinal qualitative interview approach with 15 participants (three interviews per participant), aims to capture the participants' accounts of their interaction style undergoing change. The critical incident technique will be used to analyse participant perceptions of key events in their individual learning and behaviour change paths.

**Expected results:** Longitudinal design allows participants to explain what, how and why they are experiencing over time. The results will shed light on individuals' evolving pathways of changing interaction habits.

**Current stage of work:** The training intervention has been pre-piloted, optimised and the feasibility study starts mid-February. We will conduct first interviews in March and preliminary results will be ready in August.

**Discussion:** This study sheds light on participant's experiences of forming and breaking interaction habits to improve their interaction style. It demonstrates how complex-systems lens can be integrated to qualitative evaluation design.

## Adapted Personal Project Analysis to measure inter-goal relations on physical activity and diet

S. Kassas<sup>1</sup>, A. DeSmet<sup>2</sup>, C. Culot<sup>3</sup>

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<sup>3</sup>Université Libre de Bruxelles, Belgium

**Background:** Multiple healthy lifestyle interventions are more likely to create a public health impact than single-behaviour programs but are not always effective, which may be due to goal interference. Goal interference and facilitation is often studied between concrete actions (e.g., preparing a healthy meal and driving children to leisure activities), whereas healthy lifestyles can also facilitate or interfere with personal values (value of being a caring parent). This study presents an adapted version of the Personal Project Analysis to investigate vertical goal facilitation and interference between health goals (physical activity and diet) and personal values.

**Methods:** This is a cross-sectional mixed-methods study with a qualitative component for goal elicitation, and a quantitative component for measuring vertical inter-goal relations between health goals and personal values. Participants (n= 82) include those aged 18-30 years old interested in a healthy diet or physical activity. Analysis includes ANOVAs for assessing vertical inter-goal relations, and a thematic analysis of the types of goals reported by participants.

**Expected results:** Participants increasingly engaged in health behaviors are hypothesized to have more facilitating vertical relations, and value their health for reasons different from those who are less engaged.

**Current stage of work:** Ethics approval for the study has been obtained. Data collection has not started yet, a protocol paper is submitted for publication.

**Discussion:** This method would aid in designing multi-behavioural health interventions that can increase facilitation between healthy behaviours based on personal values.

## Developing a digital intervention (iPREPWELL) using the behaviour change wheel to prepare patients for surgery

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<sup>6</sup>Research and Development, York and Scarborough Teaching Hospitals NHS Foundation Trust, United Kingdom

### Background:

The UK undertakes approximately 2.4 million major surgical procedures annually. Improving the physical and psychological resilience of patients before surgery (prehabilitation) can reduce perioperative risk and hospital length of stay. Digitally delivered solutions supporting preoperative multiple health behaviour change are increasingly utilised, yet frequently lack a rigorous, systematic development and co-design process, preventing maximal patient uptake and impact. We are developing an evidence and theory-informed multibehavioural digital prehabilitation intervention (iPREPWELL) using the behaviour change wheel.

### Methods:

20 perioperative healthcare professionals (HCPs), and 22 patients awaiting major surgery in 6 specialties were purposively sampled from two hospital sites. Participants completed a COM-B self-evaluation questionnaire followed by a semi-structured interview. Data will be analysed using the Theoretical Domains Framework (TDF). Identified domains will allow selection of appropriate behaviour change techniques (BCTs) for inclusion in the intervention.

### Expected results:

Preliminary findings highlight the need for HCP 'promoter', 'supporter' and 'facilitator' roles to facilitate intervention delivery. Overall findings will inform content, form and mode of delivery of specific intervention components targeting each health behaviour.

### Current stage of work:

All participants are recruited (N=42). The majority of interviews are completed (n=34). Data are being independently coded and thematically analysed by two researchers using the TDF.

### Discussion:

Our developmental process will result in a multibehavioural prehabilitation intervention 'iPREPWELL', providing a scalable solution supporting patients preparing for major surgery. The systematic development process facilitates replicability and provides a robust theory-driven evaluation framework that will be applied during a planned feasibility study.

## AIMS-AET: Promising adherence intervention for endocrine therapy after breast cancer – a randomized pilot design

A. Janssen<sup>1</sup>, L. Buffart<sup>1</sup>, J. Prins<sup>1</sup>, M. de Bruin<sup>1</sup>

<sup>1</sup>Radboudumc, Netherlands

**Background:** Adjuvant endocrine therapy (AET) significantly increases survival rates for patients with hormone-sensitive breast cancer. However, many patients have difficulty to adhere AET due to a high side effect burden and long duration of therapy. Effective adherence support interventions are lacking. We adapted a cost-effective intervention, the Adherence-Improving self-Management Strategy (AIMS), to AET users (AIMS-AET). We are currently conducting a pilot trial that aims to evaluate the acceptability, feasibility and (preliminary) effectiveness of AIMS-AET.

**Methods:** A pilot randomized controlled trial with 64 participants and follow-up of 12 months is being conducted in two Dutch hospitals. Participants in the control arm receive care-as-usual, comprised of yearly, half-yearly or quarterly appointments with the nurse or oncologist. Participants in the intervention arm additionally receive the AIMS-AET intervention - a structured nurse-counseling intervention during care-as-usual appointments including motivational techniques, action and coping planning, and discussing results from electronically monitored medication intake and physical activity. Acceptability and feasibility of AIMS-AET is assessed currently with surveys and semi-structured in-depths interviews with approximately 24 participants and 4 nurses. Interviews are analyzed with thematic analysis. Effectiveness will be assessed by quantitative validated measures later this year.

**Expected Findings:** We expect the intervention to be acceptable and feasible for patients and nurses. Electronic monitors might increase awareness, motivation and self-efficacy for behavior change. Technical issues might perform a barrier to implementation.

**Current stage of work:** We are conducting and analyzing the interviews.

**Discussion:** Our intervention might provide acceptable and feasible adherence support if we can overcome technical barriers.

## Creation and evaluation of adolescent food choice prevention intervention based on a supermarket simulation

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<sup>5</sup>National education, France

<sup>6</sup>INRAE, France

<sup>7</sup>Cancer institute montpellier, France

### Background:

At least 40% of cancers are linked to modifiable behaviors or factors environmental issues, including a balanced and healthy diet. The adolescent's food choices are largely influenced by personal (age, sex, social class); psychological (subjective norms, self-efficacy, attitude...) or environmental factors (marketing, social pressures, food environment). Epidaure Market is a web simulation of supermarket and the support for the prevention intervention.

### Methods:

We used the "Demarche EValuation Action" method to construct the intervention. This method is use to construct and evaluate prevention intervention in 11 steps. In a first-time international literature was reviewed, then the field actors were integrated to select principal's determinant who influence adolescent food choices. In a last time, we use the "Behavior Change Techniques" to create the intervention and influence the determinants.

### Expected results:

We expect this prevention program will influence adolescent's food choice motivation, attitude and social norms towards more sustainable aspects (health and environmental principally) improve their self-efficacy and nutrition, environmental & marketing knowledge.

### Current stage of work:

With the DEVA 8 determinants was selected to influence adolescents' food choices: self-efficacy, personal norms, knowledges, skills, attitudes, outcome expectations, parental influence and peer influence. To construct the intervention theory-based, BCT techniques was used to influence the determinants (e.g. shaping knowledge).

## Discussion:

After preliminary test in school, the intervention seems to be implementable, workable and suitable to teenagers. The future efficacy evaluation of the intervention will provide elements for the comprehension of the effectiveness of prevention intervention and the mechanism to impact adolescent's food choice.



# Health behaviour change interventions

15:30 - 17:00

Alison Divine

## Encouraging tooth-kind behaviours in children: evaluation of e-training for dental practitioners

J. Goldthorpe<sup>1,2</sup>, L. Kilbee<sup>1</sup>, S. Cotterill<sup>1</sup>, I. Pretty<sup>1</sup>, J. Hart<sup>1</sup>, S. Peters<sup>1</sup>

<sup>1</sup>University of Manchester, United Kingdom

<sup>2</sup>Lancaster University, United Kingdom

**Background:** Tooth decay is preventable, through health behaviours (e.g. tooth brushing, limiting sugar consumption). However, the most common reason for UK hospital admissions amongst <5year olds is for dental extraction under general anaesthetic. Dentists find behaviour change conversations challenging, often resorting to ineffective approaches (e.g. information giving, fear tactics). Restrictions to routine dental services during the pandemic have further limited opportunities for behaviour change talk. The aim was to investigate the acceptability of health psychology-informed behaviour change training.

**Method:** An interactive e-training course was developed. 164 dentists/allied practitioners participated, with 96 (58%) completing questionnaires pre- and post-training of motivation, confidence and behavioural intentions of holding behaviour change conversations. Acceptability qualitative data were gathered through questionnaires and interviews, and analysed using content analysis.

**Findings:** There were significant improvements post training on 11/13 constructs including self-efficacy, beliefs about being able to hold these conversations easily, and within the time available in routine care, and behavioural intentions to discuss tooth-brushing and sugar intake in consultations. Qualitative data demonstrated that POLAR training is acceptable to a variety of dental and non-dental professionals.

**Discussion:** Dental and non-dental practitioners are similarly motivated to have conversations with parents about health behaviours. Brief online training is a feasible and acceptable way to improve their capability to initiate these conversations in ways that do not damage the therapeutic relationship. To recover oral health services beyond COVID-19, there is potential for professionals working with parents in non-dental settings to utilise behaviour change techniques.

## Psychologically informed oral health interventions in pregnancy and type 2 diabetes: a scoping review

C. Kristensen<sup>1</sup>, M. Ide<sup>1</sup>, A. Forbes<sup>1</sup>, K. Asimakopoulou<sup>1</sup>

<sup>1</sup>King's College London, United Kingdom

**Background:** Oral health is becoming a recognised component in managing gestational diabetes and reducing adverse pregnancy and health outcomes for the mother and foetus. Gestational diabetes is characterised as raised blood glucose levels first discovered in pregnancy and managed similarly to type 2 diabetes involving lifestyle modifications to manage blood glucose levels. No literature currently exists on what oral health support women with gestational diabetes receive. The objective of this review was to map out psychologically informed oral health interventions designed for pregnant women and individuals with type 2 diabetes. We also identified what behaviours were targeted in the included oral health interventions and how these behaviours map onto the COM-B model and the Theoretical Domains Framework (TDF).

**Methods:** We used the Joanna Briggs Institute methodology for scoping reviews. Studies including pregnant women and individuals with type 2 diabetes over 18 years of age were included. Only studies including a psychologically informed oral health intervention with an experimental or quasi-experimental design were considered. A narrative synthesis was used to present the findings.

**Findings:** Many identified oral health interventions included an educational component. Behaviours targeted in the interventions included increasing knowledge surrounding oral health which is related to psychological capability in the COM-B model.

**Discussion:** There is a need to develop psychologically driven oral health interventions to ensure long term oral health behaviour change. The findings from this review will inform the development of a new, psychologically informed (COM-B model and TDF) oral health intervention for women with gestational diabetes.

## Why do people struggle to be self-compassionate to health goal lapses? A social cognitive perspective

F. Sirois<sup>1,2</sup>, M. Biskas<sup>1</sup>, T. Webb<sup>1</sup>

<sup>1</sup>University of Sheffield, United Kingdom

<sup>2</sup>University of Durham, United Kingdom

**Background:** Despite evidence highlighting the benefits of self-compassion for health-related outcomes, emerging evidence suggests that some people find it difficult to respond with self-compassion when they experience lapses or setbacks with their health goals. The current study investigated whether social cognition models such the Theory of Planned Behaviour and the Prototype Willingness Model could help explain why some people, such as those high in perfectionistic concerns, struggle to be self-compassionate in response to lapses.

**Methods:** Data pertaining to health goals (N = 746; e.g., weight management and physical activity) were analysed from a pre-registered prospective study that measured beliefs about self-compassion, difficulties enacting self-compassionate responding, and perfectionistic concerns. Participants recalled a lapse with their health goals and were then prompted to respond with self-compassion. Two weeks later, participants were asked to report how they responded to subsequent lapses in pursuing their health goal.

**Findings:** Results from the structural equation modelling revealed that participants were less likely to respond with self-compassion to lapses with their health goals if they held negative beliefs about self-compassion and experienced difficulties enacting self-compassionate responding. Participants high in perfectionistic concerns were more likely to have negative beliefs about self-compassion and experience difficulties enacting self-compassionate responding.

**Discussion:** The findings suggest that social cognition models can be used to understand why some people, such as perfectionists, struggle to respond with self-compassion to health goal lapses. These findings also point to targets for interventions designed to address the challenges of being self-compassionate. to help people achieve their health goals.

## Preliminary evidence for a combined intervention using implementation intentions and imagery for physical activity habits

A. Divine<sup>1</sup>

<sup>1</sup>University of Leeds, United Kingdom

**Background:** Regular physical activity is critical for good health, however existing approaches have had little impact on long-term behaviour change. The aim of this study is to examine the effect of combining implementation intentions and mental imagery to increase habit strength and physical activity levels.

**Methods:** Participants (n=31) completed the Self Report Behavioural Automaticity Index to measure habit strength and the Godin Leisure-Time Questionnaire (Leisure score index (LSI) was calculated) to assess self-reported physical activity behaviour. The intervention was hosted online using Gorilla Software, where participants were asked to create an implementation intention for a physical activity of their choice and engaged in imagery (2-3 minutes per session) of themselves successfully completing their implementation intention 3 times per week for 4 weeks. Measures were completed again post intervention and then again after a 4 week no contact follow up period. Paired t-tests assessed change in habit strength and physical activity over time.

**Findings:** Implementation intentions combined with imagery resulted in increases in habit strength ( $p=.004$ ,  $d=.61$ ) from a mean of  $2.6 \pm 0.87$  to  $3.3 \pm 0.69$ , and physical activity levels (LSI:  $3.37 \pm 10.33$  to  $20.42 \pm 11.64$ ,  $p = 0.018$ ) that was maintained at follow-up for both habit strength ( $3.4 \pm 0.58$ ,  $p=.420$ ) and physical activity ( $21.11 \pm 10.87$ ,  $p = 0.712$ )

**Discussion:** The results suggest that a brief combined intervention that reinforces implementation intentions with imagery has the potential to be an effective strategy to make physical activity habitual. Further research is needed to evaluate the intervention.

## A systematic review of multiple health behaviour change interventions in healthcare

C.C. Silva<sup>1</sup>, J. Presseau<sup>2</sup>, M. Moreto<sup>3</sup>, Z. van Allen<sup>2</sup>, J. Dinsmore<sup>1</sup>, M.M. Marques<sup>4</sup>

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<sup>4</sup>NOVA Medical School, Portugal

**Background:** Given that multiple health risk behaviours (e.g., physical inactivity and poor diet) are often associated with non-communicable diseases (NCDs), and that unhealthy behaviours often co-occur, targeting multiple behavioural changes could be a more effective and efficient way of intervening. However, the efficacy of these type of interventions is still unclear in the context of health-related behaviours. This systematic review aims to identify, summarise the components, and analyse the efficacy of multiple health behaviour change (MHBC) interventions in patients with NCDs.

**Methods:** A search strategy has been defined to identify these interventions, which includes performing systematic searches in five electronic bibliographic databases and consulting pre-existing reviews on MHBC interventions. For each intervention, information will be extracted regarding its components (using established ontologies and taxonomies, e.g. Mode of Delivery ontology) and statistical information related to their efficacy. In addition, their quality will be critically appraised using pre-defined criteria.

**Expected results:** Searches on all databases led to a total of 3308 studies (1845 after removing duplicates). It is expected that intervention efficacy will vary depending on the condition of the sample, as well as on the clusters of behaviours targeted.

**Current stage of work:** A protocol has been developed, systematic searches have been conducted, and screening is currently underway. Data extraction is expected to be completed by June 2022.

**Discussion:** Findings from this review can help us understand which intervention components are effective at changing multiple health behaviours in the context of NCDs, contributing to the development of more effective interventions.

## Effects of smoking cessation school – results

L. Basara<sup>1</sup>, B. Gracin<sup>2</sup>, A. Rožman<sup>3</sup>, T. Jalušić Glunčić<sup>1</sup>, M. Samaržija<sup>1</sup>

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<sup>2</sup>Andrija Stampar Teaching Institute of Public Health, Croatia, Croatia

<sup>3</sup>Clinic for Airway Diseases of Zagreb, Croatia, Croatia

**Background:** In spite of growing knowledge about hazardous effects of smoking, it still remains the biggest preventable cause of disease and death. In Croatia, lung cancer is the leading malignant disease, killing almost three thousand lives yearly. The aim was to provide smoking cessation school based on cognitive-behavioral approach and monitor its efficacy regarding cessation rate yearly.

**Methods:** Smoking cessation program started in 2018 as public health initiative. Groups consisted of 8-12 attendants, 12 group meetings in total, free of charge and accessible to all motivated smokers. Obligatory segments of program are: education, psychoeducation, cognitive-behavioral techniques (self-monitoring diaries, cognitive restructuring, reframing, abdominal breathing, progressive muscle relaxation, relapse prevention, etc.) and group counseling. They also included measurement of exhaled CO at the beginning and end of the program and spirometry to screen for early stages of respiratory obstruction. Attendants evaluate the program in a written form on their last visit. We included data for the year 2018.

**Findings:** four cycles of smoking cessation were completed during 2018. The program was completed by 59 person, out of which 18 (30,51%) successfully quit smoking. Follow up at six months showed a success rate reduction of 3% in average (27,11%).

**Discussion:** Cognitive-behavioral based smoking cessation program represents an efficient way of smoking cessation and health behavior modification. Factors contributing relapse rate should be further investigated and controlled. This model of smoking cessation school was included in a Croatian national lung cancer screening program.

## Positive Psychology Intervention in promoting safe sex among Chinese men who have sex with men

P. Mo<sup>1</sup>, M. Xin<sup>2</sup>, C. Hui<sup>3</sup>

<sup>1</sup>The Chinese University of Hong Kong, China

<sup>2</sup>The Hong Kong Polytechnic University, Hong Kong

<sup>3</sup>The Chinese University of Hong Kong, Hong Kong

**Background:** This study investigated the efficacy of an online positive psychology intervention in reducing risky sexual behaviors and promoting mental health among Chinese men who have sex with men (MSM).

**Methods:** A randomized controlled trial was conducted among 420 MSM in Hong Kong. A 4-week positive psychology intervention was delivered online. The intervention group received both positive psychology exercises and information about mental health and the control group received information about mental health only. Evaluations were conducted at baseline, post-intervention, and 3-month follow-up. Main outcomes included condom use behaviors, number of sex partners, positive and negative affect, emotion regulation, and mental health. Both within-group and between-group comparisons were conducted.

**Findings:** In the intention-to-treat sample who had been randomly assigned to either intervention or control condition, results of the pre-post comparisons revealed that both the intervention group and the control group had a significant decrease in the presence of any casual sex partner(s) at 3-month follow-up, and a significant decrease in difficulties in emotion regulation at both post-intervention and at 3-month follow-up. Results of the between-group comparisons showed that the intervention group had a larger decrease in the presence of any casual sex partner(s) ( $p=0.09$ ), and a larger decrease in difficulties in emotion regulation ( $p=0.05$ ) at 3-month follow-up with a marginal significance level.

**Discussion:** Positive psychology interventions are potentially useful in promoting HIV preventive behavior and improving well-being. It can facilitate the future incorporation of positive psychology interventions as part of the HIV prevention services for MSM.



# Psychosocial approaches to health behavior

15:30 - 17:00

Márcia Filipa Carvalho

# Children's and young peoples' beliefs about chronic musculoskeletal pain: a scoping review

D. Mountain<sup>1,2</sup>, S.M. Ali<sup>1,3</sup>, R. Lee<sup>1,2</sup>, D. Ghio<sup>4</sup>, J. McDonagh<sup>1,5</sup>, L. Cordingley<sup>1,2</sup>

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## Background.

Chronic musculoskeletal pain is a common symptom in rheumatic conditions which affects children's/young peoples' psychological, physical, and social functioning. Beliefs about pain are evidenced to affect these important outcomes, as conceptualised by the Common Sense Self-Regulatory model. Targeting pain beliefs which negatively impact outcomes can improve children's/young peoples' health outcomes. However, it is unclear which beliefs should be targeted and if they are similar or different across different conditions. To address this gap, evidence will be synthesised about the role of pain beliefs and the outcomes associated with these in children/young people with chronic musculoskeletal conditions.

## Methods.

MEDLINE, PsycINFO, Embase, and CINAHL were systematically searched (November 2021) following Joanna Briggs Institute scoping review methodology.

## Expected results.

The search identified 5106 eligible articles. 4165 articles are undergoing screening by two independent reviewers. Results will identify similarities and differences in pain beliefs between musculoskeletal conditions, including the methods used to explore beliefs (e.g., questionnaires), what beliefs have been investigated (e.g., pain consequences), and the outcomes associated with particular beliefs (e.g., emotional functioning).

## Current stage of work.

Preliminary searches and de-duplication have been conducted. Screening is underway.

## Discussion.

Findings will provide researchers and healthcare professionals with an improved understanding of the influence of children's/young peoples' pain beliefs on outcomes. Healthcare professionals can consider beliefs which significantly impact children/young people throughout treatment. Gaps in research into specific beliefs will be highlighted for future investigation. Results will inform the development of interventions which can target pain beliefs which negatively impact children's/young peoples' long-term outcomes.

## The relationship between self-efficacy and sedentary behaviors in people with overweight and obesity

H. Zaleśkiewicz<sup>1</sup>, A. Banik<sup>1</sup>, E. Kulis<sup>1</sup>, Z. Szczuka<sup>2</sup>, M. Siwa<sup>3</sup>, D. Wietrzykowska<sup>1</sup>, A. Luszczynska<sup>2</sup>

<sup>1</sup>SWPS University of Social Sciences and Humanities, Poland

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<sup>3</sup>SWPS University of Social Sciences and Humanities, Wrocław, Poland

**Background:** Guided by the underpinnings of the Health Action Process Approach, this longitudinal study examined mutual relationships between three types of phase-specific self-efficacy beliefs (initiation, recovery, and maintenance) and time spent on sedentary behaviors (SB) in people with overweight and obesity.

**Methods:** 52 participants (34.6% women, age range between 17 and 76 years old) were enrolled. Participants' body mass index (BMI) ranged up to 49.82; 75% had obesity. Participants filled out questionnaires measuring sedentary behaviors and self-efficacy. BMI was measured objectively. The study spanned 3 months. Self-report assessment was conducted at 4 points: Time 1 (T1; baseline), Time 2 (T2; 1 week later), Time 3 (T3; 2 weeks later) and Time 4 (T4; 2 months later). At T1, participants were naive about the associations between SB and health. The baseline measurement was followed by healthy lifestyle education sessions, addressing SB.

**Findings:** We found only one significant effect. In particular, more time spent on sedentary behaviors at T1 predicted a higher level of initiation self-efficacy at T4 ( $p = 0.034$ ).

**Discussion:** One potential interpretation of this effect might be that while filling out the questionnaires (a "question-behavior effect") and participating in healthy lifestyle education, participants with overweight or obesity could have noticed that they engage in too many SBs, which made them more motivated to change their behavioral pattern in a near future. It is possible that this change in motivation was reflected in an increase of initiation self-efficacy at the follow-up.

## Sleep routines and bedtime procrastination in the times of COVID-19 lockdown

A. Oliveira<sup>1</sup>, B. Pereira<sup>1</sup>, P. Rosário<sup>1</sup>, S. Peixoto<sup>1</sup>, P. Magalhães<sup>1</sup>

<sup>1</sup>Psychology Research Center, School of Psychology, University of Minho, Portugal

**Background:** The COVID-19 pushed families to determine new routines and ways of managing newfound responsibilities and roles. This scenario is likely to exacerbate bedtime procrastination (BP) due to, for example, a challenge in balancing personal and professional life. BP consists of the deliberate delay of the time that a person goes to bed in the absence of external reasons. This study, aligned with the UN Sustainable Goals three and ten, aims to present preliminary findings regarding BP and its relation to sociodemographic characteristics, sleep routines, dinnertime, activities performed near bedtime, and perceived daily fatigue, during a COVID-19 lockdown in Portugal. **Methods:** A cross-sectional study was conducted with a sample of 560 adults, through an online survey. **Findings:** Despite most people (79.46%) having delayed their bedtime, this delay does not seem to have affected the number of slept hours (i.e., 88.60% were sleeping the recommended or appropriate number of hours). However, subjects who reported procrastinating their bedtime, were those who reported more perceived daily tiredness ( $rpb=.33$ ,  $p<.01$ ), with most participants reporting feeling tired throughout the day (53.04%). BP was positively associated with findings related to dinnertime (e.g., dinner between 9 p.m. and 10 p.m.,  $rpb=.19$ ,  $p<.01$ ) and with engagement in some activities done near bedtime (e.g., studying/working,  $rpb=.39$ ,  $p<.01$ ). **Discussion:** The preliminary data shows relationships between BP and most of the studied variables of behavioral health. Findings suggest that lack of routines may have contributed to BP. Self-regulatory skills could be critical to curbing BP and its effects during the pandemic.

## Overcoming obstacles in achieving health-related goals

M. Hricová<sup>1</sup>

<sup>1</sup>Pavol Jozef Šafárik University in Košice, Slovak Republic, Slovakia

Achieving the health-related goals of patients with diabetes mellitus is important for attaining good health results. The goal of this study was to explore possible coping strategies, that are used by patients with diabetes mellitus to overcome obstacles in the goal achievement process impacted by action crisis in health goals. The coping strategies were operationalized in the form of goal adjustment strategies. The study aim was also to clarify the relationship between experiencing an action crisis, goal and obstacle characteristics. In the study, 40 patients with 1st and 2nd type diabetes mellitus attended our research. Their ages varied from 35 to 74 years. The measurements: goal motivation (Sheldon, Elliot, 1999), self-efficacy (Pomaki, Karoly, Maes, 2009), goal effort (Werner et al., 2016), the goal difficulty; goal obstacle characteristics as frequency, interference; ACRISS scale for action crisis (Brandstätter, Schöler, 2013); Goal Adjustment Scale for goal-related coping strategies (Wrosch et al., 2003b). The results confirmed that the coping strategy of engaging in new goals is dominated over the strategy of goal disengagement in relation to action crisis. The results showed a positive relationship between the action crisis and selected goal and obstacle characteristics such as goal difficulty, the frequency of obstacles, the interference of obstacles, and goal disengagement strategy. Future research should address the relation between goal adjustment strategies and well-being characteristics in the achievement of health-related goals.

## Roles of predictors and moderators in engagement in healthy lifestyle behaviours in BRCA1/2 alteration carriers

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<sup>1</sup>National University of Ireland, Galway, Ireland

<sup>2</sup>Natioanl University of Ireland, Galway, Ireland

### BACKGROUND.

This study will test a model to predict engagement in healthy lifestyle behaviour in the BRCA1/2 alteration population. It aims to explore how components of the self-regulation model and health belief model influence engagement in health behaviour in this population. It will assess whether risk perceptions and distress moderate or mediate the relationship between these components and engagement in health behaviours, assessed by current engagement and future intention to engage in these behaviours. Healthy lifestyle behaviours will consist of exercising, limiting alcohol intake, reducing smoking behaviour, and eating a balanced diet, as these are known variables that influence breast cancer risk in the BRCA1/2 alteration population.

### METHODS.

Previous investigations have largely used survey methods to analyse risk perceptions, but there has been no investigation into the interdependencies between these predictors and engagement in health behaviour. As such, path analysis on AMOS will be employed, with a minimum of 150 participants calculated to be required for analysis.

### EXPECTED RESULTS.

It is expected that those that with higher risk perceptions are more likely to engage in healthy lifestyle behaviours that reduce the risk of breast cancer.

### CURRENT STAGE.

Ethical approval has been granted and data collection will begin in March 2022.

### DISCUSSION.

This research aims to explore how people with BRCA1/2 genetic alterations perceive their breast cancer risk, and the extent to which they engage in preventative behaviours. The findings of this research may shape service and policy, with health psychologists best placed to assist in communicating behavioural influence on risk.

## Development of the Inclusion of Illness in the Self Scale: Theoretical foundations and initial validation

H. Wolf<sup>1</sup>, S. Galin-Soibelman<sup>1</sup>, T. Schifter<sup>2</sup>, O. Kalter- Leibovich<sup>2</sup>, N. Vilchinsky<sup>1</sup>

<sup>1</sup>Bar Ilan University, Israel

<sup>2</sup>The Gertner Institute, Sheba Tel Hashomer Hospital, Israel

**Background.** The extent to which patients identify with their illness can bear significant psychological and behavioral consequences for them. It is therefore important to gain a clear understanding of the degree to which their illness is integrated into their selves and of the meaning and valence they attribute to this mental experience. The current study's main goal was to validate the Inclusion of Illness in the Self (IIS) Scale, visual and easy-to-use one item questionnaire designed to capture the degree of patients' illness internalization.

**Method.** We developed the IIS Scale by adapting the established Inclusion of Other in the Self (IOS) Scale to the illness context. The IIS was then administered to a sample of patients coping with a diverse set of chronic illnesses (N = 286), via a web-based support platform comprising 40 communities for chronically ill patients (the Camoni website). We subjected the IIS to a series of content, convergent, discriminant, and criterion validity evaluations.

**Findings.** The validity and content of the IIS were established. Our data revealed that the IIS reflects being engulfed by the illness. The higher the IIS score, the more the patients felt they were being consumed by the illness, and their mental health declined.

**Discussion.** The IIS was found to be a valid instrument, capturing the negative experience of being engulfed by one's illness. Intuitively-oriented and easy-to-administer, the IIS is a short, feasible and useful tool for both research and clinical work.



# Contemporary Topics in Self-Regulation

15:30 - 17:00

Catherine Grenier

## The role of Self-Evaluation and Perceived Social Support in Adult's Problematic Smartphone Use

S. Csibi<sup>1</sup>, M. Csibi<sup>1</sup>, M.D. Paşca<sup>2</sup>, A. Varga<sup>1</sup>, L. Révész<sup>1</sup>

<sup>1</sup>Eszterházy Károly Catholic University Eger, Hungary

<sup>2</sup>George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Târgu Mureş, Romania

**Background:** Unhealthy behavior often includes various forms of addiction, including behavioral addictions. Behavioral addictions may occur at different ages, and of these, excessive use of smart devices is most prevalent among the young. The main goal of our research is to examine the extent to which self-esteem and perceived social support influence problematic smartphone use in adulthood.

**Methods:** Respondents provide self-reporting data about their demographic characteristics, problematic smartphone use, perceived social support, self-evaluation, and fear of negative evaluation via an online questioning platform. Instruments were: the Smartphone Application-Based Addiction Scale (Csibi et al., 2018), the Core Self-Evaluation Scale (Judge et al., 2003), the MOS-SSS Social Support Assessing Scale (Sherbourne & Stewart, 1991), the Fear of Negative Evaluation Scale (Watson & Friend, 1969), and items of positive and negative health behavior indicators. Participants: 147 Hungarian adults from the 17-73 age group (mean age 37.5), 31 male, and 116 female.

**Findings:** Results prove a significant correlation between problematic smartphone use and age, with younger age groups scoring higher scores. Respondents who spent more time online and were more familiar with smartphone apps scored higher on problematic smartphone use and the scale of fear of negative evaluation. Low self-evaluation had an impact on problematic smartphone use. Perceived social support did not prove a relevant association with problematic smartphone use.

**Discussion:** Individual differences, such as self-esteem, perceived social support, fear of negative evaluations plays a key role in preventing the occurrence of habits determining unhealthy behavior, such as excessive smartphone usage.

## Social identification and binge drinking practices: The impact of student vs. future professional identities

C. Grenier<sup>1</sup>, N. Korsak Koulagenko<sup>1</sup>, S. Van den Broucke<sup>1,2</sup>

<sup>1</sup>UCLouvain, Belgium

<sup>2</sup>KULeuven, Belgium

Binge drinking is an increasingly observed drinking practice, especially among college students. It may also be a risk factor for future alcohol addiction. College represents a period of emerging adulthood, characterized with more liberty, experimentation, and finding of oneself. These characteristics could explain the importance of alcohol consumption within that population. Social identification has also been found to impact alcohol consumption in relation with norms and attitudes.

543 French-speaking Master students recruited through social media completed an online questionnaire. The survey asked them about their identification as student and as future professional, about their binge drinking intentions and practices, and about norms, attitudes and perceived behavioural control regarding binge drinking.

We expect that students with higher student identification will present more binge-drinking habits compared to students with more professional identification. We also intend to determine whether the relation between social identification and binge drinking intentions/practices is mediated by norms and attitudes, or whether social identification acts as a moderator of the association between norms/attitudes and binge drinking intentions/practices.

Regression, mediation and moderation analysis are currently ongoing to test these hypotheses.

As a common use in student life and as a sign of identity transition between adolescence and adulthood, binge drinking is known to be a risk factor for future alcohol addiction. Thus, it is deemed important to gain a better understanding of the mechanisms at work. The goal of this study is to study the transition to adulthood and its effect upon binge drinking practices, more specifically through social identification.

# Informal caretakers

15:30 - 17:00

Pierre Gérain

## Why don't informal caregivers use respite care services? A cluster-based study in Belgium

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<sup>2</sup>Psychological Sciences Research Institute - UCLouvain, Belgium

<sup>3</sup>Belgian Christian Mutual Health Fund, Belgium

**Background.** Informal caregivers are key pillars of healthcare systems. To support them in their role, a wide array of support services is deployed, including support and respite care services (i.e., services allowing caregivers to take a time away from their caring responsibilities). It is acknowledged that informal caregivers do not rely enough on these services. The present study aims at understanding why informal caregivers do not use respite care services.

**Methods.** Informal caregivers were recruited through the Belgian Christian Mutual Health Fund using a proxy-based recruitment. 501 informal caregivers completed the questionnaire that focused on different motives of not using respite care services. The data were analyzed using a cluster analysis.

**Findings.** 255 informal caregivers did not use any form of respite care services. The analysis highlighted 4 clusters of motives. The first (n = 97, 38%) describes individuals with no expressed need of such support. The second (n = 71, 28%) focuses on individuals with high levels of distress and a large set of barriers. The third (n = 55, 22%) describes caregivers not using these services for economics motives and the fourth (n = 32, 13%) have personal and interpersonal reluctance to use such service, even if it would be beneficial.

**Discussion.** These results highlight that the absence of actual need is only a fraction of the motives that constitutes the absence of use of such services. Personal, social, and economic barriers seem specific to certain groups that therefore need to be targeted specifically by the providing organizations.

## Looking after the informal cancer caregiver's quality of life

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<sup>2</sup>Centro Hospitalar e Universitário de São João, Portugal

<sup>3</sup>CINTESIS, Portugal

**Background:** Informal cancer caregiver's quality of life can become compromised while aiding the cancer patient through the course of the disease. In this study we aim to describe Portuguese informal cancer caregivers' quality of life, including its dimension of Spiritual, Religious and Personal Beliefs. We also aim to identify if informal cancer caregiver's, patient's, and caregiving characteristics are quality of life determinants as the Informal Caregiving Integrative Model by Gérain & Zech (2019) suggests.

**Methods:** Informal Caregivers ( $\geq 18$  years) of adults with cancer will be recruited in online informal caregivers' social network groups, after moderator's permission is granted. Data will be collected through a cross-sectional online survey, composed of a sociodemographic and clinical questionnaire and the WHOQOL-SRPB-BREF. Means, standard deviations and percentages will be used, as well as T-tests and ANOVAS.

**Expected results:** We expect informal caregivers' quality of life to be low across all quality of life domains in comparison to the general Portuguese population. We hypothesize female informal caregivers will report lower quality of life than male informal caregivers, except for the Social domain.

**Current stage of work:** Participant recruitment and data collection is undergoing. Until now, 10 participants have taken part in the study, mostly female adults (90%; M age = 42.70, SD = 12.76).

**Discussion:** Results will allow to identify possible determinants of quality of life and will reinforce the need for psychological, social, and spiritual support interventions for informal cancer caregivers in Portugal, where the biomedical model of care still prevails.

## The experiences of caregivers of children with respiratory illnesses during the COVID-19 pandemic

M.G. Anthony<sup>1</sup>, G. Hoddinott<sup>1</sup>, T. Mhlakwaphalwa<sup>1</sup>, M. Van Niekerk<sup>1</sup>, I. Dewandel<sup>1</sup>, C. Bekker<sup>1</sup>, M.M. van der Zalm<sup>1</sup>

<sup>1</sup>Stellenbosch University, South Africa

### BACKGROUND

The COVID-19 pandemic is known to have multiple impacts on families globally. Children presenting with respiratory illness are both directly and indirectly affected by emerging health systems, economic and social changes in the era of COVID-19. We explored the experiences of caregivers in the day-to-day care of children with a respiratory illness in South Africa during the COVID-19 pandemic.

### METHODS

We conducted 21 semi-structured in-depth interviews with caregivers whose children (0-10-years-old) were diagnosed with a respiratory (with and without SARS-CoV-2 infection) in Cape Town, South Africa from November 2020 till March 2021. We used case descriptive analysis and thematically organised common and divergent experiences.

### RESULTS

Taking care of sick children was emotionally taxing on caregivers, making them feel insecure, anxious, frustrated, and helpless – this was exacerbated by the COVID-19 pandemic. COVID-19 made caregivers' choice to seek care more complicated, with multiple family members offering opinions on symptom severity and whether to access care. Caregivers had to administer medication to the child normally provided by medical staff and routinely sanitize the room for medical staff to enter. The experiences within the hospital were described as difficult due to no visitors being allowed and health workers limited time to help patients.

### CONCLUSION

This study shows how providing care for a child with a respiratory illness in the context of the COVID-19 pandemic has become complicated and can have adverse impacts on caregivers' emotional wellbeing and health-seeking behaviour. Health workers could utilize these experiences to strengthen health services in the future.

## A systematic review investigating the impact of a significant physical health event in informal caregivers

L. Wright<sup>1</sup>, P.N. Hulbert-Williams<sup>1</sup>, D.B. Swash<sup>1</sup>, P.V. Morrison<sup>2</sup>

<sup>1</sup>University of Chester, United Kingdom

<sup>2</sup>University of Bangor, United Kingdom

**Background:** The psychosocial impact of caregiving is well documented, however little is known about what happens when caregivers become ill themselves. With 17% of the European population identifying as caregivers, it is important to understand this scenario better, so that improved support and services can be developed.

**Methods:** This systematic review will investigate the impact of a significant physical health event in informal caregivers over 16 years of age. We will include peer-reviewed journal articles and grey literature published from 1966 onwards, in the English language. Gough's 'Weight of Evidence' framework will be used to assess the quality and relevance of the studies. Expected heterogeneity will likely mean the data is not suitable for meta-analysis; instead, a narrative synthesis, following the Popay et al (2006) model, will be conducted.

**Expected results:** The review will provide evidence about the psychosocial and physical impact of a significant health event on informal caregivers. We hypothesise that this could be significant.

**Current stage of work:** Findings from initial scoping searches suggested limited evidence and so search terms have been refined and additional databases added to our search strategy. Full searches and inclusion assessment are underway.

**Discussion:** This systematic literature review is the first stage of a PhD thesis focusing on the impact of a cancer diagnosis in those with informal caregiving responsibilities. It will highlight what is already known about the impact of a physical health event on caregivers, and it will identify where further research is needed for later empirical studies.



## “We live two lives separately”: an interpretative phenomenological analysis of spouses’ experience facing Huntington’s disease

C. Manceau<sup>1</sup>, M. Menier<sup>1</sup>, E. Constant<sup>1</sup>, E. Decorte<sup>2</sup>, C. Simonin<sup>2</sup>, P. Antoine<sup>1</sup>

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### Background:

Huntington’s disease (HD) is an autosomal dominant inherited neurodegenerative disease, which causes motor, cognitive and behavioural symptoms. Through the different stages of HD, the person with HD (PWHD) needs increasing care for the tasks of the daily life, usually provided by the caregiving spouse. Thus, the experience of spouses is coloured by the alteration of their mental and physical health, caused by the symptoms, the changes in the partner and the relationship, the hereditary aspect of the disease.

Nevertheless, we do not know to what extent these experiences change through HD. Our study therefore proposes to capture the experience of partners in the early stage of HD, in order to understand its specificities.

**Method:** Eleven caregivers participated to semi-structured interviews, most of the time at home. Interviews were recorded, transcribed and analyzed with Interpretative Phenomenological Analysis.

**Results:** Five themes emerged: “It’s hell on earth”, “It won’t be a happy ending”, “Escaping from this hell”, “Alone against all», «For now, nothing on the horizon”. They highlight the invasion of HD on life, giving spouses the feeling of being trapped in a spiral from which there is no way out and which would inevitably lead to a bleak future, leading to adopt strategies to preserve themselves and their family. In contrast, other spouses focus on present moment and the few symptoms.

**Discussion:** These results show important clinical implications and the need of considering as soon as possible the impacts of caring for a PWHD on spouses’ physical and mental health.

# Social support in health behavior change

15:30 - 17:00

Heather Tulloch

# Weight Loss Surgery Saboteurs: A Qualitative Exploration of Online Weight Loss Surgery Support Forums

S. Quirke-McFarlane<sup>1</sup>, J. Ogden<sup>1</sup>

<sup>1</sup>University of Surrey, United Kingdom

## Background:

Whilst many patients report positive social support during their weight loss surgery (WLS) journey, some describe their weight loss attempts as being 'sabotaged' by others. This is apparent on WLS online support forums (OSFs). What patients experience and mean by 'sabotage' remains unclear and is the focus of the present study.

## Methods:

To "sabotage" will be defined as an act to intentionally and/or unintentionally undermine someone else's weight loss attempts post WLS. A comprehensive online search will be conducted to obtain a list of existing publicly available OSFs concerning WLS. Next, these OSFs will be searched using the term sabotage and closely related synonyms. Given the exploratory nature of this study, the secondary data will be analysed using an inductive, semantic approach to thematic analysis. Prior to analysis, quotations will be anonymised, paraphrased, and checked using search engines to ensure they are not traceable.

## Expected results:

WLS OSF members will have experienced weight loss surgery saboteurs to varying degrees and that these encounters will have been primarily negative.

## Current stage of work:

Conducting a comprehensive online search to identify eligible WLS OSFs.

## Discussion:

Clinical and practical implications include the design of an intervention aiming to educate patients and their support networks (e.g. partner, family, and/or friends) pre-operatively about the potential negative effects of WLS on relationship dynamics and how to actively navigate these potential shifts post-operatively. A methodological implication includes the development of a sabotage behaviour coding framework concerning WLS.

## Relationship satisfaction, perceived social control, and a reduction of sedentary behavior: a longitudinal dyadic study

M. Siwa<sup>1</sup>, E. Kulis<sup>1</sup>, Z. Szczuka<sup>2</sup>, A. Banik<sup>1</sup>, D. Wietrzykowska<sup>1</sup>, H. Zaleskiewicz<sup>1</sup>, N. Knoll<sup>3</sup>, A. DeLongis<sup>4</sup>, B. Knauper<sup>5</sup>, A. Luszczynska<sup>2, 6</sup>

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<sup>4</sup>University of British Columbia, Canada

<sup>5</sup>McGill University, Canada

<sup>6</sup>University of Colorado, Colorado Springs, United States

**Background:** This study investigated two competing models assuming that: (1) the perceived use of positive and negative social control (attempts to influence the other person's behaviors) predicts sedentary behavior (SB) indirectly, via relationship satisfaction; or (2) relationship satisfaction predicts SB indirectly, via the mediators of positive and negative control.

**Method:** Data from N = 320 dyads (target persons and their partners, aged 18-90 years) were analyzed with mediation path models. The inclusion criteria for the target persons referred to insufficient levels of physical activity and/or being diagnosed with a chronic illness (e.g., cardiovascular disease). SB time was measured with accelerometers at Time 1 (T1; baseline) and Time 3 (T3; 8 months after T1). Relationship satisfaction and social control were assessed at T1 and Time 2 (T2; 2 months after T1).

**Findings:** Higher levels of relationship satisfaction among target persons (T1) predicted target persons' reporting of higher levels of negative control from partners (T2), which predicted lower SB time among target persons (T3). Lower levels of relationship satisfaction among partners (T1) predicted target persons' reporting of higher levels of perceived negative control from partners (T2), which predicted lower SB time among target persons (T3). On average, both members of the dyad reported moderate-to-high relationship satisfaction and low negative control.

**Discussion:** The findings partially support the Dyadic Relationship Processes and Health Model and the Dyadic Health Influence Model. A small amount of perceived negative control may be related to beneficial behavioral effects (lower SB time) among target persons reporting moderate-to-high relationship satisfaction.

## The role of companionship for physical activity: A dyadic longitudinal analysis

P.S. Höhener<sup>1</sup>, J. Lüscher<sup>2</sup>, J.M. Allen<sup>1</sup>, P. Küng<sup>1</sup>, R. Tobias<sup>1</sup>, U. Scholz<sup>1</sup>

<sup>1</sup>University of Zürich, Switzerland

<sup>2</sup>Swiss Paraplegic Research, Nottwil, Switzerland

Partners in a romantic relationship can influence each other's health behaviors. These behaviors include physical activity, an important protective factor for health. This influence can occur in various ways, one of which is companionship (having a pleasurable time together, participating in enjoyable shared activities together). We use data from the Health and Retirement Study (HRS), with five points of measurement each two years apart, and a total of  $N = 5338$  participants ( $M_{age} = 64.60$ ;  $SD_{age} = 10.40$ ). We ran a longitudinal extension of the moderated actor-partner-interdependence model (L-APIMoM), investigating the interplay between companionship and physical activity, moderated by baseline physical activity of both partners. Results show that for women companionship was related to more own moderate and vigorous activity, while for men this was only the case for moderate activity (actor effects). Only for women, a negative effect of partner-reported companionship on own moderate activity occurred (partner effect). Furthermore, for women, the partner's baseline vigorous activity moderated the effect of partner-reported companionship on own vigorous activity. The higher the partner's baseline vigorous activity, the more negative the partner-reported companionship related to own vigorous activity. For men, the partner's baseline moderate activity moderated the effect of partner-reported companionship on own moderate activity. The higher partner's baseline moderate activity, the more positive the partner-reported companionship related to the own moderate activity. Results suggest that enjoying shared activities with the partner possibly relates to more moderate activity, but boundary conditions need further investigation.

## The use of virtual reality in training professionals to understand ADHD and develop their competences

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<sup>2</sup>Slovenská technická univerzita v Bratislave, Fakulta elektrotechniky a informatiky, Ústav informatiky a matematiky, Slovakia

The use of advanced technology in psychology, including health psychology, is increasing and its effectiveness still needs further evaluation. Virtual reality offers a wide range of opportunities for designing both assessment or intervention tools and pre-service or in-service training tools for helping professionals. Based on previous research, the identification with an avatar with specific symptoms or characteristics of a member of a minority group leads to increasing empathy and decreasing prejudices towards the target group. The simulation of symptomatology of specific disabilities and disorders has the potential for helping professional trainees too. As far as ADHD is often considered an “invisible disorder” and its childhood and adult forms are often connected with many misconceptions and stereotypes, for this study, we designed a virtual reality simulation of university student’s experience at the lecture with distractors that simulate difficulties in focusing on the content of the lecture. The simulation is tested with an experimental group of psychology students (N = 25) and their perception of ADHD and perceived competencies will be compared with a control group (N = 25) without virtual reality experience. We expect to find differences in both cognitive and affective domains of their competencies to work with individuals with ADHD. The potentials and limitations of using virtual reality simulations in the training of helping professionals will be discussed.

## Social support to diminish gender-based barriers to health behaviour: Testing the enabling hypothesis in Nepal

V. Tomberge<sup>1</sup>, H. Luginbühl<sup>2</sup>, A. Shrestha<sup>3</sup>, A. Kasaju<sup>4</sup>, R. Meierhofer<sup>5</sup>, J. Inauen<sup>1</sup>

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<sup>3</sup>Dhulikhel Hospital, Kathmandu University School of Medical Sciences, Nepal

<sup>4</sup>Little Buddha College of Health Science, Kathmandu, Nepal

<sup>5</sup>Eawag, Swiss Federal Institute of Aquatic Science and Technology; Department of Sanitation, Water and Solid Waste for Development, Switzerland

**Background:** Women from lower socio-economic backgrounds face socio-structural barriers that can diminish self-efficacy for many health behaviors. In Nepal for example, women need to carry heavy loads to ensure their family's food and water supply. This implies an immense risk for reproductive health.

According to the enabling hypothesis, one way of coping with environmental requirements and strengthening self-efficacy is social support. For the first time, we examine the enabling hypothesis at the example of carrying loads in a low-resource setting. In this intervention study, we aim to test whether self-efficacy and social support can promote women's safe carrying behavior.

**Methods:** A 3-arm parallel non-randomized controlled trial with 300 women and their social partners is being implemented in Nepal. Three villages will randomly receive: (1) individual promotion of self-efficacy, (2) promotion of self-efficacy + social support or (3) information on safe carrying techniques only. ANCOVA with pre-post measurement points will be calculated using the intervention groups as independent variables and the primary outcomes reduced weight and use of safe lifting techniques as dependent variables.

**Expected results:** The results will show whether self-efficacy promotion can enable women to overcome structural barriers in a low-resource setting compared to an information only intervention. In terms of the enabling hypothesis, we will also show whether social support can add to the effects of a psychological intervention.

**Stage of work:** Interventions delivery completed. Follow-up data are currently collected.

**Discussion:** This study will provide evidence on the validity of the enabling hypothesis in a low-resource setting.

## Two of hearts: Relationship quality appraisals and cardiac patients' and spouses' functional health

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<sup>3</sup>University of Ottawa, Canada

Changes in couples' relationship quality are common post-cardiac event but it is unclear how relationship quality is linked to patients' and spouses' quality of life (QoL). The purpose of the present study was to examine the association between relationship quality on QoL in patient-spouse dyads within 6 months of a cardiac event. Participants (N=181 dyads; 25.9% female patients; Mean age=64.6 years; Mean relationship duration=34 years), recruited from a large cardiac care hospital, completed validated questionnaires measuring demographic, relationship (Dyadic Adjustment Scale) and quality of life variables (Heart-QoL & Quality of life of Cardiac Spouses Questionnaire). An Actor-Partner Interdependence Model was used to investigate actor and partner effects of relationship quality on QoL. Dyadic effects of relationship quality similarity and QoL was also explored with polynomial regression. Patients' and spouses' perceptions of relationship quality were in the satisfied range (>108; 65% of sample) and, as expected, patients reported lower general physical QoL than did their spouse ( $t(180) = -10.635, p < .001$ ). Patient and spouse relationship quality appraisals were positively associated with their own physical (patient  $\beta=.25$ ; spouse  $\beta=.05$ ) and emotional/social (patient  $\beta=.21$ ; spouse  $\beta=.04$ ) QoL. Patient and spouse relationship scores followed the line of congruence linearly ( $a_1 = .246, p = .003$ ), thus, for patients and spouses who similarly perceived their relationship as high in quality, patients' emotional QoL was higher. These findings highlight the importance of relationship quality appraisals, both independent and collective, in patients' and spouses' health outcomes following a cardiac event.



# Non-COVID vaccination uptake

15:30 - 17:00

Aurélie Gauchet

# An umbrella review of interventions that aim to improve HPV vaccine uptake

S.M. Sherman<sup>1</sup>, D. Edwards<sup>2</sup>, C. Bennett<sup>2</sup>, D. Waheed<sup>3</sup>, A. Vorsters<sup>3</sup>, H.S. Çevik<sup>4</sup>, E. Karafillakis<sup>5</sup>, G. Prue<sup>6</sup>, P. Baker<sup>7</sup>, D. Kelly<sup>2</sup>

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<sup>7</sup>European Cancer Organisation's HPV Action Network, Belgium

## Background

Human papillomavirus (HPV) vaccination offers protection against the virus responsible for cervical cancer as well as oropharyngeal, anal, vulval and penile cancers. Although numerous interventions to increase HPV vaccine uptake exist, many countries' rates remain suboptimal. This umbrella review aimed to identify the focus of interventions and their effectiveness.

## Methods

An umbrella review that appraised interventions used to enhance HPV vaccine uptake and/or intention among children aged 9 years and older, adolescents and young adults up to the age of 26, was undertaken using JBI methodology. Comprehensive searches for English language systematic reviews were conducted across five databases from January 2011 to July 2021, together with hand searches and forward citation tracking.

## Results

Ten systematic reviews met the inclusion criteria. A total of 79 studies were included across the reviews. Interventions promoted change at the individual level, the community level or the organisational level, while others used a multi-component approach. Face to face presentations, printed information and supplementing both strategies with additional components appeared to be effective at increasing HPV vaccination intention. Reminders and multi-component strategies, especially those that included interventions aimed at provider level, appeared most effective at increasing vaccination uptake.

## Conclusions

The evidence suggests that there is no single solution to increasing vaccination uptake and different approaches may be better suited to certain populations. However, generalisations are limited by poor reporting and a paucity of studies beyond the USA. Further high-quality research is needed to understand how best to increase HPV vaccine uptake in different target populations.

## Psychological antecedents of HPV vaccine intention among French adolescents and their parents

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<sup>4</sup>• Centre International de Recherche en Infectiologie, Team GIMAP, Université de Lyon, Université Jean Monnet, Université Claude Bernard Lyon 1, Inserm, U1111, CNRS, UMR530, France

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<sup>6</sup>EHESP, France

Despite proven efficacy against cervical cancer, the HPV vaccination coverage in France – since 2019 recommended to 11- to 14-year-old girls and boys – is low with 32.7 % of 16-year-old girls fully vaccinated (2020). Based on an integrative model to understand vaccination behaviour, we aimed at understanding which psychological antecedents explain HPV vaccine acceptance among adolescents of both genders and their parents, and how the parental and child attitudes influence each other within families.

This study includes the baseline data of a multi-component, multi-centre interventional research project in 64 middle schools in France (PrevHPV). Using an internet-based questionnaire and a confidential linkage code, the data are collected during December 2021-March 2022 among approximately 15 000 12- to 15-year-old adolescents (in classroom) and their parents (at home).

In addition to sociodemographic data, the questionnaire includes information on:

Antecedents of vaccine hesitancy (VH) with both knowledge and attitude items based on a 7C-model;

Personal attitude and perception of attitudes in the participants' environment (friends, family) about vaccination in general and vaccination against HPV in particular;

Vaccination status against HPV, intention to get vaccinated (based on the Prochaska et Di Clemente behaviour-change theory).

Data collection is still ongoing and will end in March 2022. Results expected in June 2022 are as follows:

Attitudes mediate between knowledge and vaccine intention in adolescents and their parents; Adolescents' vaccine antecedents and intention are positively correlated with parental antecedents and intention.

## Exploring parents' willingness and preferences for the introduction of routine varicella vaccination in the UK

S.M. Sherman<sup>1</sup>, N. Lingley-Heath<sup>1</sup>, J. Lai<sup>2</sup>, H. Bedford<sup>2</sup>

<sup>1</sup>Keele University, United Kingdom

<sup>2</sup>University College London, United Kingdom

### Background

Varicella (chickenpox), a common, usually mild childhood illness, can have severe complications. While some countries have universal varicella vaccination, in the UK, it is only available privately or to clinically vulnerable individuals, although consultation to extend provision is underway.

### Methods

602 parents (youngest child 0-5yrs) completed a cross-sectional online survey containing demographic questions, questions about their youngest child (e.g. varicella status), attitudes towards chickenpox, likelihood of getting the chickenpox vaccination for their child if available (asked before and after information about chickenpox was provided) and preferences for how it should be delivered i.e. with existing vaccine or separately.

### Results

73.9% of parents were extremely/somewhat likely to accept a chickenpox vaccine for their child if one became available, 18.2% were extremely/somewhat unlikely to accept it and 7.7% were neither likely nor unlikely. Reasons provided by parents likely to accept the vaccine included protection from complications of chickenpox, trust in the vaccine/healthcare professionals, and wanting their child to avoid their personal experience of chickenpox. Reasons provided by parents who were unlikely, included chickenpox not being a serious illness, concern about side effects, and believing it is better to catch chickenpox as a child than as an adult. A combined MMRV vaccination or additional visit to the surgery were preferred over increased needle burden at the same visit.

### Conclusions

Most parents were positive about varicella vaccination being added to the routine immunisation schedule. These findings highlight parents' preferences for varicella vaccine administration and this information needs to inform vaccine policy and practice.

## How improve acceptability of vaccination against HPV? Focus groups with parents and school staff

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<sup>9</sup>Institut Pasteur, France

It has been proven that the Human Papillomavirus (HPV) vaccine is effective against HPV infections, (pre-)cancerous cervical lesions and genital warts. Nevertheless, its coverage of 23.7% in France is one of the lowest in Europe. To understand why, and since other European countries with better vaccination coverage organize vaccination days at school, we carried out focus groups with parents and with National Education school staff. By using group interviews, we aimed to identify knowledge about HPV in both study populations and factors that lead to anti-HPV vaccination.

We conducted semi-structured focus groups with 29 persons including 15 parents of middle schoolers and 14 school staff from the national education system.

We found that the following factors influence the decision-making process of parents and school staff: knowledge and representations of HPV and its vaccine, actors who deliver information about HPV, and vaccination on school premises. Regarding differences in discourses, parents mention the importance of gynaecological surveillance and negative image of pharmaceutical companies, while school staff talk about ethical dilemma/logistical challenges regarding anti-HPV vaccination in schools. Both populations perceive the General Practitioner as the main resource person, but parents also ask to raise awareness of their adolescents through the school institution.

Among facilitators for anti-HPV vaccination were mentioned an accurate and up-to-date information, idea of collective protection, and training tools for general practitioners and school nurses.

Concerning barriers, these are distrust of HPV vaccines, weakness of preventive care in the healthcare practice, and lack of time by healthcare professionals.

## Italian Adaptation of the Vaccination Attitudes Examination (VAX) Scale: A Reliability and Validity Study

R. Pisanti<sup>1</sup>, P. Soraci<sup>1</sup>

<sup>1</sup>Niccolò Cusano University Rome, Italy

**Background.** A large body of research has shown that anti-vaccination attitudes are crucial antecedents of vaccination behavior. The aim of the present study was to assess the psychometric properties of the Italian version of Vaccination Attitudes Examination (VAX; Martin & Petrie, 2017). We adopted a revised form whereby the items were slightly reworded so that they reflected attitudes towards COVID-19 vaccinations.

**Methods.** A study was carried out with 1179 adults (869 women; 74%), aged 18-77 years. Confirmatory factor analysis (CFA) was performed and we analysed reliability and validity based on relations to other variables. Furthermore, we examined the invariance of the pattern of factor loadings of the model that better fitted the data across gender groups using CFA.

**Findings.** The results of the CFA showed that the original four factor model (mistrust of vaccine benefit, worries over unforeseen future effects, concerns about commercial profiteering and preference for natural immunity) showed a satisfactory fit to the data ( $\chi^2$  (df = 48) 282.30;  $p < .001$ ; CFI = .98; RMSEA = .06; TLI = .97). Furthermore, this model was found to be factorially invariant between men and women. Reliability was supported by acceptable Cronbach's alphas (range: 0.83–0.94). Correlations between the latent VAX-COVID19 dimensions and the VCBS measure were in line with theoretical predictions.

**Discussion.** The Italian version of VAX-COVID-19 has satisfactory validity and reliability for assessing the vaccine-hesitant Italian people, and can help healthcare professionals to improve campaign of vaccinations. Limitations of the study and suggestions for further research are highlighted.

# Mental health and emotion

15:30 - 17:00

Masha Remskar

## Trajectory of mental health during COVID-19 pandemic in Spain: risk and protective factors

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<sup>4</sup>Universidad de Zaragoza, Spain

**Background:** the COVID-19 crisis has severely impacted the population's mental health. This study explores the evolution of mental health outcomes as well as risk and protective factors in the Spanish population.

**Method:** Adult Spanish inhabitants were recruited through a snowball approach. We followed a longitudinal prospective design obtaining a sample of N=3055 (March 2020), N=855 (July 2020), N=592 (November 2020), and N=404 (November 2021). We measured Posttraumatic Stress Symptoms (PTSS), depression, stress, anxiety, and resilience among other measures. We performed correlational analyses, ANOVAs, and Student's t-tests.

**Findings:** In November 2021, 13.6% of the sample showed at least moderate levels of PTSS, and between 18% and 23% of depression, anxiety, and stress. However, there was a significant decrease over time: PTSS  $F(2.56, 1043.29)=61.22$ ,  $p<.001$  and depression, stress, and anxiety  $F(2.32, 935.67)=129.39$   $p<.001$ . Resilience and social support acted as protective factors, whereas perceived severity of the crisis and information overload related to worse mental health outcomes. Those who were worried about their psychological health and about not fully recovering to their previous well-being levels showed higher PTSS. Also, individuals receiving psychological treatment presented worse outcomes, especially those who started therapy as a consequence of the crisis  $F(2,401)=4.78$ ,  $p=.009$ . Lastly, those who spent as much leisure time with others as they did before COVID-19 showed better outcomes.

**Discussion:** Even though mental health has improved over time, there is a significant proportion of the population that is still suffering significant psychological consequences, outlining the need of answering to this demand.



## Emotional experience of the COVID-19 pandemic and lockdowns among college students

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Since the beginning of the COVID-19 pandemic, several measures have been used to prevent its spreading. One of the most noticeable measures is the lockdown, an effective method coming with a significant psychological influence, now well known. For students, these times involve conciliating studies and restrictions

Using a longitudinal approach, we explored the emotional experience of the COVID-19 and lockdowns among students. 247 students, aged 24.9 (SD = 8.8) completed our sociodemographic questionnaire, including questions about their living environment and studies, SARS-Q, IDPESQ-14 and IPQ-R. These questionnaires have been completed two times, in April-Mai 2020 and October-December 2020.

T-tests highlight a significant psychological distress and progressive traumatic experience of the pandemic over time. Linear regressions indicate psychological distress is strongly associated with traumatic experience, explaining 30.8 to 54.0 % of the variance during the first data collection, and 33.8 to 66.8% of the variance during the second data collection. Illness perceptions are associated with the traumatic experience, and also concerns about academic success.

Our results highlight how the COVID-19 pandemic and associated lockdown have been experienced by students from April to December 2020. The students experienced a significant psychological distress to the point this experience is describable as traumatic. The uncertainty and the lack of understanding of the pandemic contributed to this. These findings emphasize the necessity of a psychological help for students and diffusion of clear information about the virus and its consequences.

## University students' attitudes and understanding of (mental) health maintenance through physical activity and mindfulness meditation

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**Background:** The rapid rise in adverse mental well-being recently reported amongst university students requires new accessible, preventative interventions tailored to this population. Physical activity and mindfulness meditation are two effective well-being techniques, yet literature is lacking on the acceptability of these practices to students, particularly in a preventative context. The study aimed to explore students' attitudes towards mental health and its maintenance through physical activity and mindfulness meditation.

**Methods:** Semi-structured qualitative interviews were conducted with a sample of 16 students from 10 UK universities (Mage=23 years, SD=3.22) with varied well-being symptoms, physical activity levels and experience with mindfulness meditation. Reflexive thematic analysis was used to elicit meaning from the data.

**Findings:** Four main themes were constructed. Students held a 'Holistic view of health', in which mental and physical aspects are seen as distinct but connected, although prioritised physical health maintenance. A 'Low-point paradox', whereby looking after one's health is (perceived as) most difficult when there is a greatest need, was identified as a crucial psychological barrier across health behaviours. Several 'Mindfulness misconceptions' were discussed as inhibitory towards practice. Finally, students expressed intrigue at combined practice of physical activity and mindfulness meditation, supposing that the 'Whole is greater than the sum of its parts'.

**Discussion:** Effective preventive mental health strategies for students should accommodate for common psychological barriers and facilitators to health maintenance behaviours, including misconceptions surrounding mindfulness to increase acceptability. Combining physical activity and mindfulness meditation is one promising preventative approach that warrants further investigation.

## Repeated listening to natural sounds at home may improve our mental health

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<sup>1</sup>Tampere University, Finland

<sup>2</sup>The University of Tokyo, Japan

Based on the Attention Restoration Theory, many studies have reported that listening to natural sounds (e.g., birdsong) improves people's mental health after stress. However, most research has built on one-off laboratory experiments. This study aimed to investigate whether repeated listening to such sounds in our daily life improves our mental health.

Eighty-nine university students participated in an online experiment lasting seven days at their homes. This study was reviewed and approved by the Ethics Review Committee of the University of Tokyo. Half of the participants listened to natural sounds online for 10 minutes every day (Group A), while the others sat in silence for 10 minutes every day (Group B). This presentation focuses on the Restoration Outcome Scale (ROS), which all the participants filled out before and after the intervention every day. We analyzed their ROS summary score using the Repeated Measures Two-way ANOVA to assess the change in their mood states.

Significant differences were found in the within-subject main effects (Days,  $p < .000$ ; Before-After,  $p < .000$ ) and a between-subjects interaction (Group \* Before-After,  $p < .023$ ), but not in the between-subjects main effect (Group,  $p = .052$ ). These results indicate that (1) daily improvement of participants' mood states was greater in Group A, and (2) compared to Day 1, participants' mood states in both groups improved as the day went by.

As a costless, easy-to-use method for mood regulation, listening to natural sounds can benefit us indoors, e.g., during breaks at remote work during the COVID-19 pandemic.

## Psychometric properties and measurement invariance of a European Portuguese version of fear of COVID-19 scale

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<sup>3</sup>Department of Rehabilitation Medicine, University of Washington, United States

<sup>4</sup>Porto University, Portugal

**Background:** Fear of COVID-19 has exacerbated the pandemic's negative impact. It is thus relevant to monitor fear of COVID-19 and its association with individuals' mental health, well-being, and behaviours. Valid and reliable measures of fear of COVID-19 are necessary for that purpose. This study aimed at assessing the psychometric properties of a European Portuguese version of the Fear of COVID-19 scale (FCV-19S-P). A secondary aim was to assess FCV-19S-P's cross-sectional multigroup measurement invariance (female vs. male).

**Method:** A sample of 572 Portuguese adults (72% female) completed the FCV-19S-P and measures of depression, anxiety, and stress. Confirmatory factor analysis (CFA) was used to assess the psychometric properties of the FCV-19S-P and its multigroup measurement invariance

**Findings:** Results supported this version validity, including internal consistency (Cronbach's  $\alpha = .84$ ; Composite Reliability = .83), and a factorial structure similar to the original version. Fear of COVID-19 was positively associated ( $.23 < r < .31$ ) with depression, anxiety, and stress. Results of the cross-sectional multigroup invariance analysis supported the FCV-19S-P total scalar invariance and its partial residual invariance, suggesting that this measure may be used to reach valid conclusions in respect to gender comparisons in samples of Portuguese adults regarding group observed composite means.

**Discussion:** The FCV-19S-P is a useful tool that might be used to monitor the fear of COVID-19 among Portuguese adults and draw meaningful gender comparisons. The assessment of the fear level among the population by health entities can be useful in preventing mental health disorders and uncovering vulnerable groups.

## Exploring responses to a fear-based COVID-19 vaccination advertisement

J. Charlesworth<sup>1</sup>, D. Rudaizky<sup>1</sup>, B. Mullan<sup>1</sup>

<sup>1</sup>Curtin University, Australia

**Background:** This study examined the impact of a fear-based public health advertisement on intentions to receive the COVID-19 vaccination.

**Methods:** In an online survey, 200 participants indicated their intention to receive the COVID-19 vaccine, and completed a measure of positive and negative affect before and after watching a fear-based COVID-19 vaccination advertisement. Paired samples t-tests were conducted to determine changes in intention to receive the COVID-19 vaccine and positive and negative affect. One-way ANOVAs were also conducted to determine any differences in change in positive and negative affect among participants who were and were not vaccinated against COVID-19.

**Results:** No significant change in intention to receive the COVID-19 vaccine was found among unvaccinated participants ( $p = .33$ ) after watching the COVID-19 vaccination advertisement. Among all participants, there was a significant increase in negative affect ( $p < .001$ ), and a significant decrease in positive affect ( $p = .03$ ) after watching the COVID-19 vaccination advertisement. However, vaccinated participants experienced a significantly greater increase in negative affect ( $p < .05$ ), significantly higher levels of fear ( $p < .001$ ), and significantly lower levels of amusement ( $p < .001$ ) after watching the COVID-19 vaccination advertisement compared to unvaccinated participants.

**Conclusions:** These findings indicate that the fear-based COVID-19 vaccination advertisement was not effective among unvaccinated individuals. Instead, the COVID-19 vaccination advertisement had more of an impact on individuals who had already received the COVID-19 vaccine. This suggests that fear-based public health advertisements may not be effective among individuals who resist particular health behaviours.

# COVID-19

15:30 - 17:00

Gerry Molloy

## Effects of life changes by COVID-19 pandemic on eating behaviors in general population in Japan

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<sup>3</sup>Northeastern University, United States

<sup>4</sup>Lapeyronie University Hospital, France

**BACKGROUND:** Previous studies suggest that lifestyle changes due to the outbreak of COVID-19 have significant impacts on eating behaviors. The current study aimed to explore changes in problematic eating behaviors and to identify factors potentially implicated for such changes during the first COVID-19 state of emergency in Japan.

**METHODS:** An online survey was conducted between April and May 2020 when the first state of emergency was proclaimed by the government. Eight hundred responses (502 females, 288 males, 10 neutral) were included for analyses. A questionnaire included the scales to measure orthorexic behaviors, eating behaviors (emotional / restrained / external), anxiety, depression, and cognitive efforts to regulate emotion. The participants were asked to assess their orthorexic behaviors and eating behaviors before and during the outbreak of COVID.

**FINDINGS:** Scores for the majority of dimensions including orthorexic behaviors, emotional / restrained eating, anxiety, and depression during the COVID were significantly higher than before COVID, although this was not true for external eating. Hierarchical multiple regression analyses revealed that anxiety significantly predicted changes in orthorexic behaviors ( $\beta = .10$ ,  $p < .01$ ) and in emotional eating ( $\beta = .11$ ,  $p < .05$ ). Furthermore, cognitive efforts to regulate emotion were associated with the change in orthorexic behaviors ( $\beta = .11$ ,  $p < .01$ ).

**DISCUSSION:** Results indicated that anxiety and worries under the intense uncertainty related to pandemic are related to eating problem. It may be that these anxieties exacerbated concerns related to eating food perceived as protective to prevent infection.

## Nutrition and health during the first months of the COVID-19 in Italy: a qualitative study

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<sup>1</sup>University of Bergamo, Italy

**Background.** Nutrition plays a significant role in one's health status; psychological factors, like stress and intense emotional experiences, can affect the quality of people's eating habits. This was particularly true in the last two pandemic years. The present study investigated how nutritional choices changed during the first COVID-19 lockdown in 2020, with the aim of better understanding the impact of the pandemic on eating habits, emotional experiences, and conviviality needs related to food.

**Methods.** A semi-structured interview was administered to 42 subjects, aged between 20 and 65. A thematic analysis of elementary context was performed on the data, using T-LAB software, to identify the main themes of interest.

**Results.** From the analysis, five theme clusters emerged: 1) emotional eating: changes of eating habits during stressful times; 2) food and socializing: the experience of sharing; 3) food and health: the importance of balanced nutrition; 4) food and home: how the lockdown has changed cooking habits and time spent on meals; 5) food and eating habits: organizing meals between home and the workplace.

**Discussions.** Among the emerged themes, stress-related eating behaviors, the dimension of conviviality connected to nutrition, the awareness about healthy eating habits and the organization of meals during lockdown time were particularly relevant. The study highlighted the variations in the emotional, social, and practical experience of nutrition during the first phase of the pandemic in northern Italy. These findings contribute to increasing knowledge on nutrition as a health practice and could help plan interventions specifically targeting stress and emotional management.



## Protecting others vs. the self: a diary manipulation targeting COVID-19 preventive behaviors

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<sup>1</sup>Ozyegin University, Turkey

<sup>2</sup>FMV Isik University, Turkey

<sup>3</sup>University of Florida, United States

**Background:** One successful hospital hand hygiene strategy for physicians has been to focus on protecting others rather than the self. This study investigated whether this strategy could be used during the COVID-19 pandemic to increase individuals' preventive practices.

**Methods:** This longitudinal study involved 123 Turkish participants (Mage 22.46, SD=2.55). Data were collected online in March 2020 with May follow-up. Participants were randomly assigned to write five diary entries in one of four conditions: the control condition where individuals wrote about their lives during pandemic (n=29), entries about hygiene practices to protect themselves (n=32), entries about hygiene practices used to protect others (n=32), and hygiene practices protecting themselves plus self-care practices like exercising and meditation (n=30). It was hypothesized that those focusing on others would have increased intentions and higher compliance with hand hygiene and later social distancing behaviors. Furthermore, those with "other" and "self-care" focuses would have lower health anxiety.

**Findings:** In repeated measures analysis of variants (ANOVA), although there was a significant effect for time in one month hand hygiene intentions ( $F(1,119)= 5.86$ ;  $p<0.05$ ), there no were significant differences between groups ( $F(3,119)=1.06$ ,  $p=.37$ ). Furthermore, for ANOVA at T2, there were no differences between groups for hand hygiene or social distancing behaviors. Finally, for health anxiety, there we no differences in time ( $F(1,119)=.08$ ,  $p=.77$ ) or by group ( $F(3,119)=.61$ ,  $p=.61$ ).

**Discussion:** Perhaps due to ceiling intentions and lockdowns, focusing on protecting others vs the self via diary entries did not affect either COVID-19 preventive measure intentions, behaviors, or health anxiety levels.

## Motivations to get Covid-19 vaccinations: A cross-sectional lifespan analysis of an Irish iCare study sample

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<sup>4</sup>University of Stirling, United Kingdom

<sup>5</sup>Montreal Behavioural Medicine Centre, Canada

**Background:** It is likely that motivating factors for vaccination have changed over the course of the Covid-19 vaccination programme. The aim of this analysis was to compare the motivating factors across two vaccination phases and to provide an age and gender stratified analysis given the differing health benefits of vaccination to older and younger people.

**Methods:** Cross-sectional data were collected as part of the International COVID-19 Awareness and Responses Evaluation (iCARE) study in Ireland in August 2021 (N=1000) and February 2022 (N=1000). Data were collected online to evaluate behavioural responses to the pandemic. A nationally representative sample of adults completed the survey anonymously at the two time points. Participants completed measures assessing socio-demographic characteristics, theory-based psychological predictors and health behaviours.

**Findings:** Among younger people (<29 years old) the most frequently strongly endorsed motivating factor to get the initial Covid—19 vaccination were ‘Knowing that getting vaccinated will help protect others around me for men’ (90%-2021 and 53%-2022) and for women (84%-2021 and 72%-2022). For older people (>70 years old) the most frequently endorsed motivating factors to get the initial Covid—19 vaccination was also ‘Knowing that getting vaccinated will help protect others around me for men’ men (2021-88% and 2022-97%) and women (2021-86% and 2022-94%).

**Discussion:** These results suggests that the design of messages to promote vaccination should emphasise the capacity of vaccination to protect others for all groups and at all phases of vaccination programmes. This may be a key motivating factor for vaccination for both older and younger people.

15:30 - 17:00

## How Slovak people perceive vaccination against SARS-CoV-2

V. Korim<sup>1</sup>, R. Masaryk<sup>1</sup>

<sup>1</sup>Comenius University in Bratislava, Slovakia

While some resistance was anticipated, the final rate of vaccination of only around 50% in Slovakia came as a surprise. The objective of our project is to analyze the perception of vaccination in Slovakia through identifying associated narratives. Using mixed methods we plan to collect 500 questionnaires; conduct 7-8 focus groups with young adults, adults in productive age, and seniors each; and analyze a series of related press articles. Qualitative data will be analyzed using Thematic Analysis. We hope to identify specific themes associated with the perception of vaccination. The current stage of work is data collection. By identifying narratives included in the decision-making process we hope to provide a set of recommendations to improve the reach of future campaigns or discussions aimed at reducing vaccine hesitation.

## The effects of psychological resilience on recognition of life recovery from the COVID-19 calamity

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<sup>2</sup>University of Hyogo, Japan

**Background:** The COVID-19 pandemic caused not only a public health crisis but also undermined social life. The life recovery from the COVID-19 calamity remains an urgent issue. This study investigates the effects of psychological resilience on recognition of life recovery from the calamity, with a "recovery calendar" approach that assesses people's life recovery from a disaster.

**Methods:** 1000 respondents according to the Japanese demographic ratio participated in the web survey. The study measured psychological resilience, risk perception (Severity, Knowledge), and demographics. The recognition of life recovery was measured by response to the 16 milestones of the recovery calendar. The study visualized the process of life recovery and implemented a Bayesian GLM to predict recognition of life recovery.

**Findings:** Most of the milestones indicate that people's recovery proceeded slowly. And the GLM indicated the main effects of age, presence of vulnerable people, resilience, severity, and knowledge, on the recognition of life recovery. Moreover, the interaction effects of age x resilience( $b = .003$ ), severity x resilience( $b = .030$ ), and knowledge x resilience( $b = .024$ ) were found. The resilience mitigated the influences of age and severity on the recognition of life recovery. Moreover, the resilience strengthened the effect of knowledge on the recognition of life recovery.

**Discussion:** Older people or people who perceived more risk have lower recognition of life recovery. However, the resilience moderated these effects of age and risk perception and promoted the recognition of life recovery. The study suggests the strengthening of resilience is important to encourage life recovery from the COVID-19 calamity.

# Dietary behaviours

15:30 - 17:00

Anila Allmeta

## A scoping review of outdoor food marketing: exposure, power and impacts on behaviour and health

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<sup>2</sup>Obesity Health Alliance, United Kingdom

### Background:

There is convincing evidence that unhealthy food marketing is extensive on television and digital media, uses powerful persuasive techniques, and impacts dietary choices. It is less clear whether this is also the case for outdoor food marketing. This review (i) identifies common criteria used to define outdoor food marketing, (ii) summarises research methodologies used, (iii) identifies available evidence on the exposure, power and impact of outdoor food marketing on behaviour and health and (iv) identifies directions for future research.

### Methods:

A systematic search was conducted of multiple databases and grey literature sources. Titles and abstracts were screened by one researcher. Relevant full texts were independently screened by two researchers.

### Findings:

Fifty-three studies were conducted across twenty-one countries. All measured exposure to outdoor food marketing, twelve also assessed power and three studies measured impact on behaviour or health. Criteria used to define outdoor food marketing and methodologies adopted were highly variable. Almost a quarter of advertisements across all studies were for food (mean of 22.1%), the majority of which were unhealthy (mean of 63%). The most frequent powerful strategies were premium offers and use of characters. There was limited evidence showing impacts of outdoor food marketing on behaviour or health.

### Discussion:

This review highlights the extent of unhealthy outdoor food marketing globally and the powerful methods used. There is a need for consistency in defining and measuring outdoor food marketing to enable comparison across time and place. Future research should attempt to measure direct impacts on behaviour and health.

# Facilitators and barriers influencing weight management behaviours during pregnancy: a meta-synthesis of qualitative research

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<sup>6</sup>School of Psychology, NUI Galway, Ireland

<sup>7</sup>School of Public Health, University College Cork, Ireland

## Background

Obesity and overweight are considered risk factors for a range of adverse outcomes, including stillbirth. This study aims to identify factors reported by women influencing weight management behaviours during pregnancy.

## Methods

A systematic search was conducted in five databases from inception to 2019 and updated in 2021. Qualitative studies involving pregnant or post-partum women, from high-income countries, examining women's experiences of weight management during pregnancy were included. Meta-ethnography was used to facilitate the meta-synthesis of 17 studies.

## Results

Three themes were identified during the analysis: (1) Awareness and beliefs about weight gain and weight management, which included level of awareness and knowledge about dietary and exercise recommendations, risk perception and decision balance, perceived control over health and weight gain and personal insecurities. (2) Antenatal healthcare, women's experiences of their interactions with healthcare professionals during the antenatal period and the quality of the education received had an effect on women's behaviour. Further, our findings highlight the need for clear and direct information, and improved interactions with healthcare professionals, to better support women's weight management behaviours. (3) Social and environmental influence, the social judgement and stigmatization associated with overweight and obesity also acted as a negative influence in women's engagement in weight management behaviours.

## Conclusions

Hence, interventions developed to promote and maintain weight management behaviours during pregnancy should consider all levels of influence over women's behaviours, including women's level of awareness and beliefs, experiences in antenatal care, education provision and social influence.



## Nudging healthier choices from a café style menu using traffic light labels

C. Sim<sup>1</sup>, E. Kemps<sup>1</sup>, I. Prichard<sup>1</sup>, M. Tiggemann<sup>1</sup>

<sup>1</sup>Flinders University, Australia

**Background:** There is a need for strategies such as nudging to promote healthier food choices to counter increasing global rates of obesity. This study examined the use of a colour coded (red and green) labelling system on the selection of foods and drinks from a café-style menu.

**Methods:** Participants (N=418) were randomly assigned to one of four menu conditions (red, green, red+green, control ). The menu included an equal number of healthy 'green' and unhealthy 'red' mains, drinks and desserts. In the red and green conditions, the menu displayed red or green circles next to the unhealthy and healthy items, respectively. In the red+green condition, the menu displayed both red and green circles. The control menu had no labels. After making their selections (one main, one dessert, one drink), participants completed measures of nutrition knowledge and dietary restraint.

**Findings:** Participants in a menu condition with a label (red, green or both) selected more healthy food and drink items compared to those in the control condition. Nutritional knowledge and dietary restraint did not significantly interact with menu condition to impact the number of healthy items chosen.

**Discussion:** Using a simple indicator of the healthiness of food and drink items in the form of red and green colour options can encourage individuals to make healthier choices. The results show support for the use of nudges in the context of menus to help consumers make healthier decisions.

## Easy or difficult? Investigating perceived ease to change aspects of eating behaviour and physical activity

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<sup>1</sup>University of Bayreuth, Germany

<sup>2</sup>Rowan University, United States

**Background:** Behaviour change is more likely to occur when perceived motivation and capability are high. Thus, goals set in an intervention should be challenging yet achievable. Some aspects of health behaviours such as eating and physical activity might be easier to change than others. This study investigated this assumption to ultimately provide guidance for the development of effective behaviour change interventions targeting eating behaviour and physical activity.

**Methods:** In a pre-registered online study, 421 participants (68% female, 31% male, 1% other; mean age  $M=31.7$ ) indicated how easy/difficult it would be for them to change a total of 21 specific behaviours related to eating (13) and physical activity (8), e.g., eating more fruits and vegetables, walking 10,000 steps per day.

**Findings:** A within-subjects ANOVA yielded significant differences for aspects of eating behaviour ( $F(12, 5040)=21.99$ ,  $p<.001$ , partial  $\eta^2=0.05$ ), with the easiest being to eat no more than 300-600 grams of meat per week ( $M=3.67$ ,  $SD=1.54$ ) and the most difficult being to eat less overall ( $M=2.73$ ,  $SD=1.21$ ). Significant differences were also found for aspects of physical activity ( $F(7, 2940)=3.20$ ,  $p=.002$ , partial  $\eta^2=0.01$ ), with the easiest being spending less time standing ( $M=3.07$ ,  $SD=1.22$ ) and the most difficult being spending less time sitting ( $M=2.76$ ,  $SD=1.25$ ).

**Conclusions:** Perceived ease to change varied between behavioural aspects, and variation was more pronounced for eating behaviours than for physical activity. When designing behaviour change interventions, perceived ease of change for potential target behaviours should be considered to maximise effectiveness.

# The impact of a cooking intervention on food literacy skills and cooking behaviour

L. Harms<sup>1</sup>, P. van Assema<sup>1</sup>, S. Gerards<sup>1</sup>, J. Gubbels<sup>1</sup>, K. Bessems<sup>1</sup>

<sup>1</sup>Maastricht University, Netherlands

## Background:

Food literacy (FL) comprises the knowledge, motivation, and skills needed to ensure healthy food consumption. Cooking interventions may improve FL skills and offer opportunities for family interventions. The Up for Cooking (UfC) intervention empowers parents and children to prepare a healthy meal together, over the course of four face-to-face or online sessions. This study assessed the impact of UfC on FL skills and cooking behaviour of parents.

## Methods:

UfC was implemented in the southern part of Netherlands. Until now, 51 parents with their children participated. Data collection did not involve children. Thirty parents (59%) completed a self-administered online questionnaire the week prior (pre-intervention) and within one week after participation (post-intervention). Questions assessed FL skills, attitude, knowledge, self-efficacy, and indicators of cooking behaviour at home. Items were scored on a 4-point or 5-point Likert scale. Additionally, interviews with parents (n=8, 16%) addressed intervention appreciation, strengths and limitations, and self-reported impact. Data collection is being completed. Data analyses will include paired t-tests to compare pre and post scores (quantitative), and inductive and deductive thematic analyses (qualitative).

## Results:

Results will indicate whether participation in UfC improved several FL domains (i.e., plan, select, preparation), whether it changed parental attitude or self-efficacy regarding, and how it affected cooking behaviours (i.e., frequency of cooking).

## Conclusion:

The present study will provide more insight in the impact of cooking interventions. Combining quantitative and qualitative data will aid the understanding of intermediate intervention objectives (e.g., appreciation), that lead to primary objectives (i.e., FL skills, cooking behaviour).

## Attentional Bias for High Calorie Food Cue by the Level of Hunger in Binge Eater

J. Woo<sup>1</sup>, J.E. Shin<sup>1</sup>, J. Lee<sup>1</sup>

<sup>1</sup>Chung-Ang University, South Korea

This study aimed to investigate whether attentional bias for food cues is affected by the level of hunger maintaining normal homeostasis system in binge eater. 58 females with and without binge eating (BE) were screened in 435 female undergraduates, and then two groups were assigned to either hungry or satiated group (29 each) matching their age and weight. All participants were asked to fast for 12h before the start of the experiment. While Participants in hunger condition were completed task in fasting, participants in satiety condition start the task after consuming a standard meal. Visual attentional processes were recorded using an eye tracker, while participants completed a free-viewing task made up of pairs of high- and low-calorie food cues. As a result, BE group showed longer initial fixation duration toward high-calorie food cues over low-calorie food cues, in both hunger and satiety condition in the early stage of attentional processing. However, control group showed longer initial fixation duration toward high-calorie food cues when hungry, but when satiated they were more likely to look at the low-calorie food cues. Moreover, in the late stage of attentional processing, BE group looked at the high-calorie food cue for longer than they did at the low-calorie food cue, compared to control group regardless of hunger and satiety. These results suggest that unlike normal people, automatic attention occurred without purpose or awareness is not affected by the homeostatic system and strategic attention which is goal-oriented and dependent on conscious awareness is focused on high-calorie food.

# Interventions in clinical or at-risk populations

15:30 - 17:00

Olivier Luminet

## Predictors of UV-protection behaviours among people diagnosed with melanoma [WORK IN PROGRESS STREAM]

C. Charlton<sup>1</sup>, H. Welsh<sup>1</sup>, R. Healey<sup>2</sup>, A. Rodrigues<sup>1</sup>

<sup>1</sup>Northumbria University, United Kingdom

<sup>2</sup>Teesside University, United Kingdom

### Background

Melanoma, a subtype of skin cancer, is the 5th most common cancer in the UK. Overexposure to ultraviolet radiation (UV) and history of sunburns are prominent risk factors. Despite health campaigns to raise awareness, sun-protective practices still fall behind in melanoma survivors. This study aimed to explore predictors of UV-protection behaviours in people diagnosed with melanoma.

### Methods

Participants were 63 people with a previous/current melanoma diagnosis recruited using convenience sampling. UV-protection behaviours (sunscreen, protective clothing) were assessed through an online survey, as were potential risk factors (demographic, melanoma risk, knowledge and attitudinal, psychological, and social influence factors). Hierarchical multiple regression analyses will be conducted.

### Findings

Preliminary findings show that 75% of participants reported having melanoma risk factors (eg.  $\geq 1$  raised moles, fair/very fair skin type). Among the 60 female and 3 male participants, 77% used sunscreen, 58% sought shade, and 65% wore protective clothing on sunny days. Eight participants reported using sunbeds, 6 mentioned they frequently spend time trying to get a tan, and 13 had at least one sunburn last year. Regression analyses are in progress and will explore potential correlates: demographic, melanoma risk, knowledge and attitudinal, and social influence.

### Discussion

Participants seemed to use sunscreen and seek shade frequently but lower than expected given their cancer history. These results may provide exploratory evidence to assist in identifying patients not using adequate UV-protection and providing information to further support patients. Health campaigns among melanoma survivors need to continue to promote UV-protection, as well as discourage sunbed use.

## Public information on medication safety: sources, perceived reliability and the influence of educational level

G. Andrade<sup>1</sup>, A. Grilo<sup>2</sup>, M. Santos<sup>2</sup>, A. Coelho<sup>2</sup>

<sup>1</sup>Lisbon School of Health Technology- Lisbon Polytechnic Institute, Portugal

<sup>2</sup>Lisbon School of Health Technology- Lisbon Polytechnic Institute, Portugal

**Background:** WHO declared medication safety (MS) a patient safety global concern, placing patient's engagement as the centrepiece. Most health psychology models enhance beliefs influence in health behaviors, being information processing determinant to health beliefs. This process it's influenced by meanings given to information and its sources.

**Aims:** To identify main information sources about MS, focusing on the Portuguese medicine agency (INFARMED), and assess their perceived reliability and efficacy in transmitting information to the public, considering educational level.

**Methodology:** Data was collected using a convenience sample of 782 participants, who completed a questionnaire assessing sociodemographic data and perceptions about public information on MS. Study was approved by University Ethic Committee.

**Results:** Pharmacies, doctors, INFARMED and Google represent the top-4 sources of information. Only Google is perceived as non-reliable. 7.7% of the participants never heard about INFARMED, with lower frequencies in higher educational level ( $p=0.007$ ). The majority of participants considers INFARMED a reliable source and effective in transmitting information about MS, but its perceived efficacy reduces with increased education levels ( $p<0.001$ ). The same for the impact of more information in raising confidence in medicines ( $p=0.05$ ). Stop taking the medicine and search for more information are the most commonly reported consequences of receiving information about a MS problem, with higher frequencies on the lowest education level ( $p<0.001$ ).

**Conclusion:** Public sources of information are well known and seen as credible, though educated participants seems to be more demanding on the quality and reliability of the information.

# Video games and activities for money among adult gamblers

S. TESSIER<sup>1</sup>, O. Zerhouni<sup>2</sup>, L. Romo<sup>2, 3</sup>

<sup>1</sup>Université Paris Nanterre, France

<sup>2</sup>University Paris Nanterre, France

<sup>3</sup>Hôpital Universitaire Raymond Poincaré, Garches, France, France

## Background

Gambling and video gaming both share similar characteristics: behavior (long time spend on screen), cognitive (irrepressible urge to play), emotional (reduction of negative emotions). Few studies have looked at the prevalence among adult gamblers of video gaming addiction, and others monetized activities. Our aim was to assess associations between gambling, gaming and others activities looking at money spent.

## Methods

A sample of 2 978 participants was recruited with an online study (62 % male, mean age = 47, SD = 16) who reported gambling at least once in the last 12 months. Typology of gamblers (CPGI), Internet Gaming Disorder (IGD) and kind of activities for money (pool for money, stock market investment) on last year were assessed. Multiple regressions have been conducted with Rstudio and Jamovi.

## Findings

Seven percent of our sample were problematic gamblers, 5 % were problematic gamers and 20 % practices other money activities. During the last year, participants spent in mean 450 euros for gambling, 58 euros on lootbox on video games, and 300 euros for other money activities. Results indicate that problematic gamblers were more likely to suffer from addiction to video games ( $p < 0.01$ ), and practices more activities for money than all other types of gamblers ( $p < 0.01$ ). They also spent more money on video games ( $p < 0.05$ ).

## Discussion

Future studies of gambling need to consider other aspects of behavioral addictions, and look at the common cognitive antecedents of addictions.



## The CRESCENDO program (inCRease physical Exercise and Sport to Combat ENDOMetriosiS)

G. Escriva-Boulley<sup>1</sup>, A. Chalabaev<sup>2</sup>, G.F. Blum<sup>3,4</sup>, L. Chalmel<sup>4</sup>, R. Detayrac<sup>5</sup>, E. Faller<sup>6</sup>, V. Letouzey<sup>5</sup>, T. Michy<sup>7</sup>, C. Vincens<sup>8</sup>, S. Warembourg<sup>9</sup>

<sup>1</sup>Haute Alsace University, France

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<sup>4</sup>Haute Alsace University, France

<sup>5</sup>CHU Nîmes, France

<sup>6</sup>CHU Strasbourg, France

<sup>7</sup>CHU Grenoble, France

<sup>8</sup>CHU Montpellier, France

<sup>9</sup>CHU Lyon, France

### Background

Our ambition is to allow a comprehensive view the relation between adapted physical activity (APA) and endometriosis. First, we will lead a cross-sectional study which will aim to examine the reasons why patients are (not) physically active. Based on these results a RCT will investigate leverages and effects of an APA program, based theories of motivation (self-determination theory, theory of planned behavior, Behaviors change techniques) which include motivational interviewing (MI) on perceived pain, quality of life, on PA and sedentary behaviors (SED), and on patients' physical, psychosocial health.

### Methods

200 patients will be assigned to 4 groups: (1) control, (2) MI, (3) APA, and (4) MI and APA. The intervention will last 6 months and will consist of a total of 6 MI sessions on adopting or maintaining a physically active lifestyle and pain management and/or 1 to 3 sessions of APA per week (via videoconference and/or a written personalized program).

### Expected results :

This program could complement current treatments for endometriosis by reducing pain and SED, increasing quality of life and PA, have beneficial effects on patients' physical, psychological and social health. Finally, a program combining APA and MI will be the most effective.

### Current stage of work

The cross-sectional study started in February and the MI and APA programs are ready to be pilot tested (April or May)

### Discussion

This will be the first study to investigate the relationship between APA and endometriosis based on theories of motivation and to assess (socio)psychological variables in this setting.



## The impact of nurse-led ambulatory care point on wellbeing in patients with heart failure

K. Piotrowicz<sup>1</sup>, P. Krzesiński<sup>1</sup>, J. Jastrzębski<sup>2</sup>, G. Gielerak<sup>1</sup>

<sup>1</sup>Military Institute of Medicine, Poland

<sup>2</sup>Cardinal Stefan Wyszyński University, Poland

### Background:

The diagnosis of heart failure (HF) affects up to 2% of European population. The aim of care is to create such conditions that the patient could live with HF with as few limitations as possible in everyday life. Therefore, we aimed to describe the well-being profile of HF patients undergoing outpatient nurse-led ambulatory care.

### Methods:

In this substudy of the prospective, randomized, open-label, and controlled parallel group AMULET trial we assessed the wellbeing, at baseline and at 12th months, using the PERMA-Profiler questionnaire: a brief multidimensional measure of flourishing focuses on the five domains defined by Seligman's : positive emotion (P), engagement (E), relationships (R), meaning (M), accomplishment (A), and additionally general health (H). In standard group patients were followed in existing healthcare system. In intervention group the remote regular teleconsultations with patients' assessment in ambulatory care point were realized by trained nurses supported

### Findings:

Among 146 patients completed the questionnaire the statistically significant changes ( $p$ value  $\leq 0,05$ ) according to level of wellbeing functioning, were noted in A and H. In intervention group ( $n=72$ ) there was a trend toward better functioning in remaining domains in contrary to standard group ( $n=74$ ) who scored lower in R, M, A, H but the results did not reach statistical significance.

### Discussion:

The ambulatory nurse-led care impacts significantly wellbeing in patients with heart failure. Providing insight on wellbeing individual profile help keep doing things to proactively care for patient's mental health, aiming for optimal functioning in the long term with diagnosis of heart failure.

# e-/mHealth interventions

15:30 - 17:00

Neil Coulson

## Do online support groups help individuals affected by HIV/AIDS? A scoping review of the literature

N. Coulson<sup>1</sup>, H. Buchanan<sup>1</sup>

<sup>1</sup>University of Nottingham, United Kingdom

**Background:** This scoping review sought to explore: i) whether engagement with HIV/AIDS-related online support groups benefits members in terms of psychosocial well-being and/or illness management; ii) whether members had any negative experiences; iii) what types of social support are exchanged.

**Methods:** A scoping review of English language articles (including both qualitative and quantitative studies) was undertaken using PRISMA guidelines. Databases searched included Medline, PubMed, EMBASE, CINAHL, PsycINFO, CENTRAL (Cochrane Register of Controlled Trials) and SCOPUS. Key findings were synthesized using a narrative and thematic approach.

**Findings:** 22 papers met the inclusion criteria from a pool of 4501 abstracts which included 5 quantitative, 2 mixed-methods and 15 qualitative studies published between 2007 and 2019. Cross-sectional evidence suggests engagement with online support groups is empowering for members and may have multiple psychosocial benefits. Qualitative evidence suggests these groups provide an opportunity to connect with similar others and share experiences. This can help to improve self-worth, reduce stigma, facilitate improved illness management, and gain greater confidence when interacting with health professionals. However, they are not without limitations as qualitative evidence suggests users may encounter interpersonal conflict between members as well as challenging content. Finally, online support groups are avenues through which individuals can solicit support, most commonly informational or emotional support.

**Discussion:** HIV/AIDS-related online support groups may have some benefits for members, particularly in terms of providing social support. There is a need for a systematic review of this literature which includes an assessment of the methodological quality of the available evidence.

## An eHealth intervention for French diabetic's patients: "Slow Diabetes"

C. Hehn<sup>1,2</sup>, E. SPITZ<sup>3</sup>, N. Naïditch<sup>2</sup>, E. Fall<sup>3</sup>

<sup>1</sup>Université of Lorraine, France

<sup>2</sup>Fédération Française des Diabétiques, France

<sup>3</sup>University of Lorraine, France

**Background:** "Slow Diabetes" is an e-program for diabetics' patients, made by the French Federation of Diabetics, based on virtual coaching and targeting mindfulness process by being slow in daily life. The main objectives of this qualitative study are to assess the satisfaction of the diabetics' patients of the program and to describe their experience with a virtual coaching about their disease.

**Methods:** Fifteen semi-structured interviews were realized with diabetic's patients who are using the Facebook group of the program. An analysis grid was created and a thematic content analysis was performed on Nvivo software.

**Findings:** Through the analysis, it is found that the program is appreciated by the participants who were satisfied with the e-program and the virtual coaching. Every generation found it user-friendly and accessible. For elderly people, it is intuitive for them to follow the e-program, the publications of the others members of the Facebook group and to post some of them. For younger patients, Facebook is being part of their daily life. They have also the ability to manipulate the virtual aspect easily.

**Discussion:** Participants of the study were mostly satisfied with this e-program. Moreover, the virtual coaching is easy to use for every generation. This type of e-program could improve the quality of life of diabetic patients. The virtual aspect is no longer a restriction for patients to access to resources and to discuss with other patients, without geographical limitation.

## An intervention research about telemedicine human factor: healthcare professionals and patients' perspectives and satisfaction

L. Fagnani<sup>1</sup>, A. Viganò<sup>1</sup>, I. Aiolfi<sup>1</sup>, F. Brivio<sup>1</sup>, M. Todaro<sup>1</sup>, A. Gabbiadini<sup>2</sup>, A. Savoldelli<sup>1</sup>, A. Madaschi<sup>1</sup>, D. Regazzoni<sup>1</sup>, C. Rizzi<sup>1</sup>, P. Rocca<sup>2</sup>, V. Serra<sup>2</sup>, S. Ludi<sup>2</sup>, A. Greco<sup>1</sup>

<sup>1</sup>University of Bergamo, Italy

<sup>2</sup>Azienda Socio Sanitaria Territoriale (ASST) Bergamo Est, Seriate (Bergamo), Italy

**Background:** Exploring physicians' and patients' acceptability and satisfaction with telemedicine services is essential to focus on the "human factor" (e.g. emotional components, communication) that characterised these innovative ways to provide healthcare services. The project main goals are: to consider healthcare professionals' predisposition and perspectives to tailor telemedicine over their needs; to monitor teleconsultation functioning and professionals and patients' satisfaction.

**Methods:** A mixed-methods approach will be adopted. Focus groups with physicians and healthcare professionals will be conducted to investigate their perception, resistances, and perceived difficulties concerning telemedicine as well as to monitor changes in their predisposition over time. Within the first six months of telemedicine implementation, questionnaires will be administered to physicians and patients after each teleconsultation to investigate their satisfaction.

**Expected results:** The involvement of teleconsultation recipients, namely healthcare professionals, doctors, and patients, and the longitudinal monitoring would allow to improve their predisposition and satisfaction, thanks to the adjustments made over time.

**Current stage of work:** At present, participants recruitment and focus group organisation are in progress. By April, it is expected to conduct focus groups; through March and July, questionnaires data will be collected; the end of analysis is expected by the first half of August.

**Discussion:** Adopting a conscious and useful methodological framework will allow physicians and healthcare professionals to work in a state of organizational well-being and health; patients, in turn, will benefit from this in terms of treatment positivity. Additionally, the psychological, social, and cultural components will be integrated in the implementation of the telemedicine model.

## Which factors influence practitioners' intention to use a robot with their clients with autism?

L. Charpiot<sup>1</sup>, A. P. Costa<sup>1</sup>, G. Steffgen<sup>1</sup>

<sup>1</sup>University of Luxembourg, Luxembourg

**Background:** Robots can address some of the challenges faced by society in the care and education of people in the autism spectrum. Indeed, robots may make services more widespread and provide them in personalized, repeated, and playful ways. This study focuses on understanding factors influencing practitioners' intention to use robots in the autism sector using the Theory of Planned Behavior (TPB) approach.

**Methods:** Practitioners' (N=326) intention was investigated via an online questionnaire including socio-demographic variables, TPB constructs (attitude, perceived behavioural control, subjective norms, intention, and behaviour), and measures of professional self-efficacy, perceived morality, and emotions.

**Findings:** Practitioner' intentions were positive ( $M=3.68$ ,  $SE=1.07$ ) and did not differ whether the practitioner worked with a child or an adult ( $F(1,325)=1.10$ ,  $p=.29$ ). A first hierarchical multiple regression revealed that intention mainly explained the practitioner's behaviour to sign up for a field trial ( $\beta=.118$ ,  $p<.001$ ) and that only perceived control ( $\beta=.202$ ,  $p=.004$ ) increased the model's fit (3.3%). A second regression demonstrated that holding positive attitudes ( $\beta=.452$ ,  $p<.001$ ) and feeling high social pressure to implement the robot ( $\beta=.363$ ,  $p<.001$ ) together explained 59.3% of the variance on the intention to use a robot. A third regression indicated that moral duty ( $\beta=.127$ ,  $p=.014$ ) and the perception of a positive feeling ( $\beta=.302$ ,  $p<.001$ ) towards the solution further increased the model fit by 5.6%.

**Discussion:** Results demonstrate the applicability of TPB constructs to predict professionals' intentions but raise questions about the sufficiency of these constructs as the sole predictors of professionals' intention. Morality and emotions extended the model even further.



## The use of humanoid robots for health education in diabetes – a feasibility study

L. Ryan<sup>1,2</sup>, C. Connolly<sup>1</sup>, H. Worlikar<sup>1,3</sup>, A. Murray<sup>1</sup>, S. O'Connor<sup>1</sup>, J. Kelly<sup>1</sup>, S. Coleman<sup>1</sup>, V. Vyas<sup>1</sup>, E. Newell<sup>1</sup>, D. O'Keeffe<sup>1,4</sup>, J. Walsh<sup>5</sup>

<sup>1</sup>National University of Ireland Galway, Ireland

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<sup>3</sup>Curam SFI Research Centre for Medical Devices, NUIG, Ireland

<sup>4</sup>Lero, SFI Centre for Software Research, NUIG, Ireland

<sup>5</sup>NUI Galway, Ireland

**Background:** Covid-19 expedited an increasing interest in the role of humanoid robots to deliver digital-health interventions. Humanoid robots elicit elevated levels of engagement and user-satisfaction which can motivate users to engage in low-intensity behaviour change. This research aimed to prompt further investigation through an initial evaluation of the feasibility and acceptability of a robot to deliver an educational intervention to patients in a clinical context.

**Methods:** Humanoid robot DAVE (Diabetes Audio Visual Educator) was used to deliver interactive self-management education to patients (N = 13) attending a diabetic clinic. The study used a within-subjects design with two time points to evaluate knowledge transfer pre and post the DAVE intervention. A schedule of measures were administered to assess user satisfaction and acceptability (MTUQD, LER). Patient self-efficacy beliefs and diabetes distress levels were also measured (DES, DDS).

**Findings:** Dependent t-test analysis revealed a significant effect of condition on knowledge transfer scores ( $p = 0.15$ ). Intercorrelation analysis revealed a significant inverse relationship between knowledge and the satisfaction and future use subscale of the MTUQ ( $p = .04$ ), suggesting patient acceptability of DAVE.

**Discussion:** This feasibility study demonstrated promising findings for the use of a humanoid robot to deliver an educational intervention to patients in a diabetic clinic. Patients reported high levels of acceptance and engagement with DAVE which was reflected in improvements in knowledge scores post intervention. Cumulatively, these findings warrant further research to examine more widespread acceptability of humanoid robots across clinical settings.

# e-mental health

15:30 - 17:00

Hannah Durand

## Introducing the Tele-QoL index – a brief measure for quality of life assessment in telemedicine

K. Greffin<sup>1</sup>, S. Schmidt<sup>2</sup>, N. van den Berg<sup>3</sup>, W. Hoffmann<sup>3</sup>, O. Ritter<sup>4</sup>, M. Oeff<sup>5</sup>, G. Schomerus<sup>6</sup>, S. Speerforck<sup>6</sup>, H. Muehlan<sup>7</sup>

<sup>1</sup>Universität Greifswald, Germany

<sup>2</sup>University of Greifswald, Germany

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<sup>4</sup>Brandenburg City Hospital, Medical University Brandenburg, Germany

<sup>5</sup>Brandenburg City Hospital, Germany

<sup>6</sup>University Medicine of Leipzig, Germany

<sup>7</sup>University of Greifswald, Germany

**Objectives:** The multidimensional Tele-QoL instrument is a patient-reported outcome measure that was developed to assess quality of life in telemedical care. It comprises 24 items assigned to 6 outcome scales and 8 additional items assigned to 2 impact scales. In parallel, a short index with 6 items was developed, summarizing the content of the core outcome scales of the multidimensional Tele-QoL measure. This study aimed to investigate the psychometric performance of the Tele-QoL index.

**Methods:** The Tele-QoL index was applied along with the corresponding multidimensional Tele-QoL measure and other standardized instruments for validation purposes (WHOQOL-BREF, VR-12, MLHFI, WHO-5). The validation sample of the Tele-QoL project included patients with depression or heart failure, with and without telemedical care (n = 200). Our analysis was directed to investigate the psychometric properties of the Tele-QoL index in terms of reliability and validity.

**Results:** Sufficient reliability could be assumed, as indicated by internal consistency (.91), split-half reliability (.84), and retest reliability (.65) of the index. Rasch scalability analysis displays that all parameters are in line with the model assumptions. Regarding convergent validity, the index score reveals a very high correlation with the corresponding total score of the multidimensional Tele-QoL instrument (.89). Finally, the instrument's validity was also demonstrated by substantial correlations with other quality of life measures that were consistent with our expectations.

**Conclusion:** The Tele-QoL index provides a reliable and valid alternative whenever a short measure is needed for quality of life assessment in telemedical care

## Understanding fatigue across different conditions using remote monitoring technologies

L. Dennison<sup>1</sup>, K. Bradbury<sup>1</sup>, J. Kaur<sup>1</sup>, c. Sass<sup>2</sup>, V. Martinez Hernandez<sup>3</sup>, D. Hill<sup>4</sup>, J. Cooper<sup>5</sup>, R. Adam<sup>6</sup>

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<sup>2</sup>University of Lancaster, United Kingdom

<sup>3</sup>university of cambridge, United Kingdom

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<sup>5</sup>university of glasgow, United Kingdom

<sup>6</sup>university of aberdeen, United Kingdom

**Background:** Fatigue is a common symptom across various health conditions, but is poorly understood. It often presents as an early symptom before other symptoms occur (e.g. in heart disease/cancer). There are no widely accepted definitions of fatigue across different conditions and experiences of fatigue vary considerably. Novel remote-monitoring technologies have been deigned which might provide a more accurate and granular understanding of fatigue across conditions. This could allow creation of a fatigue pheonotype, enabling earlier, more accurate diagnosis. This study aims to investigate lived experience of fatigue across conditions, plus views on barriers/enablers of engagement with diagnostic technologies.

**Methods:** This is a qualitative focus group study with four focus groups, each recruiting approximately 10 participants who have either long covid, heart disease, myeloma, or are recovering from cancer surgery. Thematic analysis will be employed.

**Expected results:** The focus groups will provide insight into the lived experience of fatigue across conditions, including how the physical, mental and emotional symptoms of, variation in and consequences of fatigue vary across different health conditions. We will also draw insights on likely engagement with and adherence to using novel remote-monitoring technologies to track fatigue across different conditions.

**Discussion:** This study is the first step in enabling creation of a phenotype of fatigue across conditions. It will provide information to help determine which patterns in fatigue should be monitored to differentiate between conditions and how we can maximise engagement with novel technologies that could help to more accurately diagnose fatigue and its underlying health condition.

## Stress reduction in distance-learning students through digital mental health interventions

A. Haberstroh<sup>1</sup>, C. Salewski<sup>2</sup>

<sup>1</sup>FernUniversität in Hagen, Germany

<sup>2</sup>University of Hagen, Germany

**Background:** Previous studies have shown that distance-learning students are exposed to higher levels of stress than on-campus students due to their frequent multiple workloads (work, family, study requirements). To strengthen the health and well-being of distance-learning students, the stress management app Stressdown was developed and is currently being evaluated for its effectiveness.

**Methods:** Distance-learning students are invited to participate in a four-week longitudinal randomized-controlled waiting group study with three data collection points. Perceived stress (Perceived-Stress-Scale, PSS10), stress symptoms (Burnout-Mobbing-Inventar, BMI), resilience (Resilienzskala, RS13) and self-efficacy (Allgemeine Selbstwirksamkeitserwartung, SWE) are assessed. Currently, N=92 distance-learning students (women: 87%) are enrolled at t1, N=47 are assigned to the intervention group and N=45 to the control group (recruitment ongoing).

**Expected Results:** The continuous use of the app over four weeks will result in a significant reduction of perceived stress and psycho-somatic symptoms and an increase in resilience and self-efficacy in the intervention group compared to the control group.

**Current stage of work:** First analyses show that for both groups, perceived stress levels (PSS10: 32.4) and psycho-somatic stress symptoms (BMI: 35) are above average compared to reference groups. Buffering factors such as self-efficacy (SWE: 27.2) and resilience (RS13: 63.3) are also above average.

**Discussion:** A significant reduction of stress and stress symptoms after using the Stressdown app will lend support to the notion that digital health programs are useful and easily applicable interventions for distance-learning students.

# eHealth across the life span

15:30 - 17:00

David Healy

## Relationship between neutral and problematic adolescents' photo self-disclosure and privacy concerns: does the paradox exist?

K. Žardeckaitė-Matulaitienė<sup>1</sup>, U. Paluckaitė<sup>1</sup>

<sup>1</sup>Vytautas Magnus University, Lithuania

It is well known that nowadays young people are very keen to share their photos on social media. Sharing photos online has both, positive (e.g., positive self-worth) and negative (e.g., depression, the feelings of guilt) consequences on psychological adolescents' health. Researchers state that one of the most important factor, related to any kind of sharing personal information online, is privacy concerns. However, talking about adolescents, some researchers state that even though adolescents are aware of their privacy online, they still tend to share their personal information without much concerns. Thus, the aim of this study is to find out how privacy concerns are related to adolescents' neutral and problematic photo self-disclosure on social media. To reach this aim, the quantitative study was organized (N=1203; Mage=14.57, SDage=1.39; 57.2% female). Adolescents were asked to fill in the hard copies of questionnaires, assessing their neutral and problematic photo disclosure on SNS and privacy concerns. The correlation analysis has shown that adolescents' privacy concerns are statistically significantly positively related only to neutral photo self-disclosure ( $r=.125$ ). According to these results, we may state that the more adolescents are concerned about their privacy, the more they are likely to disclose by neutral photos on SNS. Thus, privacy paradox phenomenon exists only for neutral, but not for problematic adolescents' photo self-disclosure.

# A systematic review of behaviour change techniques in digital health interventions with midlife women

H. Sediva<sup>1</sup>, T. Cartwright<sup>1</sup>, C. Robertson<sup>1</sup>, S. Deb<sup>1</sup>

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## Background:

Digital health interventions (DHIs) are efficacious in health-promoting behaviours (e.g., healthy eating and regular physical activity) that mitigate health risks and menopausal symptoms in midlife, however, integrated evidence-based knowledge about the mechanism of change in these interventions is unclear.

## Objectives:

This systematic review aims to evaluate studies on behaviour change techniques (BCTs) and mechanisms of change in DHIs aimed to promote health-enhancing behaviours in midlife women (aged 40-65 years).

## Methods:

A systematic literature search of electronic databases MEDLINE/PubMed, Web of Science, PsycINFO and CENTRAL were conducted. The mechanism of action and intervention functions of eligible studies were evaluated using the Behaviour Change Wheel (BCW) framework. Reporting of psychological theory use within these interventions were explored using the Theory Coding Scheme (TCS).

## Results:

Thirteen interventions (including 1308 women) reviewed used  $13 \pm 4.30$  (range 6–21) BCTs per intervention on average. 'Shaping knowledge' and 'Repetition and substitution' behaviour change categories were used most frequently. Only 14% of the 93 available BCTs were used, with 'Instructions on behaviour' most frequently utilised. The BCW mapping suggests that half of the intervention content aimed to increase 'Capability' (50%; 49/98), 42% 'Motivation' (44/98), and 8% 'Opportunity' (8/98).

## Discussion:

The findings of this review indicate an overall weak use of theory, low levels of treatment fidelity, insignificant outcomes, and insufficient description of several interventions to support assessment of how specific BCTs were activated. Thus, the identified limitations in the current literature provide an opportunity to improve the design of lifestyle health-enhancing interventions with women in midlife.



## Encouraging elders with eHealth: promoting an active lifestyle among senior citizens, a randomized field-experiment

A. Nilstomt<sup>1</sup>, L. Beckman<sup>1</sup>, J. Gustavsson<sup>1</sup>, F. Nilson<sup>1</sup>, s. wagnsson<sup>1</sup>, E. Wastlund<sup>1</sup>

<sup>1</sup>Karlstad university, Sweden

**Background:** An aging population necessitates an increased focus on factors contributing to sustained or improved health and well-being among senior citizens. Regular exercise and social belonging have been shown to be vital for healthy ageing. This study is based on the COM-B model. The aim is to compare the effect three interventions varying in terms of Capabilities and Opportunity on Behavior (physical activity).

**Methods:** Quantitative study: Data will be collected in a field-experiment. Adults (N=150) age ≥ 65 years will be randomized into one of three groups (digital n=50, off-line/control n=50, social n=50) and use an activity tracker (fitbit). Questionnaires (EQ-5D-5L; HADS; IPAQ; BREQ-2; COM-B) will be answered at four occasions during six-month period. Physical tests be completed and background information gathered. Descriptive analyses, difference-in-difference analysis as well as multivariate analysis will be conducted.

**Expected results:** On a group level, participants are expected to increase their level of physical activity and rate an improvement in life-quality during the intervention. However, which intervention is more effective compared to the others both during the intervention and in terms of maintenance remains to be seen.

**Current stage of work:** Recruiting participants and collecting baseline data.

**Discussion:** The results will add to the knowledge regarding the role of eHealth in promoting an active lifestyle among an aging population. Furthermore, this study will be a practical example of how to implement the COM-B model to explore barriers and facilitators for behavior change.

# Older Adults' Experiences and Perceptions of Immersive Virtual Reality: A Systematic Review and Thematic Synthesis

D. Healy<sup>1</sup>, A. Flynn<sup>1</sup>, O. Conlan<sup>2</sup>, J. Mc Sharry<sup>1</sup>, J. Walsh<sup>3</sup>

<sup>1</sup>National University of Ireland, Galway, Ireland

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<sup>3</sup>NUI Galway, Ireland

**Background:** Immersive virtual reality (IVR) can be defined as fully computer-generated environments that are displayed through a head-mounted display. Existing research suggests that key features of IVR can assist older adults in their everyday lives – providing opportunities in health promotion and tackling social isolation and loneliness. There has been a surge in the number of qualitative studies exploring older adults' experiences and perceptions of IVR which have yet to be synthesised. The aim of this review was to synthesise these experiences and perceptions.

**Methods:** Two reviewers completed title and abstract screening, full-text screening, data extraction and quality appraisal. A thematic synthesis was then conducted. Confidence in the evidence was assessed using the GRADE-CERQual approach.

**Results:** Thirteen studies were included in the final synthesis. Confidence in the evidence ranged from high to moderate. Four descriptive themes were generated: (1) facilitating IVR interactions, (2) experiencing unique features of IVR, (3) perceptions of IVR and (4) accounts of agency in IVR. Three analytical themes were then generated: (1) tolerating the bad to experience the good, (2) buying in to IVR: don't judge a book by its cover and (3) "it proves to me I can do it".

**Discussion:** This review highlights the need to overcome initial negative views of IVR and perceived barriers to use by emphasizing its unique ability to increase older adults' agency through features such as presence, immersion, and embodiment, which in turn offer new opportunities to take part in meaningful activities tailored to their needs and preferences.

## A digital health platform to support aging in place: Experiences of people with dementia

C. Wrede<sup>1</sup>, A. Braakman-Jansen<sup>1</sup>, L. van Gemert-Pijnen<sup>1</sup>

<sup>1</sup>Department of Psychology, Health and Technology, University of Twente, Netherlands

**Background:** Although most people with dementia (PwD) wish to live at home for longer, this can be challenging to achieve. To support extended independent living of PwD, innovative solutions have been developed, including digital platforms to facilitate care coordination and patient-caregiver communication, thereby helping PwD to stay in control of their health and care situation. In the Netherlands, the platform “Caren” has become one of the largest digital health platforms supporting PwD and their caregivers at home. However, insight into its added value according to PwD is still lacking. This study therefore aimed to analyze the experiences of PwD with the digital health platform Caren.

**Method:** A cross-sectional online survey was offered to users of Caren, containing questions related to usage behavior and a set of evaluation criteria: usability, impact on patient-caregiver communication, impact on care process, trust in the platform, and intention for continued use.

**Results:** 202 community-dwelling PwD (M(age)=65.9;SD=13.5) took the survey. Most PwD (68%) used the platform at least once a day, primarily (1) to access the electronic client record of their home care organization (65%), (2) to communicate with their (in)formal caregivers (49%), and (3) to use a shared calendar to make/ view appointments (30%). Overall, PwD judged the platform positively regarding usability and trustworthiness and reported a positive impact on their care process and patient-caregiver communication.

**Conclusion:** The study shows that community-dwelling PwD can benefit from digital care platforms in several ways. Future research should focus on possible usage barriers and how to overcome these.

# Digital health promotion

15:30 - 17:00

Eanna Kenny

## Eliciting preferences for the uptake of smoking cessation apps: A Discrete Choice Experiment

D. Szinay<sup>1,2</sup>, R. Cameron<sup>1</sup>, A. Jones<sup>1</sup>, J. Whitty<sup>1</sup>, T. Chadborn<sup>3</sup>, J. Brown<sup>4</sup>, F. Naughton<sup>1</sup>

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<sup>2</sup>University College London, United Kingdom

<sup>3</sup>Department of Health and Social Care, United Kingdom

<sup>4</sup>UCL, United Kingdom

### Background

If the most evidence-based and effective health apps are not selected by users, their potential is limited. To guide efforts to maximise uptake, this study sought to determine the attributes that influence app uptake and understand their relative importance.

### Methods

Adult smokers from the UK (N=337) participated in a discrete choice experiment. Participants made 12 choices between two hypothetical smoking cessation app alternatives, with five attributes: star ratings, app developer, monthly price of app, images shown and the app's description type; or opting out (choosing neither). The relative importance of attributes was estimated using mixed logit modelling. Willingness to pay was calculated.

### Findings

Participants selected a smoking cessation app rather than opting out for 90% of the choices. Relative to other attributes, a 4.8 star user rating was the strongest driver of uptake. Participants preferred an app developed by a trusted organisation over a hypothetical company, with a logo and screenshots over logo only, and with a lower monthly cost. App description did not influence preferences. Participants were willing to pay up to an additional £9.48 for 4.8 star ratings, £3.91 for 4 star ratings, and £5.22 for an app developed by a trusted organisation.

### Conclusion

A range of attributes impact the uptake of smoking cessation apps. However, highly rated apps may be selected by users in preference to those from trusted organisations, who may be more likely to provide evidence-based solutions. This evidence could inform the design of websites that offer multiple apps, e.g. the NHS apps library.

## How can apps help me move more? A Group Concept Mapping study in inactive adults

M. Braun<sup>1</sup>, S. Carlier<sup>1,2</sup>, M. Van De Velde<sup>1</sup>, A. De Paepe<sup>1</sup>, F. De Backere<sup>1,2</sup>, G. Crombez<sup>1</sup>

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<sup>2</sup>imec, Belgium

**Background:** Digital interventions are considered a promising avenue to help promote physical activity in healthy adults that do not meet current physical activity guidelines. It is important to include potential users early on in the development process. This study focuses on the wishes and needs of potential users of an mHealth application that promotes physical activity.

**Methods:** We made use of mixed-method design called Group Concept Mapping (GCM). In a first phase, we conducted four group discussions with a total of 19 participants that did not meet current physical activity guidelines. Participants created statements that finished the prompt “In an app that helps me move more, I would like to see/learn/do the following:...”. We processed and summarized the statements, which will be sorted and rated by a new group of participants. Data will be analyzed and visualized within groupwisdom using hierarchical cluster analysis.

**Expected Results:** Results of group discussions were processed. This resulted in a total of 90 distinct statements. Based on group discussions, we expect around 13 clusters, and expect statements on motivational aspects to be among the most important.

**Current Stage of Work:** The group discussions were carried out, and resulting statements were processed by the researchers. In a next phase, a new group of participants will sort and rate the statements.

**Discussion:** The findings of this study should guide intervention development for PA promotion in eHealth applications to avoid top-down decision-making. Special attention will need to be paid to differing wishes and needs of different subgroups.

## Stressed! Grab a bite? An EMA study assessing stress and food intake in daily life

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Human health is substantially and directly influenced by diet and stress. Beyond that, stress has an indirect impact on health, through changes in health-related behaviours such as diet. Research has found inter-individual differences in the dietary response to stress: roughly 35-40% of participants increase food intake, some decrease consumed amounts and others show no change. However, it remains largely unknown whether these differences can also be found in daily life. Therefore, the present study uses Ecological Momentary Assessment to investigate the relationship between stress and food intake. Participants use the APPetite-mobile-app for three consecutive days to enter all foods and drinks consumed (event-contingent) and to report self-perceived stress levels eight times per day (signal-contingent). 181 healthy adults participated in the study. Data-preprocessing is ongoing. As the outcome variable energy intake in kilocalories is semicontinuous, multilevel two-part models are used for data analysis. Preliminary results of 78 participants show no fixed and random effect of stress on the likelihood to eat. However, there is a fixed effect of stress on the amount consumed. Accordingly, a one-unit increase in stress is associated with a 5.8% decrease in energy intake. However, the predictor stress shows no random effect, indicating that there are no person-specific differences in the effect of stress on the amount consumed. These findings contradict previous research and require verification in the total sample. A better understanding of the connection between stress and diet in daily life is necessary to identify specific individuals and/or situations at risk for unhealthy eating.

# Mobile Phone Apps to Promote Sun Protection Behaviours: A Content Analysis

A. Rodrigues<sup>1</sup>, C. Charlton<sup>1</sup>

<sup>1</sup>Northumbria University, United Kingdom

**Background:** Sunburn and intermittent exposure to ultraviolet rays are risk factors for melanoma. Studies suggest that sun protection, such as wearing protective clothes, avoiding midday sun-exposure, and sunscreen use would decrease amount of intermittent sun-exposure. With widespread smartphone usage, evidence suggests that this might be a novel, convenient, scalable, and feasible way of reaching large portions of the population. The purpose of this study was to identify, describe, and evaluate mobile phone apps that aim to promote sun protection behaviours.

**Methods:** Apps were identified through systematic searches within iTunes and Google Play. Apps were downloaded, reviewed, and rated via the taxonomy of behaviour change techniques used in the interventions.

**Results:** Apps mapped across 12 BCTs, with individual apps containing between 0-5 BCTs ( $m = 1.71$ ,  $SD = 1.07$ ). Frequently identified BCTs were 'instruction on how to perform behaviour' (66%), 'information about health consequences' (29%), 'prompts/cues' (27%), 'feedback on outcomes of behaviour' (14%) and 'feedback on behaviour' (12%). Of the 11 BCTs identified as effective in sun protection behaviour change interventions, 5 were not identified including 'social comparison', 'information about others' approval', 'adding objects to the environment', 'demonstration of behaviour', and 'salience of consequences'.

**Conclusions:** This study provided information on freely available apps to promote sun protection. This research has helped identify missed opportunities to provide users with valuable information, interactive decision aids, and evidence-based interventions for sun protection. Finally, this project has provided a starting point for behavioural scientists, developers, and users to evaluate and enhance apps in this area.



# Health psychology methods: Interventions and measurement

15:30 - 17:00

Eimear Morrissey

## Diffusion of effective behavior change strategies: The distillation and dissemination approach (DADA)

P. Sheeran<sup>1</sup>, O. Listrom<sup>1</sup>, A. Bermudez<sup>1</sup>, S. Noar<sup>1</sup>, A. Goldstein<sup>1</sup>, M. de Bruin<sup>2</sup>

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<sup>2</sup>Radboud University Medical Center, Netherlands

**Background:** Interventions to promote health behaviors generally comprise multiple, modifiable intervention strategies (e.g., behavior change techniques, intensity, setting, source). However, precise information about the intervention strategies that were deployed is often missing from published research reports. Given these circumstances, how can researchers determine ‘what works,’ and how can the strategies that work be disseminated to policy makers and practitioners?

**Methods/Findings:** We offer an ongoing research project on quit intentions and smoking cessation as a case study and outline a new approach to translating research findings into freely accessible, evidence-based intervention programs. The approach involves (1) identifying relevant randomized controlled trials via computerized literature searches; (2) collating the intervention (and control) materials from those trials through correspondence with the original research teams; (3) coding the strategies used in trials using a bespoke taxonomy informed by BCTTv1; (4) determining which intervention strategies are effective using iterative meta-regression analysis; and (5) developing a repository of effective materials ([www.SmokingCessationTrials.info](http://www.SmokingCessationTrials.info)) that is informed by cognitive interviews with stakeholders and can be accessed by researchers, policy makers, and practitioners.

**Discussion:** The Distillation and Dissemination Approach (DADA) outlined here could (a) formalize efforts to “give psychology away,” (b) help speed the translation of research findings into practice, and (c) contribute to alleviating the burden of tobacco use that disproportionately affects racial, ethnic, and sexual minorities and people with low socioeconomic status.

## A new resource for behavioural science - Developing tools for understanding the relationship between behaviours

A. Scott<sup>1</sup>, T. Webb<sup>2</sup>, P. Norman<sup>2</sup>, H. Baird<sup>2</sup>, V. Huddy<sup>2</sup>, R. Rowe<sup>2</sup>, F. Sabui Maikore<sup>2</sup>, S. Mazumdar<sup>2</sup>, V. Lanfranchi<sup>2</sup>, F. Ciravegna<sup>2</sup>

<sup>1</sup>University of Keele, United Kingdom

<sup>2</sup>University of Sheffield, United Kingdom

**Background:** Interventions designed to improve health typically focus on single behaviours. However, behaviours are likely related, and the effect of interventions that change one behaviour might also change other behaviours, either for the better (e.g., spillover effects) or worse (e.g., compensation effects). Health psychologists therefore need to understand the relationships between behaviours.

**Methods:** The 'TURBBO' project, funded by the ESRC, develops tools that can help health psychologists to understand the relations between behaviours via four phases of research. Phase one develops an ontology of behaviour drawing on workshops with key stakeholders and a systematic review to understand how existing ontologies have characterised behaviour. Phases two to four will create online tools that people can use to add, analyse, and visualise data on the relationship between behaviours, using the ontology as a framework.

**Expected results:** We have developed an upper and middle ontology of behaviour and a prototype of a tool that can be used to add data on the relationships between behaviours.

**Current stage of work:** We have completed phase one of the project and are currently in the early stages of phase two.

**Discussion:** We hope that the tools will help to understand the relationship between behaviours and enable researchers to predict how changes in one behaviour will change other behaviours. Knowing whether changing one behaviour might impact other behaviours could also help to identify 'core' behaviours that can offer targets for interventions that have multiple benefits.

# Understanding and improving facilitation in the IMP2ART implementation trial: developing and using the FACE Instrument

L. Steed<sup>1,2</sup>, B. Searle<sup>1</sup>, K. McClatchey<sup>3</sup>, J. Sherringham<sup>4</sup>, V. Marsh<sup>3</sup>, H. Pinnock<sup>3</sup>, S. Taylor<sup>1</sup>

<sup>1</sup>QMUL, United Kingdom

<sup>2</sup>Asthma UK Centre for Applied Research, United Kingdom

<sup>3</sup>University of Edinburgh, United Kingdom

<sup>4</sup>University College London, United Kingdom

## Background

Supported self-management is a cornerstone of care for people with asthma but remains poorly implemented. The IMP2ART trial addresses this with facilitation a central part of an implementation strategy, including a workshop to introduce patient resources, self-management education for practice staff, organisational strategies and ongoing support for 12 months. This project designed and evaluated a tool to assess facilitators' actions and competencies and enhance the facilitation process in IMP2ART and other studies.

## Methods

Prior facilitation measures were sought through literature review. No evaluation tools were found but a framework by Lessard et al. 2015 was identified and applicable. Item generation based on the framework and a scoring system were developed and piloted to form a novel refined FACilitator Evaluation instrument (FACE). Six video-recorded facilitation workshops were double coded with the newly developed tool and analysed to understand facilitation in the pilot phase of IMP2ART.

## Findings

The FACE instrument contains 68 items across five domains of facilitator competency comprising: managing introductions, interpreting audit, resources, practice planning and team dynamics. Across the six pilot practices "introducing resources" and "developing a team plan" were consistently the strongest domains, whilst "interpreting audits" and "managing dynamics" were the weakest, leading to further training support for facilitators.

## Discussion

The development of an evidence-based facilitator competency instrument has helped understand the practice of facilitation and led to identification of further training needs. It will be validated in the full trial but has potential to support both evaluation and understanding of a key implementation strategy.

## D1Now intervention for young adults with type 1 diabetes: Lessons learned from a pilot RCT

E. Morrissey<sup>1</sup>, M. Byrne<sup>2</sup>, S. Dinneen<sup>2</sup>

<sup>1</sup>National University of Ireland, Galway, Ireland

<sup>2</sup>NUI Galway, Ireland

**Background:** The D1 Now intervention is designed to improve outcomes in young adults living with type 1 diabetes. The aim of this work was to gather and analyse acceptability and feasibility data to allow (1) further refinement of the intervention, and (2) determination of the feasibility of a future definitive RCT.

**Methods:** A pilot cluster RCT with two intervention arms and a control arm was conducted in four hospital sites, from October 2019 to January 2021. Quantitative data collection took place at baseline and 12 months. Semi-structured interviews with participants took place at 6, 9 and 12 months.

**What went wrong:** In Ireland, each hospital is governed by its own Research Ethics Committee (REC). We received differing recommendations on recruitment procedures, from recruiting in the clinic, to by post. This led to variation in recruitment rates in each site. A key outcome was HbA1c, collected from the participant's medical record. We collected 93% of participants' HbA1c data at baseline. Follow up data was collected in 2020 when many participants attended virtual, rather than in-person clinics, and did not receive a HbA1c test. This meant we only collected 39% participant's HbA1c data at follow up.

**Possible solutions:** A central REC system would standardise recruitment procedures. HbA1c data collection could be improved with dedicated phlebotomy support or dried blood spot collection in the participant's home .

**Conclusions:** Plans for a central REC are underway in Ireland, which we must advocate for. Funding should be in place to support collection of biological outcomes.

## Health-related quality of life measures for children with Duchenne muscular dystrophy: A content analysis

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<sup>6</sup>Department of Paediatrics, LKH Bregenz, Bregenz, Austria

**Background:** For children with Duchenne muscular dystrophy (DMD), several patient-reported outcome measures (PROMs) measuring health-related quality of life (HrQoL) exist. However, the selection of an appropriate measure and the comparison of results across studies remains difficult since both PROM and HrQoL are umbrella terms and do not specify the content of an instrument. This study aims to clarify and compare the content of neuromuscular-specific PROMs using an established method based on the International Classification of Functioning, Disability and Health (ICF).

**Methods:** A systematic review will be performed to identify existing neuromuscular-specific PROMs used in children with DMD. Each item of each PROM will be analyzed using the ICF linking rules, a deductive content analysis method developed for health assessments. Subsequently, the content of the PROMs will be compared.

**Expected results:** This project will clarify the content of the PROMs analyzed by showing which domains of the ICF (e.g., emotional functions, mobility, social support) are assessed. It is expected that PROMs differ in their content-related focus.

**Current stage of work:** Six PROMs have been identified and currently, a user guide for the ICF linking procedure is being developed. Subsequently, the systematic search will be updated, and the content analysis will be conducted.

**Discussion:** The present approach can help in both the selection of neuromuscular-specific PROMs used in children with DMD and in the comparison of studies using them. In addition, study materials will be made open access which could facilitate future projects assessing the content of health assessments.

## Feasibility and acceptability of the photo-voice methodology when working with female adolescents on physical activity

H. Busse<sup>1,2</sup>, L. Martens<sup>1</sup>, L. Blunck<sup>3</sup>, F. Wichmann<sup>1,2</sup>

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<sup>3</sup>Department Health Sciences, Hamburg University of Applied Sciences, Germany

**Background:** A majority of German female adolescents do not meet physical activity recommendations. This study investigated barriers and facilitators to physically activity in everyday live among female adolescents, using photo-voice methodology. The study further aimed to assess the feasibility and acceptability of the methodology in working with female adolescents.

**Methodology:** Female participants were recruited through local youth centres and eligibility criteria included to be aged 14-18 years and having access to a smartphone. The study followed Wang's (1997) photo-voice methodology and included the following four steps: (1) an initial photo workshop, (2) a photo collection phase, (3) interviews with participants and (4) a final workshop to discuss findings.

**What went wrong:** Recruitment and retention of female adolescents to a four-stage research process involving multiple meetings during the COVID-19 pandemic proved challenging. This impacted on the project timeline and required a great deal of flexibility and time by researchers and stakeholders to ensure participation and retention of participants throughout the duration of the project.

**Possible solutions:** Good and sustainable working relationships with stakeholders in youth centres were crucial in ensuring retention of the participants in the project and aided in the organisation of project meetings. A study mobile phone helped to keep in touch with participants during the project.

**Conclusions:** Whilst photo-voice methodology was considered feasible and acceptable to female adolescents, organisation around the 4-stage project proved difficult. Longer participatory projects often require substantial support of local stakeholders, who should be included in project planning right from the beginning.

## Implicit measure of goal conflict in the promotion of a healthy diet and physical activity

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<sup>3</sup>Université libre de Bruxelles, Belgium

**Background:** Interference and facilitation between our daily life goals and our personal values are thought to influence our ability to initiate and maintain healthy behaviors such as healthy diet and physical activity. Efficient measures of goal interference/facilitation are therefore crucial while studying health behaviors. Methods used so far are explicit self-reports that are burdensome and require introspection. We aim to develop an implicit measure that is shorter and requires less introspection.

**Methods:** Participants (n = 100) will perform a computerized task in which they respond to a target-word ("True" or "False") according to the instructions (e.g., "press left if you see 'True' and right if you see 'False'"). The target-words are preceded by prime sentences depicting interference or facilitation between 5 goals and 5 values (e.g., "eating a healthy diet helps me to reach power in life"). Goal interference/facilitation will be measured by reaction-times (e.g., participants should be faster to respond to the target-word 'True' if they also think that the prime sentence is true).

**Expected Results:** This implicit measure will be validated against an explicit rating of interference/facilitation between health goals and personal values (Personal Project Analysis). A positive correlation between the implicit and explicit measurements is expected.

**Current stage of work:** Ethical approval has been received. Data collection will start in March 2022.

**Discussion:** Our findings could help to develop an implicit measure of health goals conflict/facilitation that is shorter and requires less introspection, which would help controlling some measurement biases and allow for greater ecological validity.



# Health Inequalities – why do they matter and how can we tackle them?

9:30 - 11:00

London

Wendy Stainton Rogers

## Title: “Why do poor people behave so poorly?”: Shifting the blame to class-based injustice

B. Rickett<sup>1</sup>

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**Background:** This paper focuses on the concern central to contemporary health psychology around health inequalities relating to social class. By examining the history of the health psychology of social class, I will tease out the ways in which it attributed such inequalities to personal failings rather than acknowledging the impact of socio-economic factors and bias.

**Methods:** A detailed, historical-discursive review was conducted on published studies in the topic area of health and social class within the psy-disciplines, from the 19th century onwards. This was in order to identify overarching themes and establish the genealogy of the contemporary study of social class and health within the psy-disciplines.

**Findings:** Within historical Health Psychology there are overarching assumptions that the working-classes engage more in health-risky behaviours; and, finally, those who engage in health-risk behaviours are regarded as a drain on public resources.

**Discussion:** Such accounts have not just obscured social and economic inequalities but have rationalised and justified these as due to irrational decision-making and that health equalities are therefore not fully possible. However, overwhelmingly research has found that such social class based ‘differences’ have their origins in economic inequality and therefore future research should shift the focus from individual level deficiencies to social inequalities and make calls for social and policy change that readdress such inequalities.

## Box for the tallest man? Researching the effect of behaviour change interventions on health inequalities

J. Goldthorpe<sup>1</sup>, K. Khan<sup>1</sup>

<sup>1</sup>University of Lancaster, United Kingdom

**Background:** In the UK, interventions to change health behaviours are often accessed via social prescribing (SP). Evidence suggests that when services focus on individual level outcomes, existing health inequalities may be exacerbated. Assessing impacts of behaviour change interventions on population health should therefore consider health equity. The aim of this study was to explore SP data collected by two local authorities in North West England to see if impact on health inequalities could be meaningfully assessed.

**Methods:** A mixed methods approach included descriptive analysis of secondary data from SP management databases and thematic analysis of data from five focus groups with 33 relevant stakeholders. Focus groups discussed quantitative findings, variation and gaps in data, and challenges around how to improve data collection on health equity.

**Findings:** Data collected universally included age, gender, postcode and ethnicity of service-users. The majority of service-users were shown to be from the White British group (76%), older age groups and female. Data on wider determinants of health such as employment, education and housing was not collected. Participants reported that data collection is often prioritised around funding requirements, performance dashboards and direction from commissioners.

**Discussion:** This study found that robust data on health inequalities was not routinely collected by services provided via SP. This means that our ability to determine the impact of behaviour change interventions on health inequalities is limited. Providers are missing opportunities to improve their services by establishing equity in access and outcomes for local populations in most need.

## Mapping pathways to better healthcare for Brighton's homeless population – the value of co-production

E. Anderson<sup>1</sup>

<sup>1</sup>University of Brighton, United Kingdom

**Background:** People facing homelessness have significantly poorer physical and mental health than the general public and their life expectancy is also dramatically lower. While having service users co-producing plans for services can be an important means for bringing about improvements in health systems, people experiencing homelessness do not have the opportunities to have a meaningful say in service provision as other patient groups. This project seeks to address that by bringing together people who have experienced homelessness in Brighton and Hove to identify areas for service improvement.

**Methods:** Data comprised qualitative feedback from people experiencing homelessness and frontline workers, results of the Homeless health needs audit survey and headline data from local service providers. This was mapped onto a series of maps developed by the group to plot services, care pathways, funding and commissioning routes and local multi-agency groups. The next step was to identify four main problems from these maps and design strategies to address them.

**Findings:** The group's learnings about successful coproduction were captured in a 'toolbox' designed to be drawn on by others attempting similar work. These include the creation of a 'solidarity-oriented' approach to data analysis, guidelines for being trauma-informed when collecting data, and the ability of interlinked maps to identify positive processes and barriers in a complex and dynamic healthcare system.

**Discussion:** The potential for coproduced work in service intervention design will be discussed, focusing on the usefulness of participatory mapping techniques for supporting innovation, facilitating collaboration and realising people's rights and access to care.

## The case of orphan diseases in Chile: Health decisions in contexts of precarity and inequality

N. Schöngut-Grollmus<sup>1</sup>

<sup>1</sup>Universidad Alberto Hurtado, Chile

**Background:** 'Orphan diseases' are very rare pathologies – i.e. characterized by their very low frequency among the overall population (1:2000 or lower). These conditions are usually ignored by the pharmaceutical world because developing treatments for them would be unprofitable. This leaves millions of people worldwide unable to get medicines to treat their health conditions.

**Aims:** to better understand how health decisions are made in the case of rare diseases, in the context of high levels of precarity and economic inequality (such as Chile). Our goal is to find other ways to ameliorate them.

**Methods:** We operate within a theoretical framework that sees decision-making about treating poor health as the product of the way relationships function within the local socio-medical networks. We have therefore adopted a post-qualitative design for our data-producing techniques. We cataloged ethnographies of practices among health professionals and patients, and the strategies they employed. We used Reflexive Thematic Analysis to interpret these data.

**Findings:** We identified two themes from this analysis: (i) planning versus contingency as decision-makers in a given socio-economic status, and (ii) uncertainty and unreliability of health institutions in Chile. These findings highlight the importance of studying health decision-making as a psychosocial in nature, involving not only a conflict between subject and society but also in terms of agency and interaction between human and non-human actants.

## The role of cultural representation in presenting health information to underserved communities

T. Vandrevalla<sup>1</sup>, K. Hanson<sup>1</sup>, C. Heaton-Shrestha<sup>1</sup>, L. Bearne<sup>2</sup>

<sup>1</sup>Kingston University, United Kingdom

<sup>2</sup>St George's University, United Kingdom

**Background:** While there has been extensive research into how the public access, use and engage with health information, little attention has been given to the health information expectations of underserved communities and the ways in which culture may limit access to and engagement with health information.

**Aims:** To gain better insight into how culture may influence access to and use of health information in Black and South-Asian communities in the UK.

**Methods:** This multi-methods study included 30 semi-structured interviews and ethnographic observations of visits to community centres involving over 50 participants. Themes were identified using reflexive thematic analysis.

**Findings:** Primary themes were identified that demonstrated the importance of cultural heritage to participants' understandings and expectations when receiving health-related information. Of particular importance were their relationships with and trust in their healthcare providers (especially GPs), and the value of the advice received from family and the wider community. These themes interacted with the perceived usefulness of natural remedies, the absence of which from mainstream health information posed difficulties for them to distinguish reliable information from misinformation.

**Discussion:** The findings highlight the importance of culturally specific health understandings and their influence on how mainstream health information is received by minority groups and the wider implications this has on health inequalities. Incorporation of these understandings into health information interventions is required to tackle circulating misinformation, in order to support public health communication and access and use of evidence by underserved communities.

# Specifying all dimensions of behaviour change interventions: The Behaviour Change Intervention Ontology

9:30 - 11:00

Rome

Alison Wright

## Overview of the Behaviour Change Intervention Ontology

S. Michie<sup>1</sup>, R. West<sup>1</sup>, J. Thomas<sup>1</sup>, M. Johnston<sup>2</sup>, M. Kelly<sup>3</sup>, A. Wright<sup>1</sup>, A. Finnerty Mutlu<sup>4</sup>, E. Norris<sup>5</sup>, M. Marques<sup>6</sup>, J. Hastings<sup>7</sup>

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### Background:

Behaviour change interventions, their contexts and evaluation methods are heterogeneous, as are their descriptions, making it challenging to synthesise evidence and make recommendations for research, policy and practice. Ontologies address this problem by representing knowledge formally as entities and relationships, using a common language that can bridge disciplinary boundaries. This study aimed to develop the upper level of the Behaviour Change Intervention Ontology (BCIO), representing behaviour change interventions and their evaluations.

### Methods:

The BCIO upper level was developed in four steps. (1) Behavioural scientists identified relevant entities and developed a prototype ontology; (2) This was refined by a wider group of experts; (3) Three ontology experts gave feedback (4) The ontology was refined by applying it to annotate published reports. Two online tools, BCIOVocab and BCIOVisual, were created to enable users to browse and view the ontology.

### Findings:

The upper-level BCIO contains 42 entities, representing key features of behaviour change interventions, their contexts and their evaluations. This includes the behaviour change intervention (its content and delivery), outcome behaviour, mechanisms of action, and the intervention's context, which includes population and setting. BCIOVocab and BCIOVisual allow users to explore the BCIO, search for ontology terms relevant to their work and view how different classes in the ontology are organised.

### Discussion:

The BCIO provides a comprehensive, systematic framework for representing behaviour change interventions. By providing common terminology, the BCIO will facilitate intervention design and evaluation and more efficient evidence accumulation about the most effective behaviour change interventions for different contexts.



# Specifying the potentially active content of interventions: the Behaviour Change Technique Ontology

M. Johnston<sup>1</sup>, E. Corker<sup>2</sup>, J. Hastings<sup>3</sup>, R. West<sup>2</sup>, M. Marques<sup>4</sup>, S. Michie<sup>5</sup>

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<sup>5</sup>University College London, United Kingdom

## Background

The Behaviour Change Technique Taxonomy v1 (BCTTv1) of 93 BCTs organised across 16 clusters specifies the potentially active content of behaviour change interventions. It has been applied internationally in intervention design and evaluation, evidence synthesis and implementation of behaviour change interventions in research and practical settings. Feedback has shown the need to extend BCTTv1, improve its labels and definitions, and advance to a more sophisticated structure. An ontology is a sophisticated structure for organising knowledge, commensurate with Open Science. This study developed an open-access Behaviour Change Technique Ontology (BCTO) of well-defined, computer-readable BCTs.

## Methods

The BCTO was developed by psychologists and an ontologist by: (1) collating and synthesising feedback from 222 BCTTv1 users; (2) extracting information from published studies and classification systems; (3) iterations of reviewing and refining BCTO entities, their labels, definitions, and relationships.

## Findings

Synthesising users' feedback and extracted information resulted in 229 unique suggested changes to BCTTv1. After reviewing these suggestions and considering ontological good practice, we split 20 BCTs into two or more BCTs, added 29 new BCTs and moved 28 BCTs into a different group. The resulting BCTO has 147 entities organised into 12 logically defined classes.

## Discussion

The BCTO provides a common terminology and comprehensive structure for describing and classifying BCTs based on logical rather than statistical analyses. It will facilitate use of additional BCTs. BCTO will facilitate more efficient evidence accumulation and synthesis relating to behaviour change across scientific disciplines and behavioural domains including, but not exclusively, health and the environment.

# Specifying theoretical processes of change: the Mechanisms of Action Ontology

A. Wright<sup>1</sup>, P. Schenk<sup>1</sup>, R. West<sup>1</sup>, J. Hastings<sup>2</sup>, S. Michie<sup>1</sup>

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<sup>2</sup>Otto-von-Guericke University Magdeburg, United Kingdom

## Background

Many theories propose processes of change, the 'mechanisms of action' (MoAs). However, different theories may use identical labels for MoAs with different definitions, or different labels for MoAs with the same definitions. Ontologies can serve as controlled vocabularies, supporting the communication of evidence about how interventions achieve their effects. This study aimed to develop an ontology of mechanisms of action.

## Methods

MoA Ontology development involved: (1) Identifying MoAs from constructs extracted from 83 behavioural theories; (2) Grouping these MoAs based on shared attributes; (3) Turning the initial groups into a prototype ontology; (4) Applying the ontology to code MoAs in 135 behaviour change intervention reports; (5) Nine international behavioural science experts reviewing the ontology for clarity and comprehensiveness.

## Findings

From 1733 theoretical constructs, 1062 MoAs were identified, and 104 groups created. The initial MoA Ontology included 202 classes on seven levels. After coding MoAs in intervention reports, 35 classes were added and three removed. Based on behavioural science experts' feedback, 43 classes were added and 23 removed, leaving 254 classes on seven hierarchical levels. Key higher-level classes include 'mental process', 'affective process', 'belief', 'cognitive representation', 'personal capability', 'behavioural opportunity' and 'environmental system.'

## Discussion

The MoA Ontology provides a comprehensive structure for describing and classifying MoAs in theories of behaviour change. It can serve as a shared vocabulary for specifying MoAs in intervention reports and coding MoAs in systematic reviews, supporting theory testing and advance, and more efficient knowledge accumulation.

## Specifying the behaviours targeted by interventions: development of the Human Behaviour Ontology

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### Background:

Despite the importance of 'behaviour' to many disciplines, we lack shared terminology for describing and classifying behaviours. Behaviours have been classified in diverse ways, based on theoretical frameworks, or within specific domains such as physical activity or infection control. An ontology can provide a more broadly-based way of representing behaviours, facilitating integration of evidence across disciplines. This study aimed to create an ontology of human behaviours.

### Methods:

The scope of the ontology was determined by consulting key sources. To identify classes to include, researchers reviewed existing classification systems relevant to behaviour. To check the ontology's comprehensiveness, example behaviours were selected from behavioural classification systems, systematic reviews of interventions and published study abstracts. Researchers checked whether these behaviours could be coded with the existing ontology and, if not, revised the ontology.

### Findings:

Behaviour was defined as "A bodily process of a human that involves co-ordinated contraction of striated muscles controlled by the brain". The prototype ontology had 89 classes with 11 upper-level classes of behaviour. Refining the ontology through applying it to code example behaviours resulted in a version with 118 classes and the same 11 upper-level classes of behaviour: functional, locomotive, postural, sexual, expressive, physical impact, grooming, goal-oriented, interpersonal, socially-evaluated, and object-involving. Ten attributes of behaviour were included.

### Discussion:

The Human Behaviour Ontology provides a comprehensive system for describing and classifying behaviours targeted by interventions. By providing a controlled vocabulary, it can facilitate more efficient evidence accumulation and synthesis within and across scientific disciplines and domains of enquiry.

## Development of BCIOVocab and BCIOVisual, online tools enabling researchers to browse and visualise the BCIO

J. Hastings<sup>1</sup>, S. Michie<sup>2</sup>, E. Howes<sup>2</sup>, A. Finnerty Mutlu<sup>2</sup>, R. West<sup>2</sup>

<sup>1</sup>Otto-von-Guericke University Magdeburg, Germany

<sup>2</sup>University College London, United Kingdom

### Background:

Ontologies can be difficult for behavioural scientists and psychologists to access and interact with without good tools for searching, browsing and visualisation. Existing ontology tools have been created within other domains, but these are either too technical or heavily focused on biomedical content. We aimed to determine the optimal visualisation and interaction strategy for ontology content for the psychological sciences community by evaluating and comparing alternatives implemented in a set of tools for the Behaviour Change Intervention Ontology.

### Methods:

We implemented different approaches to visualise and interact with ontology content as web applications. Different visualisations were explored including graph-based and tree-based ontology visualisations, and associations between ontology terms and the literature. Users were recruited to perform user testing on these tools by convenience sampling through mailing lists and social media. Users were asked to report on the utility and ease of the different tools and visualisations.

### Findings:

Users found the dedicated interface for the Behaviour Change Intervention Ontology useful and more accessible and relevant for them as compared to the existing ontology tools. Different visualisations were found to be optimal for different types of content. Several improvements were suggested to the tools and visualisations which were implemented accordingly. The resulting user interface can be accessed online at <http://www.bciovocab.org/>.

### Discussion:

Ontologies are becoming more and more important in the psychological sciences, however, the field lacks tools and resources for making these accessible to non-specialist domain scientists. The Human Behaviour-Change Project has developed and evaluated ontology tools for this community.

# Personalized context-aware digital health interventions: crossing boundaries between data science, geoscience and health psychology

9:30 - 11:00

Paris

Monique Simons

## Personalized context-aware digital health interventions: crossing boundaries between data science, geoscience and health psychology

M. Simons<sup>1</sup>, S. Murphy<sup>2</sup>, F. Naughton<sup>3</sup>, L. König<sup>4</sup>, A. Ligtenberg<sup>5</sup>

<sup>1</sup>Wageningen University & Research, Netherlands

<sup>2</sup>Harvard University, United States

<sup>3</sup>University of East Anglia, United Kingdom

<sup>4</sup>University of Bayreuth, Germany

<sup>5</sup>Wageningen University, Netherlands

### Purpose:

In this roundtable we will focus on how to capitalize on technological developments around wearables, data and data science methods and how to connect this with health psychology insights, with the aim to develop personalized context-aware health behaviour change interventions. This novel intervention design is called Just-in-Time-Adaptive Intervention (JITAI) and is promising because of its ability to capture the dynamics and complexity of health behaviours. By connecting different JITAI application domains we will explore how concepts and insights from one target behaviour (e.g. smoking cessation) can be translated to another target behaviour (e.g. promoting healthy dietary behaviours). So the understudied application domains, such as healthy diet, can learn from the more advanced application domains such as smoking cessation and physical activity.

### Objectives:

1. To connect and integrate insights from different disciplines (i.e. geo-information science, data science, digital health, public health nutrition, health psychology) to advance the JITAI field
2. To gain more insight into the main factors that affect the development, application and effectiveness of JITAIs in the health behaviour change domain.
3. To inspire the EHPS community with the novel JITAI intervention design and (spatial) data analyses techniques that are available to analyse the effects and effectiveness of JITAIs
4. To develop a joint research agenda on how to take the field of JITAI development and evaluation a step further

### Rationale:

This roundtable meeting will critically reflect upon on concepts and applications of JITAIs. We will do this by approaching it from diverse disciplinary glasses such as environmental Science, health behaviour change, nutrition science, and computer science. By comparing different health behaviours, such as smoking cessation, physical activity and dietary behaviours, we aim to get a clearer grasp on the challenges and opportunities of JITAIs, and, more importantly, learn from each other to advance our understanding on how to develop and optimize effectiveness of JITAIs.

#### Summary:

Susan Murphy will share the state-of-the-art knowledge on methods such as micro-randomized trials and reinforcement learning algorithm and their added value in the design of JITAIs. Felix Naughton will reflect upon the use of geofenced triggered behavioural support in the context of smoking cessation JITAIs. Laura König will share her view on JITAIs for promoting healthy dietary behaviours and critically reflect upon the opportunities and challenges of the JITAI in the healthy diet domain. Arend Ligtenberg will share the state-of-the-art knowledge on spatial data and how this can be used in JITAIs.





## Exposure to images showing (non)adherence to physical distance rules: Effect on adherence and perceived norms

S. Raghoobar<sup>1</sup>, J. Delnoij<sup>1</sup>, B. Kamphorst<sup>1</sup>, H. Broekhuizen<sup>1</sup>

<sup>1</sup>Wageningen University & Research, Netherlands

Behavioral measures such as physical distancing are believed to be key for mitigating the COVID-19 pandemic. Policies aiming to promote preventive health behaviors are crucial to contain the pandemic. Public support for such policies seems to depend in part on people's perception of what others do (descriptive norms) or approve of (injunctive norms). This study examines the effect of visual exposure to images depicting people following or breaking physical distancing rules on adherence behavior and perceptions of descriptive and injunctive norms.

An online between-subjects experiment (n=315) was conducted, exposing participants to a set of five photographs of different public spaces in which people either adhered to physical distance rules or non-adhered to such rules (pre-registration: [www.osf.io/uek2p](https://www.osf.io/uek2p)). Participants' adherence behavior was measured using a triangulation of methods (incentivized online behavioral task, vignettes, intention measure) and they reported perceptions of descriptive and injunctive norms regarding adherence behavior.

Mann-Whitney tests showed no direct effect of condition on adherence behavior and perceptions of descriptive and injunctive norms. Linear regressions showed that both component paths of the indirect effect (condition on norm perceptions, and norm perceptions on adherence behavior) were non-significant, hence mediation analyses were not conducted.

Exposure to images of people following (relative to breaking) physical distancing rules did not affect adherence to such rules or perceived norms. Among explanations, it may be suggested that single exposure to such images is insufficient to affect behavior. A comparable experiment testing actual (rather than hypothetical) adherence behavior is recommended, allowing repeated exposure to the images manipulation.

## A longitudinal study on personality determinants of post-traumatic growth during the COVID-19 pandemic

S. Petrocchi<sup>1</sup>, S.A. Pellegrino<sup>1</sup>, P.J. Schulz<sup>2</sup>

<sup>1</sup>Università della Svizzera italiana, Faculty of Biomedical Sciences, Switzerland

<sup>2</sup>Università della Svizzera italiana, Faculty of Communication, Culture, and Society, Switzerland

**Background.** The COVID-19 pandemic was recognized as a major threat to mental health with scholars emphasizing the associated stress symptomatology. The concept that people have a natural inclination toward growth, even under stressful and threatening events, gathered less attention. Previous research has found personality traits and distal condition of nurturance as the main antecedents of such post-traumatic growth (PTG). In this line, the present research tested whether sense of control and self-mastery are longitudinally associated with PTG via the mediation of cognitive and affective well-being.

**Methods.** Analyses were based on 4934 adults (Mage = 57.81 years, 55.5% women) from the Swiss Household Panel study. Quantitative longitudinal path analysis was applied with data on personality traits and well-being being collected two years before the emergence of the COVID-19 pandemic. **Findings.** The path analysis via SEM showed positive relationships between sense of control and self-mastery (measured in 2018), PTG, and worries for COVID-19 (measured in 2020), via the mediation of well-being (measured in 2018), especially the affective one. **Conclusion.** The present research demonstrated that personality features, such as sense of control and self-mastery, may be considered as antecedents of post-traumatic growth, as hypothesized by others. We also demonstrated that well-being, especially the one linked to balanced emotions, is the mediator in the relationships between personality traits and PTG. Results can inform both research on the features of such a growth (e.g., its duration) and interventions on the factors that can be exert to strength such a growth.

## Depression, stigma, and emotional support during COVID-19 pandemic among people with HIV/AIDS: no protective effects?

E. Gruszczynska<sup>1</sup>, M. Rzeszutek<sup>2</sup>

<sup>1</sup>SWPS University of Social Sciences and Humanities, Poland

<sup>2</sup>University of Warsaw, Poland

**Background:** The focus of the study is two-fold. First, to examine changes in depressive symptoms among people living with HIV/AIDS (PLWH) during the pandemic. Second, to verify a role of experienced HIV stigma and perceived emotional support (PSE) in this process. We hypothesized that they are covariates of heterogeneity in depression change and act in different directions, with PSE being a protective factor and stigma a vulnerability factor.

**Methods:** The participants were 622 people (87% men;  $39.6 \pm 10.05$  years) with a medical diagnosis of HIV and undergoing antiretroviral therapy. Depression was assessed three times with a six-month interval using the CES-D; stigma and PSE were evaluated at the first measurement only.

**Findings:** Latent profile analysis identified three trajectories of depression change: low and increasing (37% of the sample), medium (54%), and high (9%); the latter two stable over time. In the three-step approach, after controlling for baseline sociodemographic and clinical variables, stigma and PSE were found to be significant covariates of the trajectories. Interestingly, the only increasing trajectory had the lowest stigma and highest PSE. The interaction between PSE and stigma was found to be insignificant.

**Discussion:** Although our hypothesis was confirmed with respect to overall level of depression, baseline higher PSE and lower stigma did not protect against an increase in symptoms among PLWH who reported initially the lowest level of depression. Thus, this increase may be an effect of chronic situational context, especially since the members of the trajectories did not differ significantly on major clinical variables.

# Interpersonal emotion regulation is associated with mental health during the Covid-19 pandemic across four countries

O. Dworakowski<sup>1</sup>, Z.M. Huber<sup>1</sup>, T. Meier<sup>2</sup>, R. Boyd<sup>3</sup>, A.B. Horn<sup>4</sup>

<sup>1</sup>University of Zurich, Switzerland

<sup>2</sup>Northwestern University, United States

<sup>3</sup>Lancaster University, United Kingdom

<sup>4</sup>University of Zuerich, Switzerland

## Background

While going through something as difficult as the Covid-19 pandemic we are likely to turn to the people close to us in order to help us get through it. Even more so, when our social contacts are limited due to social distancing regulations. In this research we wanted to investigate how interpersonal emotion regulation strategies are connected to mental health during the pandemic above and beyond intrapersonal strategies of emotion regulation. Furthermore, we wanted to explore how interpersonal emotion regulation tendencies interact with further perceived psychosocial resources.

## Methods

N = 1401 participants from the USA, UK, Germany, and Switzerland completed an online survey including an expressive writing task. As mental health indicators we considered symptoms of depression, adjustment disorder, and fear of Covid-19 in self-reports, as well as self-reference words in the expressive writing task. As psychosocial resources we included attachment style, trust in others, social support, and loneliness. Applying structural equation modeling, we calculated latent variables for adaptive and maladaptive interpersonal emotion regulation. In an overall model, the mental health outcomes were regressed on these latent variables and control variables. In a second step, we added interaction terms with the psychosocial resources.

## Results

Maladaptive interpersonal emotion regulation strategies predicted mental health outcomes above and beyond intrapersonal strategies and further control variables. Interactions were found between the latent variables and the psychosocial resources.

## Discussion

Results highlight how interpersonal emotion regulation is important for our mental health and how their effects might vary depending on one's psychosocial context.

## Social interactions and health during the COVID-19 pandemic. The mediating role of perceived social support

A. Zancu<sup>1</sup>, C. Mairean<sup>1</sup>, L. Diaconu-Gherasim<sup>2</sup>

<sup>1</sup>Alexandru Ioan Cuza University, Romania

<sup>2</sup>Alexandru Ioan Cuza University of Iasi, Romania

The aims of the present study were to examine the longitudinal effects of the amount of different types of social interactions during the covid-19 lockdown on mental health and general health perceptions, and whether perceived social support mediated these effects. The study relied on a three-waves longitudinal design, with a sample of N=459 young adults, (Mage=20.66, 81.3% women) that responded to three online surveys during the pandemic (May 2020-May 2021). They reported the frequency of face-to-face and remote social interactions during initial lock-down, as well as perceived social support, positive mental health and general health perceptions throughout one year of pandemic. Path analysis tested whether amount of different types of social interactions during lock-down were related with mental health and health perceptions after one year, and if perceived social support during the pandemic mediated these relations. Results revealed very good fit indices for the longitudinal mediation model,  $\chi^2(12)=14.25$ ,  $p=.28$ ; NFI=.98; CFI=.99, RMSEA=.02. Specifically, the amount of remote social interactions (phone/internet) with friends and relatives (but not face-to-face social interactions) positively predicted perceived social support after six months, which further predicted better mental health and health perception after one year. Perceived social support fully accounted for the link between remote social interactions and health outcomes. Findings suggest that despite limiting face-to-face social interaction during the pandemic, relying on alternative means like remote social interactions provided compensatory sources to benefit from social support, an important promoting factor of better mental health outcomes and general health perceptions during these times of crisis.

# Implementation in Practice: Frameworks and Perspectives

9:30 - 11:00

Vienna

Lucie Byrne-Davis

## A realist evaluation of the sustainable implementation of the Healthy School Canteen program

R. van Wijngaarden<sup>1</sup>, E. van Kleef<sup>2</sup>, I. Evenhuis<sup>3</sup>, H. Schuit-van Raamsdonk<sup>4</sup>, L. Veldhuis<sup>4</sup>, C. Renders<sup>1</sup>

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<sup>3</sup>National Institute for Public Health and the Environment, Netherlands

<sup>4</sup>Netherlands Nutrition Centre, Netherlands

**Background.** To stimulate healthy eating behaviour among adolescents, the Netherlands Nutrition Centre supports secondary schools in creating a healthy food environment. Previous research showed that a sustainable implementation of a healthy school environment can be difficult. This study investigated the perceived barriers and facilitators of various stakeholders regarding sustainable implementation of the Healthy School Canteen program.

**Methods.** In a qualitative study 31 semi-structured interviews with stakeholders (e.g. principals, teachers, canteen employees and catering managers), three focus groups with pupils and two focus groups with school canteen advisors of the Netherlands Nutrition Centre were conducted. Data were analysed using a realist evaluation approach by identifying Context-Mechanism-Outcome configurations. Moreover, an expert meeting was held to enrich the results and validate them with 30 experts (researchers, policy makers and school canteen advisors).

**Results.** In total 37 Context-Mechanism-Outcome configurations were identified and divided into 6 themes that together reflect the (dynamic) process with facilitators and barriers a school faces in sustainably implementing a healthy canteen: 1) Food supply and sale in schools; 2) Food environment surrounding schools; 3) Leadership and coordination; 4) Support base at strategic, tactical, and operational level; 5) Collaboration between stakeholders at school; 6) Collaboration with supporting organizations.

**Discussion.** To sustainably implement the Healthy School Canteen program, it is important that schools create support among various stakeholders, prioritize a healthy school environment, designate a coordinator and collaborate with food providers surrounding the school and supporting organizations. In this process schools need support, tailored to their specific context and dynamics.

## Applying Health Psychology to Advance the Science of De-implementation

A. Patey<sup>1, 2</sup>

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<sup>2</sup>University of Ottawa, Canada

**Background:** Many patients experience 'low-value' healthcare, defined as care which is at best ineffective and at worst harmful. De-implementing this care requires interventions supporting reduction/cessation of healthcare provider behaviours. We present how behavioural sciences theory and methods can advance? the development and evaluation of de-implementation interventions.

**Methods:** Using critical interpretive synthesis, we investigated whether theories differentiate mechanisms of change for implementation (increasing uptake of a provider behaviour) versus de-implementation. The Behaviour Change Techniques (BCTs) Taxonomy was used to identify the BCTs in implementation and de-implementation interventions from selected Cochrane systematic reviews. A process framework was developed to guide development and evaluation of de-implementation interventions.

**Findings:** Behavioural theories provide little insight into the distinction between implementation and de-implementation; however, Operant Learning Theory (OLT) identified different strategies for implementation and de-implementation. Three BCTs were identified more frequently in de-implementation than implementation interventions: Behaviour substitution ( $X^2(2, n=178)=14.561, p=.0001$ ); Monitoring of behaviour by others without feedback ( $X^2(2, n=178)=16.187, p=.000057$ ); and Restructuring social environment ( $p=.000273$ ). Principles for determining the appropriateness of Behaviour substitution, and the Choosing Wisely De-Implementation Framework (CWDIF) which proposes a comprehensive approach to systematically reduce low-value care are presented.

**Discussion:** Advances in understanding de-implementation have occurred with the application of behavioural science theories; however, more needs to be done. How best to use OLT principles has yet to be tested. Behaviour substitution may be a useful de-implementation strategy, but it may not be suitable for all circumstances. Opportunities exist to use the CWDIF to design and evaluate de-implementation interventions and advance the science of de-implementation.



## Exploring Antimicrobial Stewardship education and training interventions in the UK: an interview study

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**Background:** Health psychology plays a role in the training and educating of health professionals. However, theories are not always used when developing such training and education. Antimicrobial stewardship (AMS) offers an example of where training and education is used to encourage the appropriate use of antibiotics to tackle the global issue of antimicrobial resistance. To understand how such interventions are developed using health psychology and implemented within healthcare, this study aimed to identify barriers and enablers to developing and implementing AMS training and education interventions.

**Methods:** Semi-structured interviews were conducted with 29 participants responsible for the development and implementation of AMS education and training in UK hospital-based care. Participants were recruited via networks and social media. Interviews were analysed using Theoretical Domains Framework (TDF).

**Findings:** Key themes identified within the TDF were: Participants perceived it as their role (Professional role and identity) and within their skill set to develop their own interventions (Skills), rather than use existing resources. Decisions when developing AMS training and education were identified as reactionary as a consequence of national or local changes (Environmental context and resources). Health psychology wasn't commonly drawn on to develop interventions, participants understood the benefit (Beliefs about consequences) but did not feel sufficiently confident (Beliefs about capabilities).

**Discussion:** There is a variation in how AMS training and education interventions are developed and provided in UK hospital-based care. Further studies are needed to explore how health psychology can be optimally applied in the development and implementation of AMS training and education interventions.

## Facing organ donation request in emerging donation procedures: the experience of bereaved relatives

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<sup>3</sup>IdisNa, Spain

**Background:** This study aimed to explore perceptions, feelings and decision making processes of families that experienced the request for organ donation of a relative in recently developed donation procedures. Such procedures involve discussing the possibility of donating when fatal prognosis is declared to allow non-therapeutic support measures.

**Methods:** Qualitative cross-sectional study performed by means of semi-structured on-line interviews with an intentional sample of 26 Spanish families which experienced request for organ donation of a bereaved relative in the context of the so called Intensive Care for Organ Donation procedure. Interviews explored family perceptions and experience across the different phases of the whole process. Interviews were recorded, transcribed and analyzed by means Grounded Theory approach with NVivoV12®. Open and axial coding was performed by the integrated work of three experts.

**Findings:** A tentative theoretical model for family coping and decision making in the context of Intensive Care for Organ Donation is proposed. This model includes as initial conditions factors linked to temporal dimensions, previous expectations about relative's health status, decisor's kinship and beliefs about relative's will. Key intervention and conditioning factors are linked to health care professional communication and support strategies, relatives' emotional reactions and family climate. Coping and decision processes are identified as consequences and include mainly heuristic decision making processes and emotion and secondary focused coping strategies.

**Discussion:** The proposed model allows a systematization of those modifiable and non-modifiable factors that affect potential donor's families and can help health care professional to improve families support and efficient donation request.

## Healthcare professional practices when requesting family consent for emergent organ donation procedures: a qualitative study

J.S. López Martínez<sup>1,2</sup>, R. García-Sánchez<sup>3</sup>, M. Soria-Oliver<sup>1</sup>, A. Barceló<sup>4</sup>, J.M. Martínez Gracia<sup>3</sup>, M.J. Martín López<sup>3</sup>, R. Lamelas<sup>3</sup>

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**Background:** The purpose of this study was to analyze which communication and support strategies are performed by Spanish healthcare professionals when approaching relatives for consent for organ donation in recently developed donation procedures.

**Methods:** Qualitative cross-sectional study performed by means of semi-structured interviews with a random stratified sample of 23 transplant coordination teams of whole Spanish hospitals. Interviews contents comprised consent request planning, approach strategies, relatives' support strategies and arguments to support donation request. Interviews were recorded, transcribed and analyzed by means of content analysis with NVivoV12®. Coding structure was generated through a Delphi-panel of three experts. Coding inter-judgement achieved a 0,81 average value of kappa index.

**Findings:** Family approach is mainly defined by the attempt of generating an adequate rapport and trust with relatives by means of continuous and clear information about patient evolution and prognosis, giving support to family needs and showing empathy; relatives are provided with all the available time to allow the acceptance of lost and are approached for consent when key relatives have achieved a clear idea of their beloved prognosis; arguments are mainly based on the possibility of helping other families and patients with urgent vital needs and also in following beloved wishes.

**Discussion:** Approach of Spanish transplant coordination teams to family consent for emergent organ donation procedures is mainly based on relatives' information, support and empathy strategies, so as in solidarity and reciprocity arguments. The relevance of this approach has to be considered on the light of Spanish world leading donation scores.

## Temporal changes in attitudes towards adopting new biomedical HIV-prevention strategies: An Attitude Network Analysis

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The uptake of biomedical HIV-prevention strategies (BmPS) is slowly increasing among men having sex with men (MSM). Using a temporal attitude network analysis, we investigated which beliefs are related to uptake of pre-exposure prophylaxis (PrEP) and viral load sorting (VLS). We examined this at different time points to investigate the temporal dynamics of the network of interrelated variables. HIV-negative MSM reporting anal sex during the previous six months were drawn from four six-monthly data waves of the Amsterdam Cohort Study during 2017 to 2019. We estimated weighted, undirected networks for each time point, where we included pairwise interactions of PrEP and VLS uptake and related beliefs. From T1 to T4, PrEP use significantly increased from 10% to 31% ( $p < 0.001$ ), while VLS uptake remained stable over time and was reported by 7-10%. At each time point, the uptake of both BmPS was directly related to the perceived impact of the strategy on one's quality of sex life and perceived supportive social norms. The overall network structure changed over time, specifically regarding PrEP uptake. At earlier time-points, perceptions of efficacy and affordability were closely related to PrEP uptake, while at later time-points recently social (e.g. gay friends using PrEP) and health-related (e.g. less expected side-effects) concerns were more important. Our findings suggest that emphasizing the perceived positive impact on one's quality of sex life, and not only increased perceived safety, may improve BmPS uptake. Addressing specific health-related considerations and supportive social norms can also improve PrEP uptake at later stages of implementation.

# Vaccination, Covid 19 and quarantine

9:30 - 11:00

Warsaw

Susan M Sherman

## Predictors for Human Papillomavirus Vaccination Intent in European Parents: A Systematic Review and Meta-Analysis

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<sup>1</sup>Department of Psychology, Faculty of Psychology and Educational Sciences, “Babeş-Bolyai University” Cluj-Napoca, Cluj, Romania

<sup>2</sup>Screening Group, Early Detection and Prevention Section, International Agency for Research on Cancer, France

<sup>3</sup>Department of Oncological Surgery and Gynecological Oncology, “Iuliu Hațieganu” University of Medicine and Pharmacy, Romania

**Background:** Cervical cancer (CC) can be prevented by screening and vaccination. Parents can help decrease the incidence and prevalence of CC by vaccinating their children.

**Objective:** This study aimed to explore factors related to Human Papillomavirus (HPV) vaccination intention in European parents by conducting a systematic review and meta-analysis.

**Methods:** A systematic literature search was conducted in four English databases. We included all studies comparing parents' willingness or unwillingness to vaccinate their children. Studies were included based on pre-defined inclusion and exclusion criteria. Multiple meta-analyses were conducted to evaluate factors influencing vaccination intents in European parents.

**Results:** Analysis on 14952 participants, results showed that perceived vaccine efficacy could influence HPV vaccination willingness with an Odds Ratio (OR) of 4.15, a confidence interval (CI) between 3.48 and 4.96, showing statistical significance at a Z value of 15.73 with a p-value of 0.00001. Religion had an effect on parents' vaccination intent (OR=1.67, CI: 1.28, 2.19, Z=3.75, p=0.0002). Neither HPV infection awareness (OR= 0.95 CI: 0.48, 1.89, Z=0.15, p=0.88), nor knowledge (OR=1.41, CI: 0.93, 2.13, Z=1.64, p=0.10) did not influence parents' intention to vaccinate their children. Other reasons for parental hesitancy were: fear of side effects, high costs of vaccine, safety, risky sexual behaviour and family history of cancer.

**Conclusions:** Present study showed that awareness and knowledge about HPV did not influence vaccination intention. However, the perceived efficacy of the vaccine seemed to be a strong predictor for parents' intentions to vaccinate their children, potentially showing the need to address parents' concerns.

## How to facilitate quarantine adherence and psychosocial wellbeing: different approaches for different kinds of quarantine?

A. Bühler<sup>1</sup>, G. Willmund<sup>1</sup>

<sup>1</sup>German Center for Military Mental Health, Germany

**Background:** Following the principles of the United Nations, pre-deployment and post-deployment quarantine were mandatory for the military in order to protect vulnerable populations in conflict-ridden countries. This study investigates if different factors should be addressed in order to facilitate adherence during individual pre-deployment isolation and post-deployment at-home quarantine and how to facilitate long-term mental health.

**Method:** In this prospective study, soldiers completed questionnaires at the beginning and at the end of quarantining, 770 soldiers pre-deployment, 103 post-deployment, and two months upon redeployment. Measures: Mini-SCL (BSI), Perceived Social Support (FSozU-K22), Unit Cohesion, Military Quarantine Adherence Questionnaire (MQAQ), and a validated questionnaire on quarantine-associated factors.

**Results:** Stepwise regression analyses identified factors explaining mental health and quarantine adherence. 57% of the adherence pre-deployment and 63% post-deployment were explained. In both cases, social norms explained most of the variance (43% resp. 44%), followed by perceived effectiveness of quarantining and clear communication of the quarantine protocol. While boredom and perceived infection risk were related to adherence pre-deployment, financial (dis)advantage was related post-deployment. Different from pre-deployment quarantine, mental health at the end of post-deployment quarantine was explained mainly by perceived stigmatization by fellow soldiers (26%).

Repeated measures ANOVA found slightly higher quarantine adherence pre-deployment than post-deployment and a non-significant tendency for improved mental health eight weeks after re-deployment.

**Conclusion:** Findings suggest that addressing social norms of fellow soldiers and dependents alike could contribute to quarantine adherence. Though no impact of quarantining on mental health has been found, perceived stigmatization should also be dealt with.

## Healthcare workers' acceptability of influenza vaccination nudges: Evaluation of a real-world intervention

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<sup>1</sup>Wageningen University & Research, Netherlands

<sup>2</sup>Amsterdam University Medical Center, Netherlands

<sup>3</sup>Utrecht University, Netherlands

<sup>4</sup>Wageningen University and Research, Netherlands

**Background:** Nudges have been proposed as an effective tool to stimulate influenza vaccination uptake in healthcare workers. However, the success of such nudges in practice is heavily reliant on their acceptance by the intended healthcare worker population, which has not been thoroughly examined to date. This study investigated healthcare workers' acceptability of diverse influenza vaccination nudges implemented in a real-world vaccination campaign and explored the relationship between nudge acceptability and vaccination uptake. **Methods:** A cross-sectional study was conducted among 244 Dutch hospital employees, following a hospital-wide influenza vaccination nudging intervention. A survey assessed healthcare workers' perceived acceptability of ten distinct influenza vaccination nudges, along with their vaccination status and relevant covariates (e.g., general perceptions regarding influenza vaccination of healthcare workers). Data were analyzed using linear mixed models and binomial logistic regression. **Findings:** Influenza vaccination nudges in general were deemed acceptable (3.81 on a five-point scale), with reward-based nudges being the least accepted (2.95 – 3.00), while digital vaccination forms (3.82), a mobile vaccination post (3.86), peer vaccination (3.85), and digital vaccination reminders (3.76) were most appreciated. A higher overall acceptance of these nudges was associated with a greater likelihood of being vaccinated (OR = 2.10 – 2.35;  $p < .05$ ), but this relationship was dependent upon a healthcare worker's perceived usefulness of influenza vaccination. **Discussion:** Influenza vaccination nudges are an accepted means to systematically promote immunization of healthcare workers, and thus present a viable strategy for public health policies aimed at this group.



## Vaccine Public Health messaging: three studies targeting the role of autonomy, source and content

V. Araújo-Soares<sup>1</sup>, N. Beerlage-de Jong<sup>1</sup>, B. Bente<sup>2</sup>, J. van Gend<sup>2</sup>, L. van Gemert-Pijnen<sup>2</sup>, J. van T. Klooster<sup>2</sup>, A. Machens<sup>2</sup>, F. Sniehotta<sup>3</sup>

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Epidemic control of the SARS-CoV-2 pandemic depends on access to effective vaccines. Vaccines have been developed and efforts made to assure wide population intake but vaccination hesitancy still occurs.

We sought to understand how public health campaigns can increase vaccination willingness. Three studies were conducted to test the effect of source, content and implied autonomy of Twitter messages on recipients.

Study 1 randomly allocated 18 participants to messages that emphasized autonomy or obligation when deciding to take the vaccine. Eye-tracking, post-intervention surveys and interviews were used to collect data on objective and subjective appraisal, importance, trustworthiness and reliability. Study2 used the same stimulus material in a population online survey with 1047 participants and in Study3, 54 people completed an online experimental study with eye-tracking, followed by post-intervention survey about their appraisal of the same messages.

Results: Those with high levels of hesitancy preferred messages emphasizing individual choice. Most attention is paid to first sentences; more attention is paid to context in shorter messages (e.g. likes, retweets). Regarding source, messages from national public health bodies were perceived as more reliable and important. Messages addressing safety scored highest on importance and appeal; messages on ease scored highest on reliability and on vaccine benefits scored highest on motivational strength.

Conclusion: Public health campaigns can increase vaccination rates by designing shorter messages disseminated by national bodies, highlighting individual choice, safety and benefits.

## Determinants of vaccine willingness among the general population: a systematic review

K. Konnyu<sup>1</sup>, J. Crawshaw<sup>2</sup>, T. Armidie<sup>1</sup>, A. Kareem<sup>2</sup>, G. Castillo<sup>2</sup>, Z. van Allen<sup>3</sup>, L. Xiang<sup>1</sup>, J. Grimshaw<sup>4</sup>, J. Presseau<sup>2</sup>, L. Bohlen<sup>1</sup>

<sup>1</sup>Brown University, United States

<sup>2</sup>Ottawa Hospital Research Institute, Canada

<sup>3</sup>University of Ottawa, Canada

<sup>4</sup>Ottawa Hospital Research Institute, United States

**Background:** Hesitancy to receive a COVID-19 vaccine remains an important obstacle to vaccine uptake and pandemic control. We sought to identify and characterize the determinants of vaccine willingness among the general population.

**Methods:** We searched Pubmed and the Cochrane Register of Clinical Trials for primary studies of individuals' willingness to be vaccinated against COVID-19, and the determinants thereof, from date of inception to July 6, 2021. All primary study designs reporting determinants of COVID-19 willingness (e.g., surveys, discrete choice experiments, qualitative research) were included. We extracted data on study and population characteristics, proportion of citizens' willing (or unwilling) to receive a COVID-19 vaccine, and barriers and enablers associated with willingness. We categorized barriers and enablers using the Theoretical Domains Framework (TDF). Data was extracted by one researcher and verified by two independent researchers. Findings were synthesized descriptively.

**Findings:** Our searches yielded 22,339 citations from which we included 143 studies. Sample sizes ranged from 32 to 472,521 and included data from 39 countries. Barriers and enablers were linked to 8 TDF domains including: Beliefs about consequences; Emotion; Environmental context and resources; Knowledge; Optimism; Reinforcement; Social influences; and Social/professional role and identity.

**Discussion:** Our evidence synthesis identified a number of factors associated with individuals' willingness to receive a COVID-19 vaccine that could be targeted by public health campaigns. A living review of this literature (still ongoing) will ensure local and global interventions to promote vaccine uptake stay reflexive to citizens' evolving experiences with COVID-19 and intentions to vaccinate against it.

## Rates and determinants of parental COVID 19 vaccine hesitancy for children in Singapore

K. Griva<sup>1</sup>, K.Y. Tan<sup>1</sup>, R. Yin<sup>1</sup>, A.S. Soh<sup>2</sup>, M.I. Chen<sup>3</sup>

<sup>1</sup>Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore

<sup>2</sup>National Centre for Infectious Diseases, Singapore

<sup>3</sup>National Centre of Infectious Diseases, Singapore

### Background

COVID-19 primary vaccination programs are offered to children aged 5-17 years in High Income Countries, with plans to expand to younger children. Public health messages emphasize benefits-over-risk yet parental vaccine hesitancy persists. This study aimed to evaluate rates and factors associated with parental COVID vaccine hesitancy for children 5; 5-11; 12-17 years of age using an integrated psychosocial model.

### Methods

N=303 parents in SOCRATES community cohort (November-December 2021 wave) completed an online questionnaire on sociodemographic information, COVID risk perceptions, vaccine perceptions (benefits, concerns, need), subjective norms and perceived trust. Benefit versus concern (BvC) differentials were computed. Multivariable logistic regression models were used to analyse parental COVID-19 vaccine hesitancy (their intention to vaccinate their child) and related factors.

### Findings.

Parental Vaccine hesitancy was higher for children below 5 (60.7%) and 5-12 years (59.6%) compared to older youth (21.6%). Majority of parents of children <12 years did not consider vaccination benefits to outweigh risks (58%-61%) where the opposite pattern was noted for older youth. Regression models indicated that lower BvC differentials were consistently associated with higher odds of vaccine hesitancy for all children age groups. Other significant predictors included high parental risk of infection, perceived COVID-19 severity of in children, subjective norm, and trust.

### Discussion/Conclusion

There are high levels of parental vaccine hesitancy for young children and low endorsement of vaccination benefits outweighing risks. To increase vaccine acceptance, dissemination of more targeted information about net benefits of vaccination for younger children while addressing pending concerns about efficacy and safety is important.

# Age Related Challenges to Quality of Life

9:30 - 11:00

Bratislava

Teresa Corbett

## Dementia may diminish interdependence in quality of life and carer burden among married couples

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### Background:

Particularly among older people, close romantic partners become interdependent in health and quality of life. We sought to further understand this interdependence among older people with dementia and their spousal carers with two novel hypotheses: 1) Quality of life of older people with dementia predicts carer burden, since carer quality of life is known to predict carer burden; 2) a discrepancy in perceived quality of life between a person with dementia and their spouse predicts carer burden, since a discrepancy in views may cause carers distress.

### Methods:

We conducted a secondary analysis on data from a randomised controlled trial with 65 community-dwelling older people with mild-to-moderate dementia and their spousal carers. At baseline and six-months later, both partners self-reported quality of life (ICEpop CAPability measure for Older people) and carers self-reported carer burden (Zarit Burden Interview). We categorised couples' scores as in agreement or discrepant in perceived quality of life and tested if quality of life reported by people with dementia, and agreement / discrepancy in scores, predicted carer burden at both baseline and follow-up.

### Findings:

Non-significant relationships were identified. The hypotheses were not supported at both time points.

### Discussion:

A possible interpretation of our results is that a lack of insight among older people with dementia into their condition creates a socially unique environment for married couples whereby interdependence in quality of life diminishes. We call on health psychologists to investigate this issue further given the importance of mental health for people with dementia and their carers.

## Socio-economic inequalities and trajectories of a new biopsychosocial metric of Active and Healthy Ageing (AHA)

O. Malkowski<sup>1</sup>, M. Western<sup>1</sup>

<sup>1</sup>University of Bath, United Kingdom

### Background:

Ageing is a multidimensional process, characterised by considerable heterogeneity. Nevertheless, prior work has mainly focused on physical health, negating the importance of psychosocial factors, such as social participation, social support, and mental health, in the maintenance of a good quality-of-life. In this study, we aimed to develop and identify trajectories of a new biopsychosocial metric of Active and Healthy Ageing (AHA), including their associations with socio-economic variables.

### Methods:

The sample comprised 13,726 adults aged 50+ years from the English Longitudinal Study of Ageing. Self-reported questions, measured tests, and biomarkers were used to generate a latent AHA metric across eight waves of data (collected between 2004 and 2019), using Bayesian Multilevel Item Response Theory. Then, conditional Growth Mixture Modelling was employed to identify sub-groups of individuals with similar trajectories of AHA, and multinomial logistic regression examined associations of these trajectories with socio-economic variables: education, occupational class, and wealth.

### Findings:

Conditional on socio-economic variables and demographic covariates, three latent classes were suggested. Participants in higher quintiles of wealth had decreased odds of being in the groups with consistently low scores on AHA (i.e., 'low-stable') or the steepest deterioration (i.e., 'decliners'), compared to the 'high-stable' group ( $p < 0.05$ ). Education and occupational class were not significantly associated with AHA trajectories.

### Discussion:

The creation of a common metric, incorporating multiple dimensions of health and wellbeing, allows for the comparison of AHA scores and trajectories across populations. Our findings reiterate the need for prevention strategies and policies targeted at limiting socio-economic disparities in older adults' quality-of-life.

## Self-management by older people living with cancer and multi-morbidity: a qualitative study

T. Corbett<sup>1</sup>, J. Bridges<sup>2</sup>, N. Farrington<sup>2</sup>, A. Richardson<sup>2</sup>, L. Calman<sup>2</sup>, C. Foster<sup>2</sup>, A. Cummings<sup>2</sup>, K. Lee<sup>2</sup>, A. Young<sup>2</sup>

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<sup>2</sup>University of Southampton, United Kingdom

**Background:** Over half of individuals diagnosed with cancer are aged over 70 years and more than 75% of those with cancer report at least one other medical condition. Having multiple conditions alongside cancer in old age may lower functional status and can lead to treatment complications or less favourable prognoses. This qualitative study explored how older people with long-term chronic conditions manage their health after they have completed treatment for cancer.

**Methods:** One-to-one face-to-face qualitative interviews were conducted with 8 older people and 2 informal caregivers. Older adults over 70 were eligible to participate if they had completed primary cancer treatment with curative intent and had at least one other chronic health condition. We explored factors that influence self-management, utilisation of healthcare services and health outcomes. A framework analysis was used to describe and interpret the data.

**Findings:** Four overarching themes were identified. These related to health-related workload and capacity. Participants described motivation to have control over their lives and their health. They outlined how opportunities to achieve their goals were shaped by resources available and their ability to mobilise these resources. Older adults also described interactions with healthcare, explaining how relationships with healthcare professionals and the healthcare system can serve as either a barrier or a facilitator to self-management of health.

**Discussion:** Our findings highlight an interaction between an individuals' needs, capacity, treatment burden, and the services and resources available to them. These findings support calls to promote person-centred care to better support older adults to self-manage their health

## Psychosocial adaptive capacity and survival in very old persons

J. Despot Lučani<sup>1</sup>, A. Perinić Lewis<sup>2,3</sup>, T. Škarić-Jurić<sup>2</sup>

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<sup>3</sup>University of Zagreb, Faculty of Economics & Business, Croatia

Recent research of ageing deals with identification of psychosocial adaptation determinants in ageing, that were found related to longer survival in older persons. It interested us if such adaptive capacity can be found in the oldest-old persons, who are already long-lived. Research aim was to investigate the contribution of psychosocial factors in the survival prediction in very old institutionalised persons. Participants were 301 residents of 13 retirement homes in Zagreb, Croatia, 227 (75%) women, 80 years and older (average 88) at baseline, in 2008. In 2018, only information on the participants' life status was obtained. Variables were: sociodemographic, cognitive function, subjective functioning, post-retirement activity and quality of life, measured individually at baseline, and life status variable, checked at 10-years follow-up. At follow-up, all participants were deceased (average age of death 93 years). Significant correlations resulted between longevity and more activity and better quality of life ( $r = .13$ ,  $p < .05$ , both), and those between other variables ( $r = .13 - .21$ ;  $p < .05 - .01$ ) confirmed the adaptive capacity in very old persons. Observed psychosocial variables predicted 6% ( $p < .05$ ) of the survival variance with more activity ( $\beta = .13$ ;  $p < .05$ ) and better cognitive functioning ( $\beta = .12$ ;  $p < .05$ ) as individual predictors of longer survival. Implications are in the planning of support for older persons' adaptive potential, to improve the quality of their life in very advanced age, and to set a support model for prospective long-living cohorts. (Croatian Science Foundation grant: IP-01-2018-2497)



## Exploring older farmers' perspectives on machine-related accidents and factors influencing behaviour change-A focus group study

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<sup>1</sup>National University of Ireland, Galway, Ireland

<sup>2</sup>TEAGASC, Ireland

**Background:** Approximately fifty percent of the work-related fatalities reported in Ireland were from the farm sector, though farmers account for only six percentage of the Irish working population. Although studies indicate that the older farmers are disproportionately affected, there is limited literature on perceived barriers and facilitators to behaviours to reduce machine-related accidents among the older population. The COM-B model provided an evidence-based systematic approach for identifying perceived barriers and facilitators to reducing machine-related accidents.

**Method:** Four focus groups were conducted via Zoom in February of 2021. Ethical approval and active informed consent for the study were obtained. Nineteen Irish farmers(60-80 years old) from four different farm types participated. The semi-structured discussion guided by the COM-B model explored the perceived barriers and enablers to reduce machine-related accidents among older farmers. The discussions were audio-recorded, transcribed verbatim, and inductively analysed using a thematic analysis approach. The themes identified were then mapped to COM-B domains.

**Findings:** Eight inductive themes were identified and mapped onto COM-B: Knowledge about safety procedures and support, and the ability to address competing priorities (Capability); Characteristics of the farm and its environment, economic and market conditions, effectiveness of safety initiatives, farm organisations and government departments, and safety discussion groups and peer groups (Opportunity); Farmers' experiences, beliefs and attitudes (Motivation). These themes were determined as both barriers and facilitators.

**Discussion:** The findings can guide the identification of intervention functions, behaviour change techniques(BCTs) and policy categories to inform tailored interventions that address the machine safety-related behaviour change of older farmers.

## Development and evaluation of a co-production course for caregiver interventions for people living with dementia

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<sup>2</sup>University Hospitals of Leicester, United Kingdom

The European Union Erasmus funded Co-Care project (<https://co-care.eu/>) aims to improve teaching and learning approaches to equip individuals with an understanding of and the skills to utilise co-production in the development of interventions for carers of people living with dementia. To achieve this goal, a pilot online course and associated weekly workshops were developed, delivered and evaluated with students from health, technology, and psychology university programmes and family carers of people with dementia. The pilot course curriculum and assessments were informed by a systematic review and developed by the academic training team from the Universitat de Vic, Spain, Polytechnic Institute of Setubal, Portugal, and the University of Derby (UK); the pilot courses were delivered in parallel across the three international collaborating partners of the Co-Care project. We present our experiences as health psychologist facilitators of the Derby University-arm of the online pilot course on the benefits and challenges of interdisciplinary working, as well as the prototypes of the two digital health solutions co-produced by 12 students and 3 former carers from Alzheimer's Society, UK. Evaluations of the pilot course are based on qualitative feedback from students, course facilitators, and carers who contributed to the pilot course. The potential of translational health psychology to address caregiver issues in a sustainable manner, in the context of dementia will be presented.



## How and why was a digital diabetes self-management intervention changed during national roll-out? Mixed-methods study

D.P. French<sup>1</sup>, J. Benton<sup>1</sup>, R. Hawkes<sup>1</sup>, L. Miles<sup>1</sup>, S. Cotterill<sup>1</sup>

<sup>1</sup>University of Manchester, United Kingdom

**Background:** 'HeLP-Diabetes' is a digital self-management intervention for people with type 2 diabetes, that was effective in reducing HbA1c in a randomized trial. NHS England have since commissioned a national roll-out (now called 'Healthy Living'). It is important to assess the extent to which Healthy Living has fidelity to HeLP-Diabetes, as any changes may impact on effectiveness. We aimed to describe the behaviour change and self-management content in Healthy Living, compare this with HeLP-Diabetes, and identify reasons for changes.

**Methods:** A content analysis of 895 Healthy Living webpages, including assessment of Behaviour Change Techniques (BCTs) and self-management tasks. Results were compared with published descriptions of HeLP-Diabetes. Nine semi-structured stakeholder interviews elicited reasons for changes during the national roll-out.

**Findings:** Healthy Living had 43 BCTs, including key BCTs to self-regulate behaviour (e.g. goal setting, self-monitoring) specified in the original HeLP-Diabetes intervention. Healthy Living addressed all areas of self-management: medical, emotional and role management. Healthy Living included an additional structured online learning curriculum that was not included in the HeLP-Diabetes intervention, which was not originally designed as a structured education programme. Stakeholder interviews revealed some features were removed (e.g. moderated discussion forum) because general practices were not able or willing to implement them.

**Discussion:** Whilst changes were identified, the national roll-out of HeLP-Diabetes had good fidelity to the core self-regulatory BCTs for changing diet and physical activity. This study has identified challenges of scaling up digital interventions in a national roll-out, including the importance of considering implementation challenges at an earlier stage.

## Fidelity of behaviour change technique delivery in a nationally implemented digital diabetes prevention programme

R. Hawkes<sup>1</sup>, L. Miles<sup>1</sup>, D. French<sup>1</sup>

<sup>1</sup>University of Manchester, United Kingdom

**Background:** The National Health Service Digital Diabetes Prevention Programme (NHS-DDPP) is a behavioural intervention for adults in England at risk of developing Type 2 diabetes, rolled out nationally via independent providers and their digital partners. The NHS England programme specification indicated 19 behaviour change techniques (BCTs) should be present in the intervention, including BCTs to support self-regulation. This study assessed whether those 19 BCTs were delivered in each of the four providers' digital interventions.

**Methods:** A cross-sectional analysis of BCT content present was elicited for all routes of intervention delivery via: (a) analysis of online platforms (e.g. apps), (b) documents provided (e.g. educational articles), and (c) health coach provision (assessed via interview). All materials were coded using the Behaviour Change Technique Taxonomy v1. The 19 BCTs and modes of delivery (educational materials, app, health coach) were compared across providers.

**Findings:** A mean proportion of 79% of the 19 specified BCTs were identified across the four digital programmes. Three providers delivered the highest proportion of these BCTs (76%) via educational materials. Two of the four providers delivered 68% of those BCTs via health coach support. An additional 41 BCTs were included in at least one of the four providers' programmes.

**Discussion:** Fidelity of BCT content in the NHS-DDPP was good, and better than previously identified for the face-to-face programme using similar methods. This suggests that digital interventions have the potential to provide high quality behaviour change interventions at a lower cost, although engagement across all modes of delivery is currently unclear.

# Receipt and enactment of behaviour change technique content of a nationally-implemented digital diabetes prevention programme

L. Miles<sup>1</sup>, R. Hawkes<sup>1</sup>, D. French<sup>1</sup>

<sup>1</sup>University of Manchester, United Kingdom

## Background

The National Health Service Digital Diabetes Prevention Programme (NHS-DDPP) is an intervention for adults in England at risk of developing Type 2 diabetes, to prevent progression to diabetes. It is based on NHS England specifications which stipulate specific behaviour change techniques (BCTs) targeting diet and physical activity, and is delivered by four providers via apps, educational material and remote coaching. This qualitative study investigated how the BCT content of the programme is understood and used by participants ('receipt' and 'enactment'), to examine whether the specified BCTs were understood and used as intended.

## Methods

Forty-five service users were interviewed twice by telephone, at 2-4 months and 8-10 months into the programme. Topics included participants' understanding and use of key self-regulation BCTs e.g. goal setting, and the support they received via the programme. Transcripts were analysed thematically.

## Findings

Progress towards behavioural outcomes was important to participants. They understood how to self-monitor their progress towards meeting behavioural or outcome goals. Difficulties in describing understanding of 'action planning' was evident. Participants valued Health Coaches in supporting understanding and use of some self-regulatory BCTs, providing feedback on tracked behaviours and answering questions. Participants often felt accountable to their Health Coach.

## Discussion

Health Coaches' support in delivery of key components of the NHS-DDPP appears pivotal. Findings suggest that to improve understanding and use of BCTs in digital interventions, it is important to consider coaching routes of delivery that offer additional interactive support. Understanding of some self-regulatory BCTs may benefit from this support more than others.

## Comparing face-to-face and digital delivery of the English NHS diabetes prevention programme: a non-inferiority study

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<sup>1</sup>University of Manchester, United Kingdom

<sup>2</sup>NHS England, United Kingdom

<sup>3</sup>University College London, United Kingdom

### Background.

The NHS Diabetes Prevention Programme encourages behaviour change towards weight, healthy eating and exercise in people at high risk of type 2 diabetes. During 2017-18 patients in England were offered group-based face-to-face delivery, digital delivery ('digital-only') or a choice between digital and face-to-face ('digital-choice'). The aims were to assess if weight and blood glucose change were non-inferior using digital delivery (not worse than face-to-face by more than a pre-specified amount) and evaluate demographic factors associated with differential change.

### Methods.

Using data collected by service providers, participants in the digital programmes were matched on sex, age, deprivation and ethnicity to participants in the face-to-face programme ((n=962 digital-only; n=758 digital-choice, n=32,744 face-to-face). Change in weight and blood glucose at 6(primary) and 12 months was compared between digital and face-to-face using mixed effects linear regression.

### Findings.

On average, participants lost weight on all programmes. Weight change on the digital programmes was non-inferior to that on the face-to-face programme at both time points. Weight change at 6 months was similar to face-to-face in the digital-only cohort (difference in weight change: -0.284kg [95% CI: -0.712, 0.144]) and greater than face-to-face in the digital-choice cohort (-1.165kg [95% CI: -1.841, -0.489]). There was insufficient evidence regarding non-inferiority of HbA1c change.

### Discussion.

Overall, the digital programme achieved a weight loss at least as good as the face-to-face programme and those offered a choice experienced greater weight loss. The digital programme benefited some patient groups more than others, so offering a choice between face-to-face and digital would minimise inequalities.

## Can we prepare UK Critical Care Nurses for, and aid recovery after, stressful events?

K. Vogt<sup>1,2</sup>, J. Johnson<sup>1,2</sup>, A. Grange<sup>1</sup>, J. Marran<sup>1</sup>, L. Budworth<sup>1,2</sup>, R. Coleman<sup>1</sup>, R. Simms-Ellis<sup>2,3</sup>

<sup>1</sup>Bradford Teaching Hospitals NHS Foundation Trust, United Kingdom

<sup>2</sup>University of Leeds, United Kingdom

<sup>3</sup>Bradford Teaching Hospitals, United Kingdom

**Background:** Critical Care Nurses (CCNs) are routinely exposed to highly stressful events, exacerbated during the COVID-19 pandemic. Supporting resilience and wellbeing of CCNs is therefore crucial to prevent burnout. While the need for psychological support for healthcare professionals has increased, the feasibility of delivering in-person interventions has reduced. This study tailored a resilience-boosting psychological coaching programme [Reboot] for CCNs, based on Confidence in coping with adverse events principles and the Bi-Dimensional resilience Framework. The aims were 1) to assess the feasibility of Reboot for online, remote delivery and 2) provide a preliminary assessment of Reboot's ability to increase psychological resilience and confidence in coping with adverse events.

**Methods:** A single-arm before-after feasibility study design was used; with a mixed-methods approach (questionnaires, interviews). Measures, at four time points, included confidence in coping with adverse events (the Confidence scale) and Resilience (the Brief Resilience Scale). Qualitative data was analysed using Thematic Analysis.

**Findings:** Seventy CCNs completed the 8-week programme. Preliminary analysis suggests that delivering Reboot remotely online is feasible. Qualitative data analysis especially supports an increase in resilience and wellbeing. CCNs particularly valued practical exercises that could be translated into everyday practice. Retention to the coaching programme was challenging, requiring significant flexibility in administration.

**Discussion:** Our study demonstrated feasibility of online, remote delivery of Reboot and preliminary efficacy for CCNs. Continued organisational staffing pressures made retention challenging. Organisational leader endorsement and support will be critical for its continued success.



# COVID-19 related research

11:30 - 13:00

London

Molly Byrne

## Psychology in policy and in practice: Advising government in the time of Covid19

S. Michie<sup>1</sup>

<sup>1</sup>University College London, United Kingdom

Covid19 has harmed health and increased social and economic inequalities, partly due to the nature of the virus and its transmission and partly due to policy decisions. COVID-19 has shown that no person or community is an island; we are all inter-connected and solutions must take a collective and global approach if they are to be effective.

Responding well to a pandemic requires Governments to have rapid access to scientific advice from a wide variety of disciplines, including psychology. It also requires effective translation of that evidence into policy and practice. Human behaviour is at the heart of pandemic transmission and at the heart of its suppression. During Covid19, psychologists have drawn on their theories, methods and evidence to provide advice to policy makers to enable changes in behaviour, such as adherence to Government advice. They have also advised on strategies to embed new behaviours and social practices into everyday life so that they are maintained long-term.

The translation of this advice into policies is not direct and often not transparent, raising questions about the nature of the science/policy relationship. Scientists have many ways of informing policy, including via formal Government structures, ad hoc and informal groups and networks, individual relationships and press, broadcasting and social media. Psychologists have been active in all these channels during the pandemic.

Combining lessons learnt during the pandemic with previous psychological knowledge allows us to raise future possibilities for safeguarding health, improving science-policy translation, reducing inequalities and building more resilient, sustainable societies.

This talk will reflect on the experience, lessons learnt and questions raised by my experience of working with the UK Government, media and public during the Covid-19 pandemic. I will present some of the advice and its scientific basis, consider the science/policy relationship and raise questions about adapting to our likely future.

## What are the key behavioural factors associated with COVID-19 vaccination acceptance among healthcare workers?

J. Crawshaw<sup>1</sup>, K. Konnyu<sup>2</sup>, G. Castillo<sup>3</sup>, Z. van Allen<sup>3</sup>, J. Grimshaw<sup>3</sup>, J. Presseau<sup>3</sup>

<sup>1</sup>McMaster University, Canada

<sup>2</sup>Brown University, United States

<sup>3</sup>Ottawa Hospital Research Institute, Canada

**Introduction:** Vaccinating healthcare workers (HCWs) against COVID-19 has been a public health priority since rollout began in late 2020. Promoting COVID-19 vaccination among HCWs would benefit from identifying modifiable behavioural factors. We conducted a rapid review of studies assessing barriers to, and enablers of, COVID-19 vaccination acceptance among HCWs. **Methods:** We searched MEDLINE and Cochrane databases until May 2021 and conducted a grey literature search to identify cross-sectional, cohort, and qualitative studies of COVID-19 vaccination acceptance among HCWs. Key barriers to, and enablers of, acceptance were categorized using the Theoretical Domains Framework (TDF), a comprehensive theoretical framework comprising 14 behavioural domains. **Results:** From 19,591 records, 74 studies were included. Almost two thirds of responding HCWs were willing to accept a COVID-19 vaccine (median=64%, IQR=50-78%). Twenty key barriers and enablers were identified and categorized into eight TDF domains. The most frequently identified barriers to COVID-19 vaccination were - concerns about vaccine safety, efficacy, and speed of development (TDF domain: Beliefs about consequences); individuals in certain HCW roles (Social/professional role and identity); and mistrust in state/public health response to COVID-19 (Social influences). Routinely being vaccinated for seasonal influenza (Reinforcement), concerns about contracting COVID-19 (Beliefs about consequences) and working directly with COVID-19 patients (Social/professional role and identity) were key enablers of COVID-19 vaccination among HCWs. **Discussion:** Our review identified eight (of a possible 14) behavioural domains associated with COVID-19 vaccine acceptance among HCWs that, if targeted, could help design tailored vaccination messaging, policy, campaigns, and programs to support HCWs vaccination uptake.

## COVID-19 quarantine behavior and expected vs. experienced stigma

S. Eitze<sup>1</sup>, A. Bühler<sup>2</sup>, P. Ochel<sup>1</sup>, C. Betsch<sup>1, 3</sup>

<sup>1</sup>University of Erfurt, Germany

<sup>2</sup>German Center for Military Mental Health, Germany

<sup>3</sup>Bernhard-Nocht-Institut for Tropical Medicine, Germany

**Purpose:** In pandemics, one of the most effective non-pharmaceutical interventions is isolating those who are or might be infectious. During the first two years of the COVID-19 pandemic in Germany, a quarantine of 14 days was determined for the infected and their contacts. Whether individuals adhere to the quarantine protocol can only be controlled in a few cases, so the voluntary adherence of individuals is crucial. In this survey, we analyzed determinants of adherence.

**Methods:** In an online survey in early September 2021 with  $n = 900$  participants living in Germany, self-reported quarantine, and quarantine violation as well as stigma perception were assessed. For 12% of the sample a quarantine had been ordered by the public health services prior to or study. This sub-sample was analyzed in respect to determinants of quarantine violations. The complete sample allowed for comparing perceived stigmatization by quarantinees and expected stigmatization by other respondents.

**Results:** In a logistic regression, boredom ( $OR = 1.68$ ,  $p = .049$ ), low perceived benefit ( $OR = 0.47$ ,  $p = .009$ ) and low satisfaction with information management ( $OR = 0.57$ ,  $p = .015$ ) were significant predictors of quarantine violations ( $R^2=0.34$ ). Expected stigma by respondents without quarantining experience significantly exceeds the actual experienced stigmatization by previous quarantinees.

**Conclusions:** The results indicate the need for educational materials and easy-to-communicate rules for quarantinees. Based on the results, it is recommended to implement clear rules for quarantining, to communicate the benefit of quarantine adherence to the general public and quarantinees alike.

# Healthcare professionals' barriers and enablers to delivering behaviour change interventions during COVID-19: a qualitative study

K. Vogt<sup>1,2</sup>, J. Johnson<sup>1,2</sup>, M. Conner<sup>2</sup>, C. Armitage<sup>3</sup>, C. Keyworth<sup>2</sup>

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<sup>3</sup>University of Manchester, United Kingdom

**Background:** In line with public health policy, UK healthcare professionals (HCPs) are increasingly compelled to deliver opportunistic health behaviour change interventions during routine consultations. The impact of COVID-19 on healthcare professional practice has been wide-ranging, but little is known about how the pandemic has affected delivery of health behaviour change interventions. The present study aimed to examine the barriers and enablers to delivering opportunistic behaviour change interventions during the COVID-19 pandemic.

**Methods:** Twenty-five qualitative semi-structured interviews were conducted with a range of patient-facing healthcare professionals (including nurses, physiotherapists, dieticians, doctors and midwives) working in the National Health Service in the United Kingdom. Data were analysed using Reflexive Thematic Analysis.

**Results:** COVID-19-related barriers included exacerbated staffing pressures and a perceived inability to use IT equipment to facilitate conversations about health behaviour change (due to poor internet connectivity or ill-equipped platforms). COVID-19-related enablers included the use of video consultations enabling less awkward and more honest conversations about health behaviours.

However, some barriers and enablers remained the same as pre-pandemic, such as issues of role responsibility for discussing health behaviour change with patients, balancing holistic wellbeing advice with maintaining positive patient-HCP relationships, and reluctance to deliver opportunistic behaviour change interventions.

**Discussion:** The delivery of opportunistic health behaviour change interventions by healthcare professionals could be increased by using digital platforms to reduce awkwardness. However, there is also a strong need to improve staffing levels, in order that staff have the psychological and physical capabilities to engage in these conversations.

# Communicating about health and risks

11:30 - 13:00

Rome

Rebecca Lee

## Investigating children and young peoples' experiences and perceptions of pain communication in paediatric rheumatology

R. Lee<sup>1,2</sup>, D. Mountain<sup>1,2</sup>, J. McDonagh<sup>1,3</sup>, M. Connelly<sup>4</sup>, S. Peters<sup>5</sup>, L. Cordingley<sup>1,2</sup>

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### Background

Pain communication should be integral to paediatric rheumatology consultations where children/young people often present with long-term pain conditions. The objective of this study was to investigate children/young peoples' experiences and perceptions of communicating about pain with these healthcare professionals.

### Methods

This was a semi-structured telephone interview study. Twenty-six children/young people were recruited. A framework analysis approach explored similarities and divergences in participant accounts.

### Findings

Participants mean age was 14.0 years (Range= 6-18 years, 58% female). Diagnoses included; Juvenile Idiopathic Arthritis, Chronic Regional Pain Syndrome, hypermobility and Raynaud's disease.

Four themes were identified.

- 1) Nature and focus of appointments. Conversations about pain predominantly occurred during physical examinations with the rheumatologist or the physiotherapist.
- 2) Co-ordination of pain communication. Professionals mostly started pain conversations. Some children/young people talked about how professionals directed questions about their pain to parents. This was problematic as sometimes children/young people "hid" pain to protect parents.
- 3) Reflections on pain communication. There were expectations that pain should always be asked about. Participants discussed how these conversations gave them an opportunity to "get it off their chest".

4) Moving forward after pain communication. Children/young people discussed how professionals gave mixed messages about how to manage pain (e.g. “doing too much” vs “not doing enough”).

## Discussion

These study findings highlight a range of effective and ineffective pain communication approaches from the experiences and perspectives of children/young people. These will be used to create recommendations for improving the communication of chronic pain in paediatric rheumatology in the future.



## Using signal detection theory to understand people's antibiotic expectations

A. Theodoropoulou<sup>1</sup>, M. Sirota<sup>1</sup>, J. Rolison<sup>1</sup>, M. Lisi<sup>2</sup>

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<sup>2</sup>Royal Holloway, University of London, United Kingdom

**Background:** A signal detection theory approach predicts that people inappropriately expect antibiotics because they adopt a liberal criterion of what establishes a signal due to diagnostic uncertainty, and/or because they are not sensitive to the costs associated with inappropriate use of antibiotics (i.e., antibiotic resistance). In two pre-registered experiments, we tested these explanations by devising hypothetical medical scenarios of varying diagnostic uncertainty to measure participants' biases towards antibiotics.

**Methods:** In Exp. 1 (N = 125), participants read 24 hypothetical medical scenarios in four within-subjects conditions with varying degrees of diagnostic uncertainty and reported their need for antibiotics as a treatment. In Exp. 2 (N = 219), participants read 12 modified scenarios and rated their need for antibiotics. We estimated the utility-based signal detection model parameters, bias and sensitivity, from participants' rate of false alarms and correct detections using a hierarchical Bayesian approach.

**Results:** Across both experiments, participants' responses did not deviate systematically from the optimal strategy (as indicated by the mean deviations from the optimal criterion and the 95% Bayesian credible intervals) and they did not display any liberally biased antibiotic expectations, Exp.1 mean deviation = 0.04, 95%CI [-0.07,0.16]; Exp.2 mean deviation = -0.13, 95%CI [-0.27,0.02].

**Discussion:** People expected antibiotics for uncertain conditions where antibiotics are not needed but also did not expect antibiotics for uncertain conditions where antibiotics were clinically appropriate. Thus, expectations for antibiotics can be explained by diagnostic uncertainty rather than a genuine bias towards antibiotics.

# How Do Young Women Interpret the Cervical Screening Leaflet in England? A Mixed Methods Approach

C. Charlton<sup>1</sup>, A. Rodrigues<sup>1</sup>

<sup>1</sup>Northumbria University, United Kingdom

**Background:** Cervical cancer is the most common cancer diagnosis within woman <35. Screening uptake within younger women (25-29) continues to fall in England. As the first point of contact for women invited for their first screening, this study aimed to explore how young women (18-24) interpret and engage with the NHS cervical screening leaflet and assess the barriers/facilitators associated with leaflet interpretation, engagement, and screening intention.

**Methods:** Two-phase mixed-design: a survey (n=120) identifying interpretation difficulties and examining impact of participant characteristics, followed by an interview (n=10). Topic guide included: leaflet utility assessment, think-aloud protocol for leaflet interpretation, and identifying barriers/facilitators regarding participant characteristics. Phase A data analysed using hierarchical regressions, phase B incorporated thematic analysis informed by a pragmatic theoretical approach.

**Results:** Phase A identified common interpretation difficulties, particularly about HPV assessment, screening results, additional tests/treatment, and screening risks. Lower interpretation accuracy was associated with lower numeracy scores ( $\beta=.373$ ,  $P<.001$ ) and non-white ethnicity ( $\beta = .304$ ,  $P= .001$ ). Confidence and motivation to engage was high despite interpretation difficulties. Phase B revealed knowledge gaps, issues within leaflet practicality, and digital information preferences. Seven key TDF domains were identified regarding interpretation, engagement, and screening-intention: knowledge, social influence, beliefs about consequences, environmental context and resources, social role and identity, emotions and intentions.

**Conclusion:** The leaflet is not informative enough as first point of contact, some recipients may struggle to make informed-decisions about screening attendance. Future research should consider provision of information using digital tools, and strategies to address barriers within interpretation and engagement.

## “I don’t know what I’m looking for”: A qualitative study examining young women’s breast awareness

S. Hindmarch<sup>1</sup>, L. Gorman<sup>1</sup>, R.E. Hawkes<sup>1</sup>, S.J. Howell<sup>1</sup>, D.P. French<sup>1</sup>

<sup>1</sup>University of Manchester, United Kingdom

### Background:

Many women develop aggressive breast cancers before they are eligible for breast cancer screening. The introduction of breast cancer risk assessment for women aged 30-39 years could lead to those at higher risk women being offered enhanced screening and preventive approaches. However, it is unclear how engaged with breast health these younger women are and the consequent acceptability of attending breast cancer risk assessment. This qualitative study aimed to understand young women’s breast awareness knowledge and behaviours.

### Methods:

Thirty-seven women aged 30-39 years with no family history of personal experience of breast cancer were recruited. Seven focus groups (n=29: 21 white British, 8 from ethnic minority backgrounds) and eight individual interviews (8 white British) were conducted. Data were audio-recorded, transcribed and analysed using reflexive thematic analysis.

### Findings:

Participants assumed that screening is offered when breast cancer poses the greatest risk. Consequently, they infrequently performed breast self-examination. Participants reported a lack of confidence in knowing what to look for and how to perform breast self-examination correctly. This was attributed to limited messaging about breast cancer aimed at younger women. Additionally, some participants described previously attending primary care with breast health concerns and being dismissed because of their age, which affected their willingness to engage with risk and breast awareness.

### Discussion:

Young women perceived breast cancer as a future health concern, reported disengagement with breast awareness, and reduced help-seeking behaviour for breast health concerns. Consequently, young women may not understand the value in engaging with breast cancer risk assessment.

## Circulating tumour DNA monitoring and early treatment for relapse: views from patients with early-stage melanoma

V. Woof<sup>1</sup>, R. Lee<sup>1,2</sup>, P. Lorigan<sup>1,2</sup>, D. French<sup>1</sup>

<sup>1</sup>University of Manchester, United Kingdom

<sup>2</sup>The Christie NHS Foundation Trust, United Kingdom

### Background:

Circulating tumour DNA (ctDNA) monitoring is a new technology that detects cancer DNA fragments in blood circulation. Regular monitoring with ctDNA has the potential to detect and treat cancer earlier, but there is little evidence on patient acceptability. This study examines views of treated patients with early-stage melanoma on the acceptability of the test for detecting relapse and early treatment.

### Methods:

A qualitative cross-sectional design involved interviewing 25 patients (21 female, 4 male; median age, 48) previously diagnosed and successfully treated for early-stage melanoma (stage IA-IIIC). Semi-structured interviews asked for their views on ctDNA monitoring and early treatment for relapse. Interviews were analysed using reflexive thematic analysis.

### Findings:

Two themes were generated: ctDNA monitoring would add service value where patients described regular ctDNA monitoring in follow-up care as more reassuring, more “scientific” than skin checks and preferable to scans. Test results provide opportunity and knowledge focuses on how patients wanted to know when to expect results to manage anxiety, with a positive result seen as an opportunity to receive treatment early.

### Discussion:

Patients were positive about ctDNA monitoring and early treatment, would welcome extra surveillance and would trust ctDNA tests. This indicates feasibility of wider implementation of ctDNA tests, which have applicability for many tumour types and disease stages. Having shown feasibility among early stage melanoma patients, effectiveness is now being examined in the DETECTION trial with this population.

# The EHPS in international health policy initiatives: current contributions and future opportunities

11:30 - 13:00

Paris

Vera Araujo Soares

## The EHPS in international health policy initiatives: current contributions and future opportunities

A. Dima<sup>1</sup>, J. Hart<sup>2</sup>, V. Araujo Soares<sup>3</sup>, L. Byrne-Davis<sup>2</sup>, A. Baban<sup>4</sup>, M. Johnston<sup>5</sup>

<sup>1</sup>Sant Joan de Déu Research Institute, Spain

<sup>2</sup>University of Manchester, United Kingdom

<sup>3</sup>University of Twente, Netherlands

<sup>4</sup>Babes-Bolyai University, Romania

<sup>5</sup>University of Aberdeen, United Kingdom

### Purpose:

In recent years, the EHPS has been contributing to several international initiatives in health policy and has represented its members in matters where health psychology expertise is required and can impact the way in which problems are formulated and decisions made on a global level. This representation is equally important and complementary with the efforts that health psychology research and practice direct at individual, interpersonal and local organizational levels. It is time to take stock of recent EHPS work on international health policy and open the discussion among members on how to best direct future actions.

### Objectives:

Introduce the process of EHPS representation in international organizations and its potential impact.

Present and discuss examples of EHPS contributions to international health policy initiatives.

Obtain feedback from members on the perceived value of these activities, to us as a community and to others, and potential for future contributions.

### Rationale:

Health psychology is expanding from a focus on individual processes to embracing interpersonal and environmental processes in health, illness, and healthcare. It is also increasingly active and recognized in interdisciplinary research and practice. There is therefore a growing body of knowledge and skills on contributing to positive change in complex multi-stakeholder contexts, and awareness of the importance of supporting global action on health issues that concern us all. This roundtable aims to highlight current EHPS contributions and stimulate discussion on how to strengthen the society's action at this level.

### Summary:

Vera Araujo Soares will talk about her role as a representative of the EHPS at the PCUN, the Psychology Coalition of NGOs accredited at the United Nations, with a consultative status at the Economic and Social Council (ECOSOC), a UN entity aiming to advance the economic, social and environmental dimensions of sustainable development. Lucie Byrne-Davis will present the work performed by the EHPS-UN Committee in its consultative role at the ECOSOC. Adriana Băban will present the EHPS involvement in different World Health Organisation (WHO) research initiatives aiming to reduce violence against children and promote health behaviours and well-being among adolescents. Alexandra Dima will talk about the WHO International Classification of Health Interventions (ICHI) and the EHPS involvement with this project. Marie Johnston and Jo Hart will lead a structured discussion with delegates to obtain their feedback on current activities and their views on the value of

this type of EHPS representation, possible future opportunities and involvement of EHPS members in these initiatives.

# Embedding Open Science within Health Psychology research, methods and tools

11:30 - 13:00

Berlin

James Green and Gjalte-Jorn Peters



## Establishing Open Science Research Priorities in Health Psychology: A research prioritisation Delphi exercise

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<sup>6</sup>Indiana University Richard M. Fairbanks School of Public Health, United States

**Background:** Research around Open Science in Health Psychology is currently sparse. This Delphi study aimed to obtain consensus on the Top 5 prioritised research questions for Open Science in Health Psychology

**Methods:** In phase 1: experts in Open Science within the health psychology community provided an initial generation of all possible research questions that they saw as important. In phase 2: all members of EHPS were invited to review the long-list of research questions from Phase 1 and asked to rate the importance of each research question and rank their 'top 5' most important. In phase 3: participants were shown information on how others rated and ranked items in phase 2 and asked to re-rate and re-rank the open science in health psychology research questions.

**Findings:** 93 responses were received (n=22, n=46 and n=25 in phases 1-3). The final Top 5 prioritised research questions were: 1) What interventions are effective for increasing the adoption of Open Science in Health Psychology? 2) What are the perceived barriers and facilitators to practising Open Science behaviours in Health Psychology? 3) How can we maximise the usefulness of Open Data and Open Code resources? 4) To what extent are Open Science behaviours currently practised in Health Psychology? 5) How can teaching of Open Science principles to early career researchers in Health Psychology be improved?

**Discussion:** These prioritised research questions for Open Science in Health Psychology should now be investigated by the EHPS community and beyond.

## An open science approach to study misinformation sharing on social media

C.M. Jones<sup>1,2</sup>, D. Dlethei<sup>1,2</sup>, J. Schöning<sup>2,3</sup>, T. Jahnel<sup>1,2</sup>, R. Shrestha<sup>1,2</sup>, B. Schüz<sup>1,2</sup>

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<sup>2</sup>Leibniz ScienceCampus Digital Public Health Bremen, Germany

<sup>3</sup>University of St. Gallen, Switzerland

**Background:** Misinformation on social media is a key challenge to effective and timely public health responses. Existing mitigation measures implemented by platform providers have proven rather ineffective. While potentially more effective intervention formats exist, their implementation for research purposes is difficult and often actively discouraged by platforms. Here, we discuss an open science-based approach to implementing behavioural interventions based on social reference cues in existing platforms

**Methods:** We developed an open-source browser extension which allows inserting intervention content in users' real-life interaction with social media platforms. Code and documentation are available from GitHub. In total, we conducted three experimental online studies (N=817, N=322, and N=278) on Twitter. We preregistered our main hypotheses, provide open data and code and collaboratively created the paper as a fully reproducible manuscript.

**Findings:** The open approach to collaboration supports replicability and reproducibility of our findings, and open-source code allows transferring our paradigm into different social media contexts and research applications. Our fully reproducible manuscript can be updated with further data. In terms of our studies, we show that highlighting which content others within the personal network share and, more importantly, not share combined with misinformation flags significantly and meaningfully reduces the amount of misinformation shared.

**Discussion:** Our study suggests that social reference cues, combined with misinformation flags, are feasible and scalable means to effectively curb sharing misinformation on social media. Through an open science approach to proliferation and documentation, our approach can be transferred into other contexts involving social media.

## OpenDrawer: A project to document unpublished research

J. Green<sup>1</sup>, G. Peters<sup>2</sup>, C. McHugh<sup>3</sup>, C. Smithson<sup>4</sup>, E. Sixtus<sup>5</sup>, S.R. Schiavone<sup>6</sup>, I. Pit<sup>7</sup>

<sup>1</sup>Physical Activity for Health, Health Research Institute (HRI), University of Limerick, Ireland

<sup>2</sup>Open University of the Netherlands, Netherlands

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<sup>5</sup>University of Potsdam, Germany

<sup>6</sup>University of California, Davis, United States

<sup>7</sup>Institute of Human Sciences, University of Oxford, United Kingdom

**Background:** Unpublished studies, the so-called file-drawer, present a threat to the balance of published literature. This is especially the case where unpublished studies have null results, which will exaggerate the size of effects in the published literature. However, previous attempts to “empty the file-drawer” have required substantial effort, similar to writing a study up for a conventional publication. Where a researcher has a substantial body of unpublished work, this is therefore very time-consuming, and it can be difficult to determine which unpublished studies are of the most interest.

**Methods:** The OpenDrawer project was developed to provide a quick declaration that a study was conducted with a very brief outline. This was designed to be standardized and searchable, and would mean that unpublished studies could be identified, and the original authors contacted.

**Findings:** OpenDrawer is a natively open platform for documenting unpublished studies, with a study being able to be briefly documented in less than five minutes.

**Discussion:** Estimates of the volume of unpublished studies in other disciplines within and outside psychology are often high; currently there are no estimates for health psychology as a discipline. OpenDrawer provides an easy way for researchers to document work they have completed but not published, and will help other researchers identify relevant unpublished literature.

## After the End of Construct Validity: Thinking About and Studying How Psychological Measurement Instruments Work

G.Y. Peters<sup>1</sup>, R. Ackermans<sup>1</sup>, S. Gruijters<sup>1</sup>

<sup>1</sup>Open University of the Netherlands, Netherlands

**BACKGROUND:** Along with Open Science practices, the replication crisis has been argued to be a symptom of an underlying measurement crisis or theory crisis. Validity is a central concept in these reflections. Within validity theory, construct validity has become a dominant approach since its proposition in the 1950s. It has also been persuasively argued to be fundamentally flawed, and its tools of the trade (e.g., factor analysis, internal consistency estimates, and convergent and divergent validity) have been shown to lack diagnostic value as to the validity of a measurement instrument for a given construct.

**METHODS:** Narrative response models are tools to reason about and study the validity of psychological measurement instruments. Unlike the construct validity approach, they allow studying how measurement instruments work. They do so by providing a procedure for devising probes for cognitive interviews or meta questions for response process evaluation.

**FINDINGS:** The procedure will be illustrated at the hand of an investigation of the Questionnaire of Unpredictability in Childhood. As results, the narrative response models, used probes, and results will be presented. These results illustrate the item-level validity of each item.

**DISCUSSION:** Describing narrative response models for an existing measurement instrument is a challenging task. However, once developed, they provide a concrete foothold for interrogating a measurement instrument's validity. By examining heterogeneity in participants' response processes at the hand of the steps in a narrative response model, cognitive interviews or response process evaluation can directly provide evidence as to a measurement instrument's (lack of) validity.

12:30 - 12:45

## Embedding Registered Reports within Health Psychology: Reflections as Author and Recommender of Peer Community In

C. Pennington<sup>1</sup>

<sup>1</sup>Aston University, United Kingdom

Study preregistration and Registered Reports (RRs) represent two open science initiatives that aim to improve research quality and rigour with emerging evidence demonstrating their effectiveness. However, neither are perfect with perceived barriers of time and heterogeneity in author implementation and reviewer evaluation. This talk will reflect on the new publishing platform “Peer Community In Registered Reports” (PCI RR), which reviews and recommends Registered Report preprints across the full spectrum of STEM, medicine, social sciences, and humanities. Several health psychology journals have signed up to this initiative with the commitment to accept, without further peer review, any relevant manuscript which achieves a positive final recommendation from PCI RR. This talk will outline this publishing track for interested authors and journal editors.

# Doctor knows best? Qualitative perspectives on interactions and relationships with healthcare workers from four countries

11:30 - 13:00

Vienna

Rachael Fox

## Doctor-patient relationship in an Italian emergency department during the COVID-19 pandemic: an ethnographic study

S. Cipolletta<sup>1</sup>, S. Martucci<sup>1</sup>, S. Previdi<sup>1</sup>

<sup>1</sup>University of Padua, Italy

**Background:** The doctor-patient relationship is influenced by the characteristics of patients, healthcare professionals and the social and cultural context in which it develops. The present study aims to explore the doctor-patient relationship in an emergency department during the COVID-19 pandemic.

**Methods:** The participants were 22 healthcare professionals, specifically nurses and doctors, working in an emergency department of a hospital in Northern Italy, and 21 patients accessing in this department. Data collection used participant observation and semi-structured interviews. A thematic analysis was conducted using ATLAS.ti software.

**Findings:** Four main themes were observed: the role of doctor-patient relationship in the care process, personal experience during the pandemic, the experience of the pandemic in the emergency department, and the doctor-patient relationship during the pandemic. Fear of infection, restrictions, dealing with an unknown disease and the overcrowding in the emergency unit have caused changes in the doctor-patient relationship: some patients were fearful of spending time in the emergency department and perceived the relationship as more impersonal because of the protection devices; stress and fatigue of healthcare professionals made emotional closeness with patients challenging.

**Discussion:** The results of the present study may inform intervention strategies to support the difficulties introduced by the COVID-19 pandemic in the doctor-patient relationship. The changes in this relationship should be monitored because they could affect the treatment outcomes. Taking care of the relationship is a way to take care of the patient, of the caregiver and of the social context.

## Family and domestic violence in remote Australian Emergency Departments: A critical analysis of institutional discourse

S. Moore<sup>1</sup>

<sup>1</sup>Charles Sturt University, Australia

Background: Australian data have shown alarming rates of family and domestic violence (FDV) within remote areas, with individuals in these communities being 24 times more likely to be hospitalised for FDV compared to non-remote populations. These statistics have remained relatively stable, despite nation-wide policies and interventions. Individuals experiencing FDV within remote areas are reliant on public health systems, with Emergency Departments (ED's) providing an essential means of safety, medical care and welfare support. Previous research has indicated that some ED staff struggle to respond appropriately to patients presenting with FDV. Institutional influences can shape the responses of healthcare workers by determining departmental values and priorities, and Australian public health systems have typically favoured metrocentric and biomedical models of healthcare that can overlook the diverse needs of remote communities. Method: The current study critically examined how the institutional environment and remote Australian context influenced ED staff responses to patients presenting with FDV. Government policies, ED observations, and ED staff interviews and focus groups were analysed using Foucauldian Discourse Analysis and Narrative Analysis. Findings: The findings highlight the influence of conflicting political, institutional and societal discourses which can combine to produce personal, professional and cultural dissonance for remote ED staff when responding to FDV. Discussion: This has implications for policy and clinical practice, as discourses created narratives which significantly altered the meaning of 'FDV' and the power of each subject when enacted within the context of a remote ED.



## You can push them a little bit': Provider accounts of contraceptive care and long-acting contraception

T. Morison<sup>1,2</sup>

<sup>1</sup>Massey University, New Zealand

<sup>2</sup>Rhodes University, South Africa

**Background:** Contraceptive providers play an essential role in shaping contraceptive decision-making and care, with the potential to constrain patients' agency. This is a particular concern given the rising hegemony of Long-Acting Reversible Contraception (LARC) and growing evidence of negative patient experiences of LARC promotion and provision. Despite this evidence, little research has considered providers' perspectives.

**Methodology:** Drawing on interviews with 22 contraceptive providers in Aotearoa (New Zealand), I explore their professional identity construction, focusing on meaning-making in instances of conflict between providers' and patients' priorities and agendas. Guided by feminist poststructuralist theory, my discursive analysis highlights common rhetorical strategies used by participants to (1) justify using coercive practices to encourage LARC uptake, and (2) in turn, negotiate positive identities. I show how participants grapple with the reproductive politics structuring contraceptive care, including established understandings of the purpose of (long-acting) contraception and contraceptive providers' roles vis-à-vis provision and promotion.

**Findings:** The findings point to limitations on contraceptive agency, despite the unanimous endorsement of rights-based voluntary care.

**Discussion:** Extending the critical literature on LARC and contributing to the under-researched area of contraceptive coercion and agency, the findings of this study have important implications for the delivery of contraceptive care.

## Receiving bad news: cancer family carers managing initial interactions with healthcare services

G. Postavaru<sup>1</sup>

<sup>1</sup>University of Leicester, United Kingdom

**Background:** Family members form a vital part of the healthcare system, as patients place great value on communication and decisions within their family. Communication with patients and family carers was a key focus of many complaints in a report by the English Parliamentary and Health Service Ombudsman. Guidelines by the National Institute for Health and Care Excellence in the United Kingdom recommend that health professionals (HCPs) discuss patients' understanding of their illness and information needs. However, communication about diagnosis and prognosis is still not well documented in hospital records.

**Method:** Drawing on focus groups and individual semi-structured interviews with 21 carers, this presentation gives an account of participants' perspectives and experiences regarding the initial interactions with healthcare and support services.

**Findings and discussion:** The experiences of (1) waiting time, (2) feeling unheard during initial appointments and (3) wanting to know only the positive news are discussed, with recommendations for future research and practice. These findings present implications for clinical practice; although family members experience a multitude of difficult emotions when bad news is shared, they are not able to discern help from healthcare professionals with sharing the diagnosis with the patient and others. This impacts on access to and use of healthcare and support services.

## Moving forward with online interventions and therapeutic relationship online, Italian professionals' experiences from the pandemic

S.C.M. Tomaino<sup>1</sup>, S. Cipolletta<sup>1</sup>

<sup>1</sup>University of Padua, Italy

**Background:** The COVID-19 pandemic posed new challenges to clinical practice for professionals. The present study aimed to explore their direct experiences with online interventions, trying to identify and understand the implications, aiming to implement resources and tools to address the critical issues of e-interventions in psychological care.

**Methods:** An online survey created by researchers was disseminated in Italy between February and July 2021 and completed by 368 psychologists and psychotherapists. Descriptive analyses were performed with Jamovi and thematic analysis with Atlas.ti9.

**Findings:** Results pointed out that 62% of the participants had never used online interventions before the pandemic; many disruptions were identified, such as software and hardware disruptions (77.1%) and little confidence with online interventions (45.3%). For 93.6% of professionals, it is essential to feel presence during the online session, which helps emotional attunement, acceptance and active listening. The open-ended questions' qualitative analyses revealed that the most important aspects of presence while practising online are: construing a third space, redefining the therapeutic setting, strategies to feel presence and emotional resonance. Professionals reported the need to reconstruct ways to create and maintain a satisfying therapeutic relationship online.

**Discussion:** The pandemic allowed a great thrust forward in online interventions while pointing out many disruptions that need to be adequately addressed to guarantee its use in the future. It is important to investigate strategies to create therapeutic relationships in the online setting, fostering the construction of new ways to be present online.

# eHealth intervention development & optimisation

11:30 - 13:00

Warsaw

Claire Reidy

## Adaptation of cardiovascular disease prevention programmes for digital delivery during the COVID-19 pandemic

L. Hynes<sup>1</sup>, I. Gibson<sup>2</sup>, D. Dunne<sup>3</sup>, A. Harris<sup>1</sup>, Z. McCrudden<sup>3</sup>, C. Costello<sup>1</sup>, M. Frawley<sup>1</sup>, F. Finucane<sup>4</sup>, J.W. McEvoy<sup>5</sup>

<sup>1</sup>Croí, Ireland

<sup>2</sup>National University of Ireland, Galway, Ireland

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<sup>4</sup>Saolta University Healthcare Group, Ireland

<sup>5</sup>National Institute for Prevention & Cardiovascular Health, Ireland

**Background:** In response to the impact of pandemic restrictions on health services, two programmes (lifestyle modification and cardiac rehabilitation) were adapted for digital delivery based on recommendations for remote delivery of healthcare for people with cardiovascular disease (CVD). Our aim was to develop, deliver and evaluate digital primary and secondary CVD prevention programmes based on existing in-person programmes during the COVID-19 pandemic.

**Methods:** With input from people living with CVD, an inter-disciplinary health team, best practice guidelines and technology experts, digital programmes were developed involving online platforms, materials, protocols for safety and quality, technical support for participants, staff training and methods for data collection. Data on behavioural, physical and psychosocial outcomes were collected at initial and end of programme assessments.

**Findings:** In 2020-2021, 13 lifestyle modification (LM) programmes for people living with obesity (n = 343) and three cardiac rehabilitation (CR) programmes (n = 77) were delivered digitally for 10 and 12 weeks respectively. Referral (LM = 487; CR = 105), uptake (LM = 70%; CR = 73%) and completion rates (LM = 72%; CR = 85%) suggested acceptability among health service providers and participants. Data indicates positive improvements across both lifestyle and medical risk factors, which are comparable to in-person programmes. Barriers included internet access and time. The convenience, flexibility and professionalism was positively evaluated.

**Discussion:** It was feasible to adapt existing in-person programmes for digital delivery. The resulting tools, materials and learnings will contribute to ongoing work to integrate person-centered and effective digital tools within health services.

## Patient, staff and stakeholder experiences with the national NHS App in general practice: Qualitative evaluation

C. Reidy<sup>1</sup>, J. Powell<sup>1</sup>, F. Greaves<sup>2</sup>, B. Gudgin<sup>3</sup>, C. Costelloe<sup>2</sup>, S. Tewolde<sup>2</sup>, C. Papoutsis<sup>1</sup>

<sup>1</sup>Nuffield Department of Primary Care Health Sciences, University of Oxford, United Kingdom

<sup>2</sup>Global Digital health unit, School of Public health, Imperial College London, United Kingdom

<sup>3</sup>PPI representative, and a member of the NIHR ARC Oxford and Thames Valley Board, United Kingdom

### Background:

The NHS app, available since July 2019, was developed as the “digital front door” to England’s National Health Service (NHS). It enables patient record access, GP appointment booking, prescription ordering, COVID certification and other features. This study examined patient and staff experiences with this central component of NHS digital transformation.

### Methods:

Qualitative process evaluation using a case study design. We recruited 64 patients, healthcare staff and wider stakeholders in 40 interviews and 4 focus groups. Ethnographic observations were undertaken in four GP surgeries. We analysed data thematically, informed by the NASSS framework.

### Results:

At an organisational level, the NHS app was seen as supporting access and care delivery, although there was some uncertainty over its functionality, relevant advantage compared to commercial patient apps, and responsibility for addressing arising issues. In areas with a regional drive for digital health, there were more training, support with issues and guidance for surgeries incorporating the app.

Patients and clinicians raised disparities where not everyone was able to access GP health records equally, or digitally. Patients reported using several app features and finding it easier to access general practice through the app than “traditional” ways (e.g. telephone). Prescriptions were considered especially fast and convenient, even in comparison to other apps.

### Discussion:

The app offered some useful features to patients but there were concerns over equitable use and access. For GP surgeries, confusion over which apps to prioritise, and how, challenged the goal of the NHS App as a digital front door to the NHS.

## A digital health program in bariatric surgery: a mixed method process evaluation

C. Wright<sup>1,2</sup>, J. Kelly<sup>3,4</sup>, J. Byrnes<sup>5,6</sup>, K. Campbell<sup>7,8</sup>, R. Healy<sup>9</sup>, J. Musial<sup>9</sup>, K. Hamilton<sup>10, 11</sup>

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<sup>3</sup>Centre for Online Health, Faculty of Medicine, The University of Queensland, Australia

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<sup>7</sup>Healthcare Excellence and Innovation, Metro North Hospital and Health Service, Australia

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<sup>10</sup>School of Applied Psychology, Menzies Health Institute Queensland, Griffith University, Australia

<sup>11</sup>Health Sciences Research Institute, University of California, Merced, United States

**Background:** For adults undergoing bariatric surgery, additional post-operative lifestyle management support is required, and digital health programs are emerging. This study aimed to conduct a process evaluation of a digital health bariatric surgery program.

**Methods:** Intervention mapping guided program development and intervention materials included text messages, email newsletters, and digital resources. A mixed methods approach was adopted including a survey and semi-structured interviews. A historical control group was used to determine intervention effect. Demographic and quantitative data were analysed using SPSS and qualitative data in NVivo via inductive content analysis.

**Findings:** One hundred and seventy-seven participants completed the study (n=129 historical control, n=48 intervention group; Mean age=56 years). Participants were predominantly female (n=104, 59%) and underwent Roux-en-Y gastric bypass (n=146, 83%). Survey results showed the intervention was positively received, with text messages favoured, but did not motivate participants' behaviour change. Interview data revealed four main themes including 'Motivators and expectations', 'Preferences and relevance', 'Reinforced information', and 'Wanting social support'. Participants enjoyed receiving the reminders yet, similarly, behaviour change was not facilitated. Participants emphasised the need for tailoring and experiential advice. There was no significant difference in weight at 12-month post-operatively.

**Discussion:** Text messages were favoured and mobile microlearning principle should be further considered. Using stage-based models of behaviour to personalise strategies to specific stages of change may lead to more success. Future research should explore further the role of physical activity and dietary beliefs after bariatric surgery as well as the role of online support groups in facilitating social support.

## Psychological need satisfaction through an online intervention for diabetic patients

C. Hehn<sup>1,2</sup>, E. SPITZ<sup>1</sup>, C. Jolivet<sup>1</sup>, N. Naïditch<sup>2</sup>, E. Fall<sup>1</sup>

<sup>1</sup>University of Lorraine, France

<sup>2</sup>Fédération Française des Diabétiques, France

**Background:** “Slow Diabetes” is an e-program which was created during the first lockdown in 2020 for diabetics’ patients to improve their mental health. Deci and Ryan described in their self-determination theory three basic psychological needs: “autonomy”, “competence” and “relatedness”. These needs can be satisfied or frustrated according to the situations, such as mindfulness programs. The French Federation of Diabetics and the University of Lorraine conducted a qualitative study. The main objective of this exploratory qualitative study was to identify these three basic psychological needs in the written exchanges during the first program in July 2020, in order to optimize this e-program and to include mindfulness exercises.

**Methods:** The collection of 200 pages of verbatims, which are members' posts on the Facebook group and associated comments, was carried out after the program ended. An analysis grid was co-created and a thematic content analysis was performed on Nvivo software.

**Findings:** The need “relatedness” was the most expressed in the written exchanges. In this main category, first, patients talked about their lives, gave tips and were present for each other's. Then, there is a part of the interactions which was more focused on searching information about new technologies and medications.

**Discussion:** For the futures e-health programs, the satisfaction of the need “relatedness” must be considered. It is possible to maintain this need by online communities. Another perspective for the future is to assess the satisfaction of the patients of this e-program.



## Experiences and acceptability of an online theory-based intervention to prevent and reduce self-harm

C. Keyworth<sup>1</sup>, L. Quinlivan<sup>2</sup>, J. Leather<sup>2</sup>, C. Armitage<sup>2</sup>

<sup>1</sup>University of Leeds, United Kingdom

<sup>2</sup>University of Manchester, United Kingdom

**Background:** The volitional help sheet for self-harm equips people with the means of responding automatically to triggers for self-harm with coping strategies. Improving acceptability may be crucial to increasing effectiveness and reach. The Theoretical Framework of Acceptability (TFA) was developed to guide the assessment of intervention acceptability, but to-date, no studies have applied the TFA to understand acceptability of interventions for self-harm. Consequently, we aimed to apply the TFA to: (1) explore people's experiences of a brief intervention to reduce repeat self-harm, and (2) understand the most prominent aspects of intervention acceptability to make recommendations for intervention refinements, and successful implementation.

**Methods:** Sixteen semi-structured interviews were conducted with people who had previously self-harmed. The TFA informed a framework analysis in which findings were mapped onto the TFA.

**Findings:** Four TFA domains were identified that were associated with acceptability of the volitional help sheet for self-harm: affective attitude, burden, intervention coherence, and perceived effectiveness. People were generally positive about using the volitional help sheet (affective attitude), understood the volitional help sheet and how it worked (intervention coherence), highlighted engagement as a motivating factor in using the volitional help sheet (perceived burden), and described how the volitional help sheet could be implemented by healthcare professionals (perceived effectiveness).

**Discussion:** Further modifications could still be made, but it is hoped that this intervention provides a useful tool for both individuals to construct their own personalised implementation intentions, and as part of longer-term support for preventing self-harm.

# Adherence and Quality of Life in Chronic Disease

11:30 - 13:00

Bratislava

Emily Arden-Close

## Impact, coping and development challenges among perinatally HIV-infected adolescents

F. Teixeira<sup>1</sup>, C. Oliveira<sup>2</sup>, M. Gonçalves<sup>1</sup>, A. Maia<sup>2</sup>

<sup>1</sup>University of Minho, Portugal

<sup>2</sup>Universidade do Minho, Portugal

**Background:** Research on perinatally HIV-infected adolescents has been mainly focused on medical issues and risk behaviors related to this vulnerable life period. The impact that HIV, as a stigmatized disease, has on young development and how they adapt and cope with it has been rarely approach on literature. We aimed to understand how Portuguese perinatally HIV-infected adolescents perceived their disease, how they have been adapting and coping with it and what impact it has been having in their development.

**Method:** We conducted eight semi-structured interviews with perinatally HIV-infected young adolescents followed in a pediatric service in a hospital in the north of Portugal. Interviews were analyzed according to Thematic Analysis procedures.

**Findings:** Secrecy is mandatory for the majority of young, mainly because society disinformation, which contributes to stigma. They fear disclosure, holding negative expectations about others' reactions. Not revealing the diagnosis is a way of self-protection, giving them control over the lack of predictability about future and people's behaviors, preventing, therefore, vulnerability. The beginning of an active sexual life in the context of an intimate relationship represents a turning point, with trust and closeness being the major factors influencing the decision-making process of disclosure. HIV is perceived as a burden that forces them to "grow up". However, all participants describe themselves as having a normal life, revealing positive expectations about their future.

**Discussion :** It is important the development of interventions decreasing self-stigmatization among this population. Healthcare providers should be involved, playing a more active role in disclosures processes.

## Medication adherence in Behcet's disease during COVID-19: cross-sectional study

E. Arden-Close<sup>1</sup>, F. Sweeting<sup>1</sup>, D. Guy<sup>1</sup>, A. Yankouskaya<sup>1</sup>

<sup>1</sup>Bournemouth University, United Kingdom

**Background:** Behçet's disease is a rare, complex, incurable condition that causes inflammation of the immune system and is managed by oral immune suppressants in the first instance. Lack of treatment risks disease flares, but treatment can not only cause negative side effects (e.g., weight gain,) but also increase risk of serious complications if the patient develops COVID-19. This study aimed to identify correlates of adherence to medication in Behçet's disease during COVID-19.

**Methods:** In a cross-sectional study on Qualtrics, 89 UK-based participants with Behçet's Disease (87.6% female; 12.4% male) completed the Brief IPQ (illness perceptions), Beliefs about Medicines Questionnaire, Medication Adherence Rating Scale, Trust in Physician Scale, and Fear of COVID-19 scale and self-reported demographic and disease-related information. Medication taken was assessed to quantify disease severity. Data was analysed using Pearson correlations and multiple regressions.

**Findings:** Multiple regression showed stronger beliefs in the necessity of medication and less fear of COVID-19 predicted more positive attitudes to medication ( $r^2=.24$ ,  $p<.001$ ). Multiple regression showed, stronger belief in the necessity of medication and fewer concerns about medication predicted greater adherence to medication ( $r^2=.17$ ,  $p=.001$ ). Higher disease severity was associated with stronger belief that medicines are necessary ( $p<.001$ ) and less belief that medicines are overused ( $p=.018$ ). Disease severity and trust in doctors were not associated with adherence to medication.

**Discussion:** Fear of COVID-19 influences attitude to medication but not adherence, possibly due to patients' beliefs about the necessity of their medication. Further qualitative research is needed to explore these findings in more depth.

## Identifying different profiles of people with a stoma and their relationship with quality of life

W. Goodman<sup>1</sup>, A. Downing<sup>1</sup>, M. Allsop<sup>1</sup>, J. Munro<sup>2</sup>, C. Taylor<sup>3</sup>, G. Hubbard<sup>2</sup>, R. Beeken<sup>1,4</sup>

<sup>1</sup>University of Leeds, United Kingdom

<sup>2</sup>University of the Highlands and Islands, United Kingdom

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<sup>4</sup>University College London, United Kingdom

**Background:** Quality of life can be negatively impacted by the formation of a stoma and influenced by a number of factors. Research to date treats people with a stoma as a homogenous group based on their quality of life. The objectives of the present study were to identify profiles based upon quality of life and explore variables associated with profile membership.

**Methods:** Secondary analysis of a cross-sectional sample of 1419 people with a stoma. Participants completed validated questionnaires for quality of life, physical activity and clinical and demographic characteristics. Latent profile analysis was used to identify the optimal number of profiles and multinomial regression modelling was conducted to identify variables associated with profile membership.

**Findings:** The analysis revealed 4 distinct profiles of people with a stoma: 'consistently good quality of life' (N=891 (62.8%)), 'some quality of life concerns' (N=184 (13.0%)), 'low quality of life' (N=181 (12.8%)) and 'financial concerns' (N=163 (11.5%)). Modelling revealed that people with a recent stoma (formed <2 years previously), who have a hernia and are less physically active were more likely to belong to the 'low quality of life' profile. Furthermore, those aged 16-55 were more likely to have financial concerns.

**Discussion:** This study was the first to identify latent profiles within this population and assess whether certain variables are associated with membership. These findings suggest how future interventions could be targeted and tailored to address specific issues that are associated with certain profiles, for example, providing financial and return to work information for younger people.

## An exploration of quality of life and treatment decision-making in men with benign prostatic hyperplasia

M. Husted<sup>1</sup>, D. Gray<sup>1</sup>, S. Golding<sup>1</sup>, R. Hindley<sup>2</sup>

<sup>1</sup>University of Winchester, United Kingdom

<sup>2</sup>Hampshire Hospitals NHS Foundation Trust, United Kingdom

**Background:** Benign prostatic hyperplasia (BPH) is a common chronic condition amongst older men causing urinary problems and erectile dysfunction. Various pharmaceutical and surgical treatment options exist but there is minimal research exploring men's treatment decision-making. An understanding of men's perspectives is needed to support moves towards innovative, less invasive surgical treatment options.

**Methods:** This study qualitatively explored men's experience of living with BPH and seeking treatment for BPH. Twenty men (aged 52-75) were recruited from outpatient urology clinics at a hospital trust in Southern England. Data were collected using semi-structured interviews (via video or telephone call) and were audio-recorded; transcripts were analysed using thematic analysis.

**Findings:** Four themes were generated: "It's about more than just symptoms", "The path towards treatment", "The process of information gathering", and "Navigating hopes, fears and uncertainty". Results indicate most men appear to seek treatment for BPH following a gradual, and sometimes lengthy, period of deterioration in symptoms; for some men, however, treatment seeking follows an acute episode of sudden or severe symptoms. The decision to proceed with surgical or minimally invasive treatment options appears to be dependent on men reaching a tipping-point; they no longer perceive their symptoms as tolerable and feel their ability to cope with symptoms is reduced.

**Discussion:** Our data indicates men express idiosyncratic concerns and preferences about different treatments and outcomes. Clinicians need to be sensitive to these individual differences and incorporate them into shared decision-making and patient information provision for choosing between treatment options for BPH.

## Multidimensional relationships between medication beliefs and adherence to medications among older adults living with multimorbidity

L. Foley<sup>1</sup>, A.W. Murphy<sup>1</sup>, L. Hynes<sup>2</sup>, A. Doherty<sup>3</sup>, E. Wallace<sup>3</sup>, F. Boland<sup>3</sup>, G.J. Molloy<sup>1</sup>

<sup>1</sup>National University of Ireland, Galway, Ireland

<sup>2</sup>Croí Heart & Stroke Centre, Ireland

<sup>3</sup>Royal College of Surgeons Ireland, Ireland

### Background:

Many previous attempts to examine the relationships between the Necessity-Concerns Framework and medication adherence have reduced the analysis to two dimensions ( e.g. difference score models). An alternative and theoretically consistent multi-dimensional approach involves using polynomial regression. The aim of this study was to use polynomial regression to examine the multidimensional relationships between medication beliefs and adherence among people living with multimorbidity.

### Methods:

A cross-sectional secondary analysis was conducted using data derived from a community-dwelling cohort of older adults living with two or more chronic conditions (n = 809). Medication beliefs were measured using the Beliefs about Medicines Questionnaire-Specific; adherence was measured using the Medication Possession Ratio. Polynomial regression was used to firstly assess the accuracy of the difference-score model, and then determine the best-fitting polynomial model to explain adherence.

### Findings:

Confirmatory polynomial regression indicated that the difference-score model could be rejected. Exploratory polynomial regression indicated that the quadratic terms produced the best-fitting model. Reciprocal effects were present, meaning adherence was highest when necessity beliefs were high and concern beliefs were low (slope  $\beta = 0.07$ ,  $p = .015$ ). Non-reciprocal effects were not detected, meaning adherence was not significantly different when necessity beliefs were both high compared to when both were low (slope  $\beta = 0.03$ ,  $p = .093$ ).

### Discussion:

Among people living with multimorbidity, relationships between beliefs about medications and adherence are multidimensional. Interventions aiming to improve medication taking by changing beliefs should consider the joint influence of necessity and concern beliefs on adherence behaviours.

## Designing an intervention for young people with asthma and testing acceptability and feasibility

P. Rackow<sup>1</sup>, K. Coutts-Murray<sup>1</sup>, C. Duncan<sup>2</sup>, S. Turner<sup>3</sup>, D. Powell<sup>3</sup>, G. Hoskins<sup>1</sup>, R. O'Carroll<sup>1</sup>

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Asthma affects 1 in 11 young people in the UK. Medication adherence is key to controlling symptoms but is overall low. Children and young people (CYP) are notable for poor adherence, and this is related to a challenging developmental phase at a time when they take over responsibility for their treatment. To support CYP with asthma and their families we developed an intervention that targets adherence to preventer medication. The aim of this study was to test acceptability and feasibility.

The proposed intervention contains four sessions that cover topics such as goal setting, how to talk about asthma, and social support. Eligible participants were CYP between 8 and 16 years, diagnosed with asthma, and prescribed preventer medication. Following a simplified version of the Intervention Mapping Approach (IM Adapt), we assessed needs and capacity, identified the most promising intervention, made adaptations, pilot-tested, and evaluated the new intervention. Interviews with HCPs (n=3) and stakeholders (n=11) were the basis for adapting materials. Subsequently, an asthma nurse pilot-tested the intervention with families in the UK National Health Services (NHS).

Interviews revealed that the intervention content needs to be shortened so that it can be delivered within the NHS. Condescending language was removed, and the content should be more focused on the family so that it is easier for families to integrate it into their daily routine. Pilot testing showed that it is overall feasible to deliver this type of intervention within the NHS.

Co-Designing interventions with stakeholders lead to a feasible intervention being delivered.



# eHealth in cancer treatment & care

11:30 - 13:00

Kiev

Paula Voorheis

## Preliminary Efficacy of ImmunOncoTool: An Immune Checkpoint Inhibitors Adverse Event Management and Reporting eHealth Program

C. Taub<sup>1</sup>, K. Bedjeti<sup>1</sup>, M. Garcia<sup>1</sup>, R. Mercer<sup>1</sup>, D. Buitrago<sup>1</sup>, K. Czech<sup>1</sup>, A. Diaz<sup>1</sup>, N. Mohindra<sup>1</sup>, J. Sosman<sup>1</sup>, B. Yanez<sup>1</sup>

<sup>1</sup>Northwestern University Feinberg School of Medicine, United States

**BACKGROUND.** Survival for patients with some advanced cancers has been greatly improved by immune checkpoint inhibitors (ICIs), however, the associated immune-related adverse events (irAEs) if not well managed can become severe, result in termination of the treatment, and ultimately lead to cancer progression. ImmunOncoTool is the first patient-centered, web-based irAE assessment and reporting program for patients taking ICIs. ImmunOncoTool was designed to provide education, conduct routine monitoring, and facilitate prompt patient-provider communication and management of irAEs. **METHODS.** A randomized controlled trial assigned adult patients (N=64, mean age=59, 62% male) with melanoma, lung, kidney, or bladder cancer who recently initiated ICIs to ImmunOncoTool or standard care. At baseline and five months, participants completed the Functional Assessment of Cancer Therapy – General 7 to assess health-related quality of life (HRQOL) and the Patient-Reported Outcomes version of the Common Terminology Criteria for Adverse Events to assess irAEs. **FINDINGS.** Compared to control, participants using ImmunOncoTool showed larger positive change in FACT-G from baseline to five months (ImmunOncoTool mean change=1.29, SD=4.77; Control mean change=-3.60, SD=4.40; p=0.0021). ImmunOncoTool participants also had larger decreases in severity of several irAEs, including weight loss, shivering/shaking chills, muscle weakness, and aching muscles (ps<.05) compared to control. **DISCUSSION.** To our knowledge, this is the first study to demonstrate preliminary efficacy of a web-based system for patients taking ICIs on improving HRQOL and irAEs. Additional feasibility and efficacy data from this trial will be available Spring 2022. Clinical use of such a tool may improve care and health of patients receiving ICIs.

## A process evaluation of a digital intervention for improving quality of life in cancer survivors

K. Bradbury<sup>1</sup>, J. Smith<sup>1</sup>, R. Essery<sup>1</sup>, A. Richardson<sup>1</sup>, b. stuart<sup>1</sup>, S. Pollet<sup>1</sup>, C. Chavalet<sup>1</sup>, C. Foster<sup>1</sup>, C. Grimmett<sup>1</sup>, E. Watson<sup>2</sup>, P. Little<sup>1</sup>, L. Yardley<sup>1</sup>

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<sup>2</sup>oxford brookes, United Kingdom

**Background:** 'Renewed' is a web-based intervention designed to improve quality of life (QoL) in cancer survivors (breast/bowel/prostate) through reassurance and support with behaviour changes (e.g. physical activity/mood-management). A RCT compared a generic website (NHS-Livewell) with Renewed and Renewed combined with human support. By 12 months QoL improved in all groups, but Renewed combined with support was most effective, especially in prostate cancer. This mixed-methods process evaluation explored how Renewed worked and for whom.

**Methods:** We triangulated quantitative intervention usage data from 1758 participants (analysis=correlations/Mann Whitney U/Linear Mixed-model) and qualitative interviews (n=39; thematic analysis).

**Results:** Usage of the core session improved QoL (Median increase= 5.17), but usage of further intervention content did not significantly increase QoL (Median increase = 6.58;U=102529.5, P=.197, r=0.04). There were no significant associations between usage and participant characteristics (age/gender/education/cancer). Improvements in QoL did not differ between those who took up human support and those who did not (95%CI -1.63, 1.20;p=0.759). Some participants reported stopping using Renewed early after they learned how to make behavioural changes. Those with breast/bowel cancer reported that social support elsewhere meant they needed Renewed less. Prostate cancer patients had less social support. Those in the supported group reported appreciating human support being available, but rarely accessed it.

**Conclusions:** The core session of Renewed produced most of the benefit and interviews suggested that engagement with behavioural change was not contingent on continued usage. Simply making support available appeared to increase effectiveness. Men with prostate cancer may have benefited most because they lacked support elsewhere.

## Effect of a digital health intervention to support total-skin-self-examination on psychological well-being of melanoma survivors

P. Murchie<sup>1</sup>, L. Constable<sup>1</sup>, S. Hall<sup>1</sup>, B. Brant<sup>2</sup>, J. Allan<sup>1</sup>, M. Johnston<sup>1</sup>, J. Masthoff<sup>3</sup>, A. Lee<sup>1</sup>, S. Treweek<sup>1</sup>, D. Ayansina<sup>1</sup>, C. Proby<sup>4</sup>, K. Rahman<sup>2</sup>, F. Walter<sup>5</sup>, N. Burrows<sup>6</sup>, A. Durrani<sup>6</sup>, G. Maclennan<sup>1</sup>

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<sup>6</sup>Cambridge University Hospitals NHS Foundation Trust, United Kingdom

**Background:** Guidelines recommend that monthly Total-Skin-Self-Examination (TSSE) be performed by melanoma survivors to detect recurrent and new primary melanoma. TSSE, however, is underperformed despite evidence of benefit. We developed a digital intervention ASICA (Achieving-Self-directed-Integrated-Cancer-Aftercare) based on the Information-Motivation-Behaviour skills model to prompt and support TSSE by melanoma survivors and enable report and feedback to a dermatology nurse specialist. The study aimed to establish feasibility and determine if there were negative effects of ASICA on psychological well-being.

**Methods:** In a randomised controlled trial, adults diagnosed with 0-IIc primary cutaneous melanoma were recruited from two UK NHS hospitals (Grampian and Cambridge). Recruits were randomised (1:1) to use ASICA for 12 months (n=141) or to control (n=140). Data on melanoma worry, anxiety, depression, TSSE adherence, intentions and self-efficacy were collected by questionnaire at 3, 6 and 12-months

**Findings:** There were no significant differences between groups for melanoma worry at any time-point. The ASICA group had significantly lower anxiety scores at 12 months (mean difference -0.54 (95% confidence interval -1.31, 0.230 p=0.168) but not at 3 or 6 months. Depression scores were significantly lower at 12 months (-0.44 (-1.11, 0.23), p=0.195) but not at 3 or 6 months). The ASICA group had significantly higher quality of life scores at 12 months (0.044; (0.003, 0.085); p=0.036) and 6 months (0.070 (0.032, 0.107) p<0.001). Users of ASICA reported higher levels of adherence and self-efficacy towards undertaking TSSE.

**Discussion:** ASICA is a feasible and acceptable means of supporting TSSE in melanoma survivors without negatively impacting psychological well-being.

# Telehealth interventions for people with cancer that cannot be cured: systematic review and meta-analysis

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**Background:** We aimed to examine the effectiveness of telehealth interventions (THI) for people with cancer that cannot be cured. Secondary objectives included examining cost-effectiveness and people's experiences of THI.

**Methods:** Systematic review of evaluations of THI (i.e., clinical information is transferred remotely between patient and clinician, by any type of technology) in people living with cancer that cannot be cured. The protocol was pre-registered (PROSPERO:CRD42018117232). Studies of any design, including any type of patient-related outcomes, were included. Multiple databases were searched up to July-2020. Meta-analysis and narrative and thematic synthesis were undertaken.

**Findings:** Screening of 18,084 titles and abstracts, and 2,508 full-texts, yielded 100 included studies, including 36 randomised-controlled trials (total patient N=6405, range=39-766). Meta-analysis found THI were as effective as usual care for all intervention categories (symptom monitoring; psychological; educational; consultation) across a range of outcomes, including quality-of-life, anxiety, use of mental health services and survival at 2-years. Only 8 studies provided cost-effectiveness data, which indicated THI are potentially cost-saving compared with usual care. Themes resulting from thematic synthesis of 14 qualitative studies included: improved symptom assessment; better connections with caregivers; freedom to express difficult emotions; understanding, confidence and experience with technology; and limitations of technology.

**Discussion:** THI can be as effective as in-person care, and cost-effective, across a range of outcomes, for people with cancer that cannot be cured. Users value the convenience and increased connection with clinicians that THI can offer, though do not see THI as a substitute for in-person care-contacts, especially at certain illness stages.

## Integrating insights from behavioral science and design thinking to develop mHealth interventions: Systematic scoping review

P. Voorheis<sup>1,2</sup>, A. Zhao<sup>2,3</sup>, K. Kuluski<sup>1,4</sup>, Q. Pham<sup>5,6</sup>, T. Scott<sup>2,7</sup>, P. Sztur<sup>2</sup>, N. Khanna<sup>2</sup>, M. Ibrahim<sup>2</sup>, J. Petch<sup>1,2</sup>

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<sup>7</sup>Faculty of Health Sciences, School of Nursing, McMaster University, Canada

**Background:** mHealth interventions are increasingly being designed to support health behavior change. Integrating insights from behavioral science and design science can help support the design of more effective mHealth interventions. Behavioral Design (BD) and Design Thinking (DT) have emerged as best-practice approaches in their respective fields. The aim of this scoping review was to understand how insights from BD and DT can be integrated throughout the mHealth design process.

**Methods:** This review followed the Joanna Briggs Institute reviewer manual and PRISMA-ScR checklist. Studies were identified from MEDLINE, PsycINFO, Embase, CINAHL, and JMIR using search terms related to mHealth, BD, and DT. Included studies had to clearly describe their mHealth design process and how behavior change theories, models, or frameworks were incorporated. Two reviewers screened studies for inclusion and completed the data extraction. A descriptive analysis was conducted.

**Findings:** 75 articles met the inclusion criteria. Studies integrated BD and DT in notable ways, which can be referred to as “Behavioral Design Thinking.” Five steps are followed in “Behavioral Design Thinking”: (1) empathizing with users and their behavior change needs, (2) defining user and behavior change requirements, (3) ideating user-centered features and behavior change content, (4) prototyping a user-centered solution that supports behavior change, and (5) testing the solution against users’ needs and for its behavior change potential.

**Discussion:** “Behavioral Design Thinking” offers a way forward in mHealth design. Systematically integrating BD and DT during the design process may support the development of mHealth interventions that more effectively engage users.

# Understanding COVID-19 Vaccine Hesitancy

14:00 - 15:30

London

Ewa Gruszczynska

## Predicting COVID-19 vaccination intention among young adults using the theory of planned behavior

C.N. Sen<sup>1</sup>, S. Karaköse<sup>2,3</sup>, D. Gurleyik<sup>4</sup>

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<sup>2</sup>FMV Isik University, Turkey

<sup>3</sup>Florida State University, United States

<sup>4</sup>Özyeğin University, United States

**Background:** Although herd immunity, through either vaccination or recovery after COVID-19 infection, is the only way to stop the global COVID-19 pandemic, vaccine hesitancy is a global problem. Understanding the factors predicting COVID-19 vaccination intentions aid in decreasing such hesitancy. The aim of this study is to explore COVID-19 vaccination intentions using the theory of planned behavior (TPB) model.

**Methods:** Participants consisted of 459 young adults (370 women, 89 men) between 18-37 (M=21.37, SD=2.05) from Turkey immediately prior to vaccine dissemination, and the all data were collected online with five point Likert scales.

**Findings:** Average intention to fully vaccinate against COVID-19 was 3.11 (SD=1.18). TPB did well in predicating vaccine intention ( $R^2=.68$ ). The results demonstrated that attitude ( $\beta=0.48$ ), descriptive norms ( $\beta=0.23$ ), and subjective norms ( $\beta=0.20$ ) were predictors of intentions for COVID-19 vaccination, while efficacy ( $\beta=0.03$ ) and control ( $\beta=-0.06$ ) were not.

**Discussion:** These findings provide important theoretical background for TPB's application in COVID-19 vaccination intentions and also identify targets to decrease COVID-19 vaccination hesitancy. The findings also indicate that a public health policy focus on attitude, descriptive norms, and subjective norms may be applied to combat vaccine hesitancy in COVID-19 vaccination campaigns.



## Profiling hesitancy to COVID-19 vaccinations in six European countries: Behavioral, attitudinal and demographic determinants

A. Kassianos<sup>1,2</sup>, M. Kyprianidou<sup>1</sup>, P. Konstantinou<sup>1</sup>, J. Alvarez-Galvez<sup>3</sup>, L. Ceccarelli<sup>4</sup>, E. Gruszczynska<sup>5</sup>, D. Mierzejewska-Floreani<sup>6</sup>, N. Loumba<sup>7</sup>, I. Montagni<sup>8</sup>, L. Tavoschi<sup>4</sup>, M. Karekla<sup>1</sup>

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<sup>5</sup>University of Social Sciences and Humanities, Poland

<sup>6</sup>SWPS University of Social Sciences and Humanities in Warsaw, Poland

<sup>7</sup>Open University of Cyprus, Cyprus

<sup>8</sup>University of Bordeaux, France

**Background.** Identifying determinants of COVID-19 vaccination hesitancy is can contribute towards reducing mortality rates. Further, given the variability of the factors and the different recommendations used in each country, it is important to conduct cross-country research to profile individuals who are hesitant towards COVID-19 vaccinations.

**Methods.** In this presentation we will discuss data from both a cross-sectional and a longitudinal study aimed to examine cross-country differences and the behavioral, attitudinal and demographic characteristics of vaccine hesitant individuals from six European countries (Cyprus, France, Germany, Italy, Poland, Spain).

**Findings.** A total of 832 individuals completed the online survey, with 17.9% reporting being COVID-19 hesitant. Discriminant analysis showed that the hesitant profile includes a person of younger age, living alone in smaller communities, and without children. Additionally, hesitant participants reported lower institutional trust, less adherence to COVID-19 protective behaviours and higher pandemic fatigue demonstrating characteristics of hesitancy that are COVID-19-specific.

**Discussion.** Stakeholders are advised to implement targeted vaccination programs while at the same time building trust with population illness cognitions addressed in order to reduce hesitancy rates. Further, stakeholders and public health authorities in each country are suggested to target interventions according to different population characteristics as behavioral and attitudinal determinants of COVID-19 vaccination hesitancy differed.

## Psychosocial factors associated with COVID-19 vaccine hesitancy in Romania

I. Crumpei-Tanasă<sup>1</sup>, D. Drăgan<sup>2</sup>

<sup>1</sup>"Alexandru Ioan Cuza" University, Romania

<sup>2</sup>"Alexandru Ioan Cuza" University, Romania

Vaccine hesitancy represents an important threat against COVID-19 vaccination programs. Among EU countries, Romania shows one of the lowest vaccination rates. Misinformation, low public trust in physicians, negative attitudes about immunization among religious representatives, might undermine vaccination confidence.

In this study, we hypothesized that perceived threat and benefits, cues to action, trust in health care providers, critical thinking (CT), and altruism, negatively predict COVID-19 vaccine hesitancy. On the other hand, perceived barriers, anti-vaccination attitudes, and religiosity are positive predictors. We further hypothesized that anti-vaccination attitudes mediate the relationship between CT dispositions and vaccine hesitancy.

600 Romanian people aged 18 to 74, completed questionnaires to measure COVID-19 vaccine hesitancy, dimensions of the health belief model (HBMS), trust in health care providers, anti-vaccination attitudes (VAX), CT dispositions (SENDCTS), religiosity and altruism (9-SRA).

Perceived benefits, barriers and threat, trust in health care providers, religiosity, CT dispositions and cues to action predicted 78.2% of the variance in COVID-19 vaccine hesitancy. Perceived benefits of vaccination were the strongest predictor. Anti-vaccination attitudes fully mediated the relationship between CT and vaccine hesitancy.

Our study suggests that vaccination campaigns should emphasize the benefits of vaccination to reduce vaccine hesitancy in Romania. Educational programs should focus on developing CT skills and dispositions to enable people to make informed health decisions.

Acknowledgement: Authors are thankful to Romanian Ministry of Research, Innovation and Digitization, within Program 1 – Development of the national RD system, Subprogram 1.2 – Institutional Performance – RDI excellence funding projects, Contract no.11PFE/30.12.2021, for financial support.

## Conspiracy beliefs and motivation to get vaccinated against COVID-19 in Costa Rica

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<sup>1</sup>Instituto de Investigaciones Psicológicas, Escuela de Psicología, University of Costa Rica, Costa Rica

**Background.** The objective was to examine motivational determinants of coronavirus vaccination intentions (CVI), as well as better understanding the role of conspiracy-related variables. Motivational determinants included variables from the Theory of Planned Behavior (TPB) and risk perception.

**Method.** An online observational cross-sectional study was conducted with adults (N = 406) inhabitants of Costa Rica (age = 44.35 y. o. (S. D. = 13.23), 74.9% women). Motivational variables, conspiracy thinking, denialism, and conspiracy beliefs, as well as sociodemographic information was measured through self-reports. Descriptive statistics as well as Structural Equation Modelling were computed.

**Findings.** Attitudes ( $\beta = .45$ ), personal risk perception ( $\beta = .10$ ), risk perception for others ( $\beta = .08$ ), and subjective norm ( $\beta = .07$ ) were positively associated to CVI (ps at least  $< .05$ ). Perceived behavioral control was not associated to CVI. Conspiracy thinking presented indirect negative effects on intentions via conspiracy beliefs and motivational variables ( $\beta = -.37$ , 90% CI [-.61; -.19],  $p < .01$ ). Conspiracy beliefs were also directly negatively associated to intentions ( $\beta = -.18$ ,  $p < .05$ ). Denialism presented no effects. Lower education and being man were associated to conspiracy beliefs, but not to intentions. The model explained 74% of CVI variance.

**Discussion.** Conspiracy-related variables seem to decrease CVI via motivational TPB variables and risk perception. Thus, an extended version of the TPB seem to be useful to better understand CVI. Further implications are discussed.

## Conspiracy beliefs and COVID-19 vaccination intention: examining the mediating effects of trust and attitude

M. Capasso<sup>1</sup>, D. Caso<sup>1</sup>

<sup>1</sup>University of Naples Federico II, Italy

**Background:** During the COVID-19 pandemic, numerous conspiracy theories have spread uncontrollably, with the risk of reducing adherence to recommended preventive behaviours, including vaccination. The present study aimed to test the direct and indirect effects of anti-vaccine conspiracy beliefs on intention to get vaccinated against COVID-19, analysing the mediating roles of trust in science, trust in government, and attitude towards vaccinating.

**Methods:** A convenience sample of 822 unvaccinated Italian adults ( $F = 67.4\%$ ;  $Mage = 38.1$ ) completed an online self-report questionnaire during the early stages of the Italian vaccination campaign (March-May 2021). The survey assessed intention to get vaccinated against COVID-19, attitudes towards COVID-19 vaccination, trust in science, trust in government, and anti-vaccine conspiracy beliefs. The hypothesised relationships between the variables were examined by using path analysis.

**Findings:** The analyses revealed that anti-vaccine conspiracy beliefs negatively influenced intention to get vaccinated against COVID-19. Results also provided support for the hypothesised mediating effects of attitude, trust in science, and trust in government. In particular, the simple mediating effect of attitude was the strongest one, followed by the serial mediating effect of trust in science and attitude itself.

**Discussion:** Anti-vaccine conspiracy beliefs are suggested to reduce vaccination intention first by deteriorating attitude and, secondly, by destroying trust in official sources of information about COVID-19. These results indicate that improving people's attitude towards COVID-19 vaccination, along with increasing social trust, could be useful strategies to combat conspiracy theories and promote COVID-19 vaccination acceptance.

# Health behavior change across the lifespan

14:00 - 15:30

Rome

Gerry Molloy

## Using a co-design approach to promote awareness of preconception health in central Scotland

H. Welshman<sup>1</sup>, S. Currie<sup>1</sup>, V. Swanson<sup>1</sup>, A. Grant<sup>2</sup>, S. Dombrowski<sup>3</sup>

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<sup>2</sup>Robert Gordon University, United Kingdom

<sup>3</sup>University of New Brunswick, Canada

**Background:** The months before conception provide an opportunity to improve health outcomes for the mother and her infant during pregnancy and after birth (Barker et al., 2018). This important time for health improvement is not well understood or engaged with, particularly in socioeconomically deprived communities. Co-designing health behaviour change interventions can make them more accessible and engaging for the audience. To develop a resource that is accessible and can raise awareness of preconception health, a co-design approach was taken involving women living in socioeconomically deprived areas of central Scotland.

**Methods:** Six women who were planning to have a baby or had given birth within the last two years were recruited. They initially took part in a one-on-one telephone conversation with the researcher to build rapport and gather opinions on acceptable methods to introduce the concept of preconception to women. The developed intervention materials were shared with individuals from the co-design group for feedback before the final intervention was produced.

**Findings:** The PPI group contributed to the development of an awareness raising intervention by influencing the translation of evidence from preconception literature into a deliverable intervention. An example was shifting the focus of the intervention to no longer include online support forums in favour of more structured informative content. This led to the development of an informational preconception health promotion video.

**Discussion:** This process outlines one example of how co-design can be used to develop interventions which are acceptable to the target population by involving them in the design process.

## Effects and acceptability of an online decision aid (DA) about maternal pertussis vaccination (MPV)

C. Anraad<sup>1,2</sup>, P. van Empelen<sup>2</sup>, R.A. Ruiter<sup>1</sup>, H. van Keulen<sup>2</sup>

<sup>1</sup>Maastricht University, Netherlands

<sup>2</sup>Netherlands Organisation for Applied Scientific Research (TNO), Netherlands

### Background:

New interventions to promote informed decision making about vaccinations are highly needed. Our goal was to evaluate the effects and acceptability of an online decision aid (DA) about MPV.

### Methods:

Pregnant individuals were recruited for the RCT study via midwifery clinics and social media advertisements in the Netherlands. Those who gave informed consent (N=1,260) were randomly assigned (clinic or individual level) to the control (N=662; receiving usual information) or intervention group (N=598; additionally receiving the DA at 18 weeks pregnancy). The primary outcome was MPV uptake (registration data coming April 2022). Secondary outcomes were knowledge about MPV (1-7), attitude (1-5), decisional certainty (1-5), and other determinants of MPV uptake measured at baseline and posttest (before 18 weeks and at 20 weeks of pregnancy, respectively), and subjective evaluation of the DA at posttest. Data were analyzed using intention-to-treat analyses, logistic regression and linear mixed regression models.

### Findings:

We found a significant positive effect of the intervention on knowledge (B=0.58, 95%CI=0.43–0.75), attitude (B=0.07, 95%CI=0.02-0.13) and decisional certainty (B=0.18, 95%CI=0.09-0.28). The majority (74%) of participants in the intervention group visited the DA at least once. Participants positively evaluated the DA on usability, relevance, and reliability.

### Discussion:

The interactive online DA seemed effective in promoting informed decision making about MPV and its determinants. Participants perceived the acceptability of the DA as adequate. Incoming data about the effects on MPV uptake will be presented at the conference. Our results indicate that online DAs can be helpful in promoting informed decision making for vaccine uptake.

## How does a school-based intervention impact students' social cognitions on reducing sedentary behavior?

M. Aulbach<sup>1,2</sup>, S. Puukko<sup>3</sup>, M. Palsola<sup>3</sup>, A. Haukkala<sup>3</sup>, R. Sund<sup>4</sup>, N. Hankonen<sup>3,5</sup>

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Despite sedentary behavior being ubiquitous and detrimental to health, interventions specifically targeting it are rare. The Let's Move It (LMI) trial used environmental and psychological strategies to increase physical activity (PA) and reduce sedentary behavior (SB). While it achieved no effect on PA, the intervention arm considerably reduced SB post-intervention. To examine effects of a school-based intervention on students' social cognitions on SB-reduction, as defined by the Reasoned Action Approach, self-reported data on social cognitions and accelerometer data for PA and SB was collected as part of a cluster-randomized controlled trial from 1166 students (59% female, mean age=18.7 years, range: 16-49) in six vocational schools before, post-intervention, and 12 months post-intervention. Data was analyzed using mixed between-within repeated measures ANOVA. We found greater improvements in intention ( $F(1, 833)=9.69$ ;  $\eta^2p=0.01$ ;  $p=.018$ ) and descriptive norms ( $F(1, 831)=13.25$ ;  $\eta^2p=0.016$ ;  $p<.001$ ) in the intervention than control arm but these effects depended on the included control variables. Generally, intervention effects leveled off from post-intervention to follow-up. The LMI intervention for SB reduction showed modest, short-lived effects on social cognitions, indicating that changes in behavior are likely due to other factors like changes to the classroom environment.



## Dyadic behavior change techniques in health behavior change interventions with romantic couples: A systematic review

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A growing body of literature documents the importance of the social context for health behavior change. In particular, close personal relationships (e.g., romantic partners) are of great importance, and studies increasingly show that dyadic interventions are promising to change health behaviors. However, little is known about what makes these interventions effective. Thus, we conducted a systematic review to identify dyadic behavior change techniques and their degree of partner involvement in interventions with romantic couples targeting health behavior change.

A systematic search was conducted across five databases identifying 19,369 articles published until July 2021. Studies were eligible if they conducted a dyadic health intervention with romantic partners to change the health behavior of at least one partner using a controlled design. Study and intervention details including the role/task of each partner were extracted, and studies classified by their degree of partner involvement.

In total, 166 studies were included in the review. The majority focused on both partners as main recipients of the intervention aiming to change health behaviors of both and included multiple intervention sessions. Types of dyadic techniques used varied substantially between studies. The degree of partner involvement ranged from mere presence to joint behavior change techniques, i.e., actively involving both partners.

Results indicate that dyadic interventions use a great variety of dyadic behavior change techniques with varying degree of partner involvement. This diversity highlights the need to establish a systematic and reliable taxonomy of dyadic behavior change techniques to ensure precise reporting, guide intervention development, and facilitate evidence synthesis.

## Utilizing narrative persuasion to improve risky sexual behaviors among men who have sex with men

M. Xin<sup>1</sup>, N. Coulson<sup>2</sup>, C. Jiang<sup>3</sup>, W. Goggins<sup>4</sup>, E. Sillence<sup>5</sup>, W. Mak<sup>4</sup>, P. Mo<sup>4</sup>

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<sup>5</sup>Northumbria University, United Kingdom

**Background:** This study investigated the efficacy and mechanism of using narrative persuasion to reduce condomless anal intercourse among men who have sex with men (MSM).

**Methods:** A randomized controlled trial was conducted among 353 MSM in Hong Kong. A 6-week HIV prevention intervention was delivered online. The intervention group received both narrative (firsthand experiential stories shared by local MSM peers) and argumentative messages whereas the control group received argumentative messages only. Evaluations were conducted at baseline, post-intervention (T1), and 6-month follow-up (T2). Main outcomes included condom use behaviors, behavioral intentions, injunctive social norms, and self-efficacy. Paired t-test and analysis of covariance were used for within-group and between-group comparisons, respectively. Generalized estimating equation analysis was used to examine the intervention effects over the follow-up period. Path analysis was further conducted to examine potential mediators.

**Findings:** Compared to the control group, the intervention group had a larger increase in intention to consistent condom use with casual sex partners ( $F=4.98$ ,  $p=0.027$ ) and a higher level of condom use with casual sex partner(s) ( $F=4.36$ ,  $p=0.038$ ) at T2. Over the study period, the intention level increased with time in the intervention group and decreased in the control group. The mediation analysis further showed that the intervention condition increased identification with message sources and subsequent intention to consistent condom use with casual sex partners at T1, which in turn increased the relevant behavioral intention and actual behavior at T2.

**Discussion:** The findings can inform the development of effective persuasive communication strategies for HIV prevention among MSM.

## Self-efficacy and action control as predictors of physical activity among patients with knee osteoarthritis

R. Schwarzer<sup>1,2</sup>, S. Di Maio<sup>3</sup>, J. Keller<sup>3</sup>, N. Lorbeer<sup>3</sup>, N. Knoll<sup>3</sup>

<sup>1</sup>Freie University Berlin, Germany

<sup>2</sup>SWPS University of Social Sciences and Humanities, Poland

<sup>3</sup>Freie Universität Berlin, Germany

**Background:** Physical activity (PA) was found to alleviate pain and improve function among patients with knee osteoarthritis (OAK). However, adherence to PA is considered as demanding and fades unless volitional factors counteract self-regulatory failure. Study explores the predictive role that action control and self-efficacy may play among OAK patients.

**Method:** An intervention was conducted with 243 OAK patients (Mage=65.47 years, SD=0.49) at three measurement points (T0, T1, T2). We examined moderate and vigorous physical activity (MVPA) as well as number of steps with triaxial accelerometers over a seven-day period at baseline and 12-month follow-up. Action control and self-efficacy were measured with self-reports. Sex, body mass, and age were covariates. Moreover, knee problems (pain, stiffness, physical function) were assessed with the Western Ontario and McMaster Universities Arthritis Index (WOMAC).

**Results:** Overall, being older, being overweight, being less self-efficacious, and having knee problems were associated with PA. For PA at 12-month follow-up (T2), a mediator chain was found, starting with T0 self-efficacy via T1 action control. In addition, moderation analyses revealed an interaction between WOMAC (T2) and action control on T2 number of STEPS as well as an interaction between self-efficacy and WOMAC (T0) on T2 MVPA.

**Conclusions:** Regular physical activity in OAK patients can be sustained by personal characteristics such as self-efficacy and action control. This seems to be most valid for patients with less severe symptoms and better physical function whereas those with severe knee problems seem not to benefit much from their levels of self-efficacy and action control.

# Ontologies of behaviour – current perspectives and future potential in health psychology

14:00 - 15:30

Paris

Thomas Webb and Susan Michie

## Ontologies of behaviour – current perspectives and future potential in health psychology

T. Webb<sup>1</sup>, S. Michie<sup>2</sup>

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<sup>2</sup>University College London, United Kingdom

**Purpose:** To increase awareness of how ontologies have and could be used by health psychologists.

**Objectives:**

- To introduce ontologies to a broad audience.
- To showcase examples of how ontologies have been used to address questions of relevance to health psychology.
- To consider the potential of ontologies to characterise behaviours and the relationships between them.
- To provide recommendations for using and working with ontologies, including consideration of methods for developing ontologies.

**Rationale:** To advance behavioural science, we need to improve our methods for specifying the things we study, including behaviour, and the relationships between them. Ontologies are formal definitions of categories, properties and relations between concepts, data and entities. Specifically, they provide: (1) unique and unambiguous identifiers (termed 'classes' and 'individuals' within classes) representing types of entity, (2) labels and definitions corresponding to these identifiers, and 3) formally defined relationships between the entities. Developing and using ontologies has the potential to address a number of questions that are central to health psychology, including how to conceptualise behaviour, interventions, and outcomes, understand the relationships between behaviour, and organise and integrate evidence. The proposed discussion therefore fits with the conference theme of "Charting new territories in health psychology"

**Summary:** The contributors (Robert West, Marie Johnston, Gabriel Nudelman, Paul Norman, and Janna Hastings) represent projects that have used – or could use - ontologies to address questions of relevance to health psychologists, including how to specify behaviour. The projects are the Human Behaviour Change Project, IC Behavior (formerly ICF-Behave), and the Tools for Understanding Relations Between Behaviour using Ontologies (TURBBO) project; as well as projects studying multiple health behaviours and their relations. Each contributor will draw on their experience to answer questions, such as (i) Why did you use an ontology approach? (ii) How and what were the challenges? (iii) Where have you got to and what are the next steps? (iv) What do you see as the added value of this work? The discussion will then be opened to the audience.

# The effectiveness of labelling interventions to improve population and planetary health

14:00 - 15:30

Berlin

James Reynolds

## Calorie labelling in the out-of-home food sector and socioeconomic position

M. Polden<sup>1</sup>, E. Robinson<sup>1</sup>, A. Jones<sup>1</sup>

<sup>1</sup>University of Liverpool, United Kingdom

**Background:** Food purchased from out-of-home food outlets (OHFO) is often high in calories and higher consumption is associated with obesity, weight gain and poorer dietary quality. Calorie labelling in the OHFO sector may act as a method to promote informed and healthier consumer choices. However, it is unclear whether calorie labelling could widen socioeconomic position (SEP) based inequalities in diet and obesity. We, therefore, examined evidence of SEP differences in OHFO purchasing behaviour and use of calorie labelling across various types of OHFOs.

**Methods:** In 2021 we surveyed over 3000 participants dining in the OHFO sector across 4 regions of England. We measured calories purchased and consumed during OHFO visits and whether customers noticed and/or used calorie labelling when making their purchases. Participants completed intercept surveys when leaving the OHFO and answered questions relating to the items they purchased, their consumption and whether they used any calorie labelling provided by the OHFO. Demographic information, including SEP (education level), was measured to assess the impact of SEP on the use of calorie labelling and number of calories purchased and consumed from OHFO.

**Findings:** Findings will reveal if SEP affects purchasing and consumption behaviour in the OHFO sector across various outlet types. Further, findings will provide insights into whether people of varying SEP differ in their noticing and usage of calorie labelling in OHFO.

**Discussion:** The findings will be discussed in relation to whether calorie labelling and current purchasing and consumption habits of people from varying SEP could widen existing health inequalities.

# Effect of PACE labels on energy purchased in cafeterias: a stepped-wedge randomised controlled trial

J. Reynolds<sup>1</sup>, M. Ventsel<sup>2</sup>, A. Hobson<sup>3</sup>, M. Pilling<sup>2</sup>, R. Pechey<sup>3</sup>, S. Jebb<sup>3</sup>, G. Hollands<sup>2</sup>, T. Marteau<sup>2</sup>

<sup>1</sup>Aston University, United Kingdom

<sup>2</sup>University of Cambridge, United Kingdom

<sup>3</sup>University of Oxford, United Kingdom

## Background

A recent meta-analysis suggested that using physical activity calorie equivalent (PACE) labels results in people selecting and consuming less energy however there has been limited evidence in naturalistic settings. The current study aimed to estimate the effect of PACE labels on energy purchased across 10 worksite cafeterias.

## Methods

A stepped-wedge randomised controlled trial evaluating a PACE label intervention in which PACE labels (which include kcal content and minutes of walking required to expend the energy content) were added to food and drinks after a period of baseline. The setting was 10 worksite cafeterias based in England, which were randomised to the order in which they introduced the labels. The study ran for 12 weeks with over 250,000 transactions recorded on electronic tills. The primary outcome was total energy (kcal) purchased from intervention items per day. The secondary outcomes were: energy purchased from non-intervention items per day, total energy purchased per day, and revenue.

## Findings

Models showed evidence consistent with no overall effect on energy purchased from intervention items during the intervention: -1.3% (95% CI -3.5% to 0.9%). There was also no evidence for an effect on energy purchased from non-intervention items, -0.0% (95% CI -1.8% to 1.8%), or total items -1.6% (95% CI -3.3% to 0.0%). Revenue increased during the intervention, 1.1% (95% CI 0.4% to 1.9%).

## Discussion

There was no clear evidence that PACE labels changed energy purchased across worksite cafeterias. There was considerable variation in effects between sites, suggesting potentially important unmeasured moderators.



## Impact of health warning labels and calorie information on selection and purchasing of alcohol

N. Clarke<sup>1,2</sup>, J. Ferrar<sup>3</sup>, E. Pechey<sup>1</sup>, M. Ventsel<sup>1</sup>, A. Blackwell<sup>3,4</sup>, M. Pilling<sup>1</sup>, M. Munafo<sup>3</sup>, T. Marteau<sup>1</sup>, G. Hollands<sup>1,5</sup>

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### Background

Excessive consumption of alcohol is a major risk factor for several non-communicable diseases including seven types of cancers. Alcohol labelling – such as providing health warning labels (HWLs) and calorie information on products – is one promising intervention to reduce alcohol selection and consumption, but evidence from real-world settings is limited. This study aimed to estimate the impact on selection and purchasing of alcohol of presenting HWLs and calorie information on alcohol products.

### Methods

Adults in England and Wales who regularly consumed and purchased beer and wine online (n=600) were randomised to one of six groups in an experiment with a between subjects 3 (HWL: i. image-and-text HWL, ii. text-only HWL, iii. no HWL) x 2 (Calorie information: present vs absent) factorial design. Participants used a simulated supermarket webpage to select drinks for their next online shop, before purchasing them from an actual online supermarket. The primary outcome was the number of alcohol units selected (with intention to purchase); secondary outcomes included purchasing.

### Findings

Data have been collected from 550 participants with completion and analysis expected before April 2022.

### Discussion

The results of this study will provide evidence about the impact of health warning labels and calorie information on the number of alcohol units selected and purchased in an online supermarket setting.

## Effect of environmental labelling on food choices: A randomised controlled trial in a virtual supermarket

L. Arrazat<sup>1</sup>, S. Chambaron<sup>1</sup>, G. Arvisenet<sup>1</sup>, J. Charrier<sup>2</sup>, I. Goisbault<sup>2</sup>, S. Nicklaus<sup>1</sup>, L. Marty<sup>1</sup>

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<sup>2</sup>Strategir, France

Consumers often underestimate the environmental impact of food products which may impede environmentally friendly food choices. Environmental labelling can be a promising strategy to initiate a shift towards more environmentally friendly food choices. We tested the effect of a new traffic-light front-of-pack environmental label on food choices in a 2-arm randomised controlled trial (labelling versus no labelling) in a virtual reality supermarket. In both conditions, participants (n=132) chose food products to compose two main meals for an everyday meal scenario and for an environmentally friendly meal scenario. The environmental label (ranging from A: green/lowest impact, to E: red/highest impact) was based on the Environmental Footprint (EF) single score and calculated across food categories. In the everyday meal scenario, the environmental impact of meals was lower in the labelling condition than in the no labelling condition ( $-0.17 \pm 0.07$  mPt/kg,  $p = 0.012$ ). This difference was observed at no nutritional, financial nor hedonic cost. The effectiveness of the label can be attributed to a change in the food categories chosen: less meat-based and more vegetarian meals were chosen in the labelling condition. In the environmentally friendly meal scenario, participants in the labelling condition were able to choose food products with a lower environmental impact ( $-0.19 \pm 0.07$  mPt/kg,  $p = 0.005$ ) demonstrating that the label provided new information to the participants. Implementing environmental labelling on food products in supermarkets could increase awareness of the environmental impact of diets and help consumers to select more environmentally friendly food products.

## The impact of ecolabels on the environmental impact of cafeteria purchases: A randomised controlled trial

R. Pechey<sup>1</sup>, P.A. Bateman<sup>1</sup>, B. Cook<sup>1</sup>, C. Potter<sup>1</sup>, M. Clark<sup>1</sup>, C. Stewart<sup>1</sup>, C. Piernas<sup>1</sup>, S.A. Jebb<sup>1</sup>

<sup>1</sup>University of Oxford, United Kingdom

**Background.** Ecolabels— indicating the environmental impact of products— have been shown to reduce the environmental impact of food selections in studies using an online experimental supermarket, but their effectiveness in settings involving real food purchases is unclear. This study examined the effectiveness of ecolabels at reducing the environmental impact of purchases in worksite cafeterias.

**Methods.** Worksite cafeterias (n=28) were randomised to either control (no labels) or ecolabel conditions. Between May and September 2021, sites in the ecolabel condition (n=13) labelled hot meals with their environmental impact (scored from A-E), placed next to the name of the meal on printed menus. Mixed effect regression models examined the impact of labelling on the mean environmental impact (EcoScore; 1= lowest impact; 100= highest impact) of meals purchased each week.

**Findings.** The mean EcoScore of meals purchased at baseline was 67.9 (s.d. 10.9) in control sites vs. 70.3 (s.d. 8.6) for intervention sites; and during the intervention period was 69.9 (SD 9.0) for control sites vs. 71.3 (s.d. 8.4) for intervention sites. There was no evidence of an impact of ecolabels on the mean environmental impact of meals purchased either in intention-to-treat (-1.01, 95%CI -3.11 to 1.08) or per-protocol (-0.90, 95%CI -2.81 to 1.01) analyses. The majority of main meal options sold were rated 'E' in both control and intervention sites.

**Discussion.** When ecolabels were applied to hot meals within worksite cafeterias, the environmental impact of food purchases overall was unchanged. However, the potential effectiveness was limited by the narrow range of options available.

# The role of interpersonal dynamics for health behavior and well-being using intensive longitudinal designs

14:00 - 15:30

Vienna

Janina Lüscher and Corina Berli

## Reciprocal association between social support and psychological distress in chronic health conditions

C. Debnar<sup>1</sup>, C. Peter<sup>2</sup>, D. Morselli<sup>3</sup>, G. Michel<sup>4</sup>, N. Bachmann<sup>5</sup>, V. Carrard<sup>6</sup>

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<sup>5</sup>University of Applied Sciences and Arts Northwestern Switzerland,, Switzerland

<sup>6</sup>CHUV Lausanne University Hospital, Switzerland

**Background:** The onset of a chronic physical health condition (CHC) can severely impact individuals' well-being and mental health. Social support is one of the factors related to better mental health in CHC populations. Nonetheless, little is known about the longitudinal dynamics of social support and psychological distress. This study aimed to determine whether and how social support and psychological distress changes around the onset of a CHC and to examine whether the change of social support leads to a change in psychological distress at a later time point or vice versa.

**Method:** The sample consists of 582 participants reporting the onset of a non-congenital-physical CHC. Random-intercept cross-lagged panel models were conducted to explore the longitudinal evolution of social support and psychological distress.

**Findings:** An increase in social support and psychological distress has been observed from before the onset to the subsequent onset year and from three years to four years after the onset. Furthermore, the model showed a reciprocal association. More psychological distress one year after onset is linked to less social support in the following year, and vice versa; more social support is linked to less psychological distress.

**Discussion:** The extent to which individuals living with a CHC receive social support shortly after the onset is critical because it can negatively impact psychological distress or be negatively impacted by more psychological distress. This underlines the importance of involving the social environment of individuals living with a CHC in treatment and rehabilitation, especially around the first year after CHC onset.

## Interpersonal affective Dynamics in Daily Life as a core process of wellbeing over the lifespan

A.B. Horn<sup>1</sup>, Z.M. Huber<sup>2</sup>, R. Moulder<sup>3</sup>, O. Dworakowski<sup>2</sup>, T. Meier<sup>2, 4</sup>, M. Martin<sup>2</sup>

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<sup>3</sup>University of Colorado Boulder, United States

<sup>4</sup>Northwestern University, United States

**Background:** The regulation of daily affective states is fundamental for our physical and psychological health and at the core of wellbeing. More and more attention has been drawn to the fact that emotion regulation happens in relationships, in adulthood dominantly in the romantic relationship. This study aims at investigating the dynamics of the core affective dimensions of valence and arousal while integrating momentary psychological intimacy as a potential socio-affective pathway between partners. Applying a life-span perspective, we investigated how these core processes of affective wellbeing differ between younger and older couples.

**Methods:** N = 116 couples (N=62 younger between 18 and 30 years; N=54 older couples 60 years and older) received a study smart phone beeping them for 3 daily time-based EMA-questionnaires over the span of 21 days. They reported their momentary affect, energetic arousal, and psychological intimacy among others. These variables were analyzed regarding their temporal, contemporaneous and between couples dynamic networks through dyadic dynamic VAR network models, comparing older and younger couples.

**Results:** Psychological intimacy did not proceed own or partner affect but was contemporaneously associated with own and partner affective valence and lower partner affective arousal. The interconnection of arousal seemed to play a different role in younger and older couples.

**Discussion:** These results open doors for further research shading light on the dynamics of daily affective wellbeing and its relational correlates. The partly differential results of younger and older couples call for life-span-sensitive approaches for fostering relational resources for wellbeing in couples.

## Daily perceived buddy responsiveness in the context of smoking cessation

J. Lüscher<sup>1</sup>, P. Schwaninger<sup>2</sup>, U. Scholz<sup>3</sup>, C. Berli<sup>3</sup>

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<sup>2</sup>Universität Zürich, Switzerland

<sup>3</sup>University of Zurich, Switzerland

**Introduction:** Social network partners, such as a romantic partner or a buddy can play a crucial role for successful smoking cessation. A resource associated with health indicators and well-being is perceived responsiveness. Perceived responsiveness is defined as the perception that a significant other understands, approves and cares for the self. Only few studies have examined the role of perceived responsiveness in the context of smoking cessation. Moreover, perceived responsiveness was only investigated from a romantic partner and not from a buddy. The present research thus examines perceptions of a self-chosen buddy's responsiveness as a predictor of daily smoking and well-being from a self-set quit date on. **Methods:** 71 adult smokers participating in a dyadic app-based smoking cessation intervention reported on daily responsiveness, number of cigarettes smoked and well-being in end-of-day diaries from a self-set quit date on across 21 consecutive days. **Results:** Multilevel analyses revealed that at the between-person level perceived responsiveness was negatively associated with daily numbers of cigarettes smoked and at the within-person level perceived responsiveness was positively associated with well-being. **Conclusions:** Previous research has shown that perceived responsiveness is an important predictor of smoking cessation. This is the first study examining the role of perceived responsiveness from a self-chosen buddy in the context of smoking cessation in daily life. The present study shows that perceived responsiveness from a self-chosen buddy also predicts less daily smoking and higher well-being and thus demonstrates the potential of perceived responsiveness for smoking outcomes.

## Resource Activation in Peer Dyads 65+: Impact on Social Connection and Well-being

Z.M. Huber<sup>1,2</sup>, A. Hering<sup>3,4</sup>, S. Mérillat<sup>2,5</sup>, T. Meier<sup>6</sup>, M. Kliegel<sup>4</sup>, M. Martin<sup>2,5</sup>, A.B. Horn<sup>2,5</sup>

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<sup>5</sup>Department of Psychology, University of Zurich, Switzerland

<sup>6</sup>Northwestern University, United States

**Background:** Factors known to be essential for our psychological health and well-being have been limited during the COVID-19 pandemic. Particularly individuals of 65 and older suffered from the restricted access to social and cognitive activities and interpersonal connectedness and were sweepingly put into the risk group at the beginning of the pandemic. With this restricted availability of resources in the cognitive, affective and social domain that are known to be vital to healthy aging, the ongoing CoCoCap65+ study aims to investigate the possibilities of resource activation in these domains with a tandem partner using self-applied, phone-based and digital interventions in dyads of 65+ year old participants.

**Methods:** The tandems are randomly assigned to one of three study conditions and within them activate resources primarily in the cognitive, social or affective domain during the three-week study period. This includes 14 phone conversations applying different activities and a total of 18 daily diary questionnaires. The study protocol and proposed hypotheses have been preregistered and data collection is ongoing, so far we enrolled N= 46 dyads.

**Results:** Preliminary analyses reveal that the three different conditions boosted connectedness (psychological intimacy) and affective wellbeing (affective valence) similarly, as measured intensive longitudinally during the three weeks of the training.

**Discussion:** The CoCoCap65+-Study gives insight into interpersonal processes that are an important mechanism for promoting resilience when training different domains relevant for healthy aging. We also want to test the general feasibility of this self-applied and phone based study.



## Interpersonal processes of a dyadic smoking cessation app intervention in daily life

C. Berli<sup>1</sup>, P. Schwaninger<sup>2</sup>, J. Lüscher<sup>3</sup>, U. Scholz<sup>1</sup>

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<sup>3</sup>Swiss Paraplegic Research, Switzerland

**Background:** Smartphone apps provide unique opportunities to improve smoking cessation in real time, for example by fostering social support from one's personal network. Identifying the processes elicited is important to understand what makes these tools effective. The present study investigated the theoretically derived and pre-registered interpersonal processes of the Smokefree Buddy app in daily life, a smoking cessation app that encouraged smoking cessation with the help of a buddy.

**Methods:** A total of 162 adults with the intention to quit smoking participated in an RCT with intensive longitudinal design and were randomized to an intervention (N = 81; Smokefree Buddy app + assessments) or a control group (N = 81, assessments only). Participants reported on the intensity and quality of support received and self-efficacy in end-of-day diaries from 7 days before (pre-quit) to 20 days after a self-set quit date (post-quit).

**Findings:** Multilevel analyses revealed that participants in the intervention group reported higher daily intensity and lower daily quality of support receipt, and higher daily self-efficacy from the self-set quit date on until 20 days after compared to participants of the control group.

**Discussion:** Findings demonstrate that the app was effective in enhancing self-efficacy and the amount of support from the social network during a quit attempt, but contrary to expectations did not necessarily increase support quality. This suggests that a theory-based app may be capable to foster interpersonal processes, but a differentiated view on support aspects is required.

# Temporal Aspects of Health Attitudes and Habits

14:00 - 15:30

Warsaw

Barbara Mullan

## Predictors of Attitude Strength as Determinants of Attitude Stability and Attitude-Behaviour Relationships

M. Conner<sup>1</sup>

<sup>1</sup>University of Leeds, United Kingdom

**Background:** There has been relatively little study of multiple predictors of attitude strength in relation to health behaviours.

**Methods:** Eight predictors (attitude certainty; attitude importance; attitude subjective knowledge; moral basis of attitude; attitude elaboration; felt ambivalence; cognitive-affective potential ambivalence; cognitive-affective inconsistency) were tested for individual and combined impact on two defining features of attitude strength (attitude temporal stability; attitude-behaviour relationship), in a prospective study over one and two months across six COVID-19 protection behaviours in a UK representative sample (N = 477).

**Findings:** All eight predictors were individually associated with attitude stability in individual (except elaboration) and simultaneous (except elaboration and potential ambivalence) tests. All eight predictors (except elaboration and potential ambivalence) were significant moderators of attitude-behaviour relationships in individual tests; attitude importance and inconsistency were significant moderators of attitude-behaviour relationships in simultaneous tests (only former remained significant controlling for stability).

**Discussion:** The findings highlight attitude importance as the strongest predictor of attitude strength reflected in their impact on attitude stability and attitude-behaviour relationships. Targeting attitude importance may be a useful way to promote engagement with various health behaviours.

## Describing, predicting and explaining adherence to total skin self-examination (TSSE) in people with melanoma

J. Allan<sup>1</sup>, D. Johnston<sup>2</sup>, M. Johnston<sup>1</sup>, P. Murchie<sup>1</sup>

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<sup>2</sup>Aberdeen University, United Kingdom

**Background:** Melanoma survivors who regularly engage in total skin self-examination (TSSE) are more likely to detect cancer recurrence. The present study aimed to describe trajectories in melanoma survivors' adherence to digitally-supported TSSE over 12 months, and to predict adherence trajectories from demographic, cognitive and emotional factors.

**Methods:** 104 adults (48M/56F; mean age 58.83) recently treated for stage 0-IIIC primary cutaneous melanoma participated in a longitudinal observational study as part of the 'ASICA' TSSE digital support trial. Participants completed baseline measures of demographic (age, gender, socioeconomic status), cognitive (intentions, self-efficacy and planning about TSSE) and emotional (anxiety, depression, cancer worry) factors before being prompted monthly via the ASICA app to perform a TSSE. Adherence to guideline-recommended (monthly) TSSE over 12 months was determined objectively via time-stamped interaction with the app.

**Findings:** Growth mixture modelling identified 3 TSSE adherence trajectories (adherent - 41%; drop-offs -35%; and non-adherent -24%). The non-adherent intended to perform TSSE more frequently than recommended (OR=0.21, (95% CI 0.06, 0.81, p=.023) and were more depressed (OR =1.31 (CI , 1.06, 1.61, p=.011) than the adherent. The drop-offs had poorer action plans (OR=0.78, CI 0.63,0.96, p=.016) and lower self-efficacy about TSSE (OR =0.92, CI 0.86,0.99, p=.028) than the adherent.

**Discussion:** Adherence to monthly TSSE can be reliably differentiated into three distinct trajectories over time: adherent, drop-off and non-adherent. Collecting brief information about depression, intentions, self-efficacy and/or action planning about TSSE immediately post-treatment may help to identify melanoma survivors who would benefit from additional intervention to support future TSSE adherence.

## Differential importance of intentional and non-intentional factors of behaviour across behavioural attributes and contexts

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**Background:** Temporal self-regulation theory was proposed to bridge an observed intention-behaviour gap. However, the theory's utility to accomplish this is unknown and inconsistencies on the importance of theory constructs are observed across behaviour types. Hence, this review aimed to evaluate the utility of temporal self-regulation theory to explain behaviour, bridge the intention-behaviour gap and investigate behavioural attributes as moderators of behaviour to better understand predictors of health behaviour.

**Method:** Forward citation searches on the original temporal self-regulation theory paper were conducted through Google Scholar, identifying 37 eligible articles, comprising of 12,555 participants, assessing at least two of three theory constructs. Random-effects meta-analyses and meta-regressions examined the effects of each theory construct on behaviour and the moderators of the behaviour.

**Findings:** We found very weak (self-regulatory capacity  $r = .039$ ,  $CI = .00 - .07$ ) to moderate (intention  $r = .331$ ,  $CI = .26, .40$ ; behavioural pre-potency  $r = .379$ ,  $CI = .32, .44$ ) effects across the three constructs of the theory. The strength of associations varied across behaviour types where relationships between all theory constructs and behaviour were strongest for multistep behaviours and behaviours in unsupportive contexts but weakest for avoidance behaviours.

**Discussion:** The results contribute to better understanding of the predictors of health behaviour. However, insufficient numbers of studies assessing interactions hindered our ability to assess three-way interactions, essential for investigation due to new findings of self-control as an effortless strategy. We urge researchers to assess and report interactions for better understanding of the drivers of behaviour.

## “Look, a streaker!” – Examining streaking as a habit formation technique for recreational running behaviour

S. Dombrowski<sup>1</sup>, M. Curran<sup>1</sup>, S. Cameron<sup>1</sup>, G. Ozakinci<sup>2</sup>

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<sup>2</sup>University of Stirling, United Kingdom

**Background:** Running as a form of physical activity is beneficial to overall health and wellbeing. The aim of the study is to examine ‘run streaking’ (i.e. running on consecutive days, for a minimum period of time or distance, typically at least one mile) as a technique for habit formation and behavior change.

**Methods:** Study 1: qualitative semi-structured interviews with 21 international recreational adult runners (11 female and 10 male). Transcripts were analysed thematically.

Study 2: Cross-sectional interventional online survey of n=1086 recreational runners (67.6% female, Age: M=42.7, SD=12.8) who were asked about running perceptions and behaviours including run streaking status and running habits.

**Findings:** Study 1 observed the following themes: ‘automaticity’, ‘motivation’, ‘mindset and monitoring’, and ‘beliefs about capabilities’. Streakers reported a cognitive switch from deciding whether to run to when to run which required ongoing conscious planning. Run streaking was not a fully automatic habit per se but was supported by several habits to facilitate daily accomplishment of running behaviour. Study 2 found that 48.3% of participants reported having engaged in run streaking. Run streaking status was unrelated to age, gender or body mass index ( $p>0.05$ ). Streakers had a significantly higher level of self-reported automaticity ( $p=0.006$ ,  $d=0.16$ ).

**Discussion:** Results demonstrate potential for streaking as a behaviour change technique. Accounts of streaking demonstrate an interplay between self-regulation and facets of automaticity and habit formation. Streaking is a common technique used by recreational runners and is associated with greater self-reported habit strength.

## Comparing Computational Models of Habit Formation: A Study on Handwashing Behavior during COVID-19 with Sensors

C. Zhang<sup>1</sup>, Z. Jellic<sup>2</sup>, M. Adriaanse<sup>3</sup>

<sup>1</sup>Eindhoven University of Technology, Netherlands

<sup>2</sup>Utrecht University, Netherlands

<sup>3</sup>Leiden University Medical Center, Netherlands

**Background:** Theory-based computational models of habit formation have been proposed in recent years. However, these models have not been systematically reviewed or tested by empirical data. We aimed to compare four computational models by examining how well they described the formation of handwashing habits amid the COVID-19 pandemic.

**Methods:** Forty-six participants were instructed to form a habit of washing hands after returning home for 4 weeks (Age: 21-72 years old; Gender: 76% females). Handwashing was monitored by pressure sensors attached to participants' soap bottles. Participants self-reported daily the time they returned home and their habit strengths. Aggregated and individual trajectories of habit formation were visualized. Mean squared errors (MSE) in predicting habit strength based on sensor-measured behavior were used to evaluate the models.

**Results:** On average, participants washed their hands 3.56 times a day and their habit strengths increased slightly. There were great individual differences in habit formation and all models fitted the data poorly when the same model parameters were used for all participants. When parameters were allowed to be person-specific, the Klein model fitted the data significantly better than all other models (all  $p < .012$  when comparing MSE; all Cohen's  $d_z > 0.527$ ).

**Discussion:** Our findings suggest the Klein model to be the current best model for describing habit formation. The results also indicate that habits increase nonlinearly and habits decay much more slowly than they grow. With further validation, computational models of habit formation can be used to improve the prediction and intervention of health behaviors.

# Quality of life

14:00 - 15:30 Bratislava

Tracy Epton



## INTERVENING TO ENHANCE QUALITY OF LIFE DURING A PANDEMIC: A PILOT STUDY

T. Epton<sup>1</sup>, C. Rowland<sup>1</sup>, S. Lyons<sup>1</sup>, S. Skevington<sup>1</sup>

<sup>1</sup>University of Manchester, United Kingdom

**BACKGROUND.** COVID-19 pandemic lockdowns in the UK potentially affected all domains of quality of life (QoL). Feedback and reflection on personal QoL has shown promise in improving QoL. Targeting behaviours related to QoL with established behaviour change techniques (BCTs) may further improve this.

**METHODS.** Two interventions (QoL feedback & reflection (FB); QoL feedback & reflection plus BCTs (FBBC)) and a control condition (C) were compared. In May 2020 participants were invited via social media to take part in a QoL study. All participants reported their QoL and perceived importance of QoL facets (WHO-QoL COMBI) at 2-weeks (N=181), 3 (N=129) and 6-months (N=138). C had no intervention (n=74). FB (n=77) and FBBC (n=75) were: (a) shown graphs of their QoL and importance ratings, highlighting gaps between each pair of ratings by facet, and (b) prompted to reflect on how to address gaps. FBBC were also invited to complete BCTs to address behaviours related to the QoL facets.

**FINDINGS.** Two-thirds completed the QoL reflection (FB:67.53%, FBBC:60%). 8.8% of FBBC accessed the BCTs. At 2-weeks physical QoL was higher for FB and C than FBBC;  $F(1,170) = 5.63$ ,  $p = .004$ . At 3-months this was higher for FBBC than FB and C;  $F(1,125) = 3.55$ ,  $p = .032$ . There were no other differences by QoL domain or time-point.

**DISCUSSION.** This novel pilot intervention shows some promise to effect QoL. Qualitative work is needed to understand low uptake of BCTs in FBBC arm and refine intervention delivery to inform a future trial.

## Individual Rituals Increase the Effects of Non-Deceptive Placebos on Wellbeing

M. Valerio<sup>1</sup>, K. Faasse<sup>1</sup>, L. Vartanian<sup>1</sup>

<sup>1</sup>UNSW Sydney, Australia

### Background:

Health treatments, whether traditional, alternative, or evidence-based, present important ritualistic features (e.g., taking a pill at the same time and with the same series of actions) that may enhance the placebo effect associated with these treatments. However, limited empirical research on the role of rituals has been conducted in the placebo literature. The current study investigates whether performing a personalised ritual (a sequence of actions presenting various degrees of rigidity and repetition) associated with the consumption of placebos administered without deception (also known as open-label placebos, OLPs) for six days can improve the placebo effects on physical and psychological wellbeing.

### Method:

The study used a one-way between-subjects design involving 198 participants to assess the effects of OLPs taken with or without performing a ritualistic procedure, compared to a no-treatment control condition who did not receive OLPs. Physical and mental wellbeing was assessed at baseline and after six days of OLP treatment and was operationalized as positive mental wellbeing, psychological distress, vigour and fatigue, and sleep quality.

### Results:

Participants consuming OLPs reported statistically significant higher scores in all the four well-being outcomes compared to the control group. Participants performing a ritualistic procedure associated with OLP consumption reported significantly better levels of psychological distress and sleep quality compared to participants consuming OLPs without associated ritual.

### Conclusions:

Adding rituals to OLPs may enhance the placebo effect. These results provide useful insights to improve the placebo effect component of both placebo and active medical treatments.

## Body appreciation in young adulthood: A new challenge in positive health psychology?

H. Kiss<sup>1</sup>, B. Pikó<sup>1</sup>, A. Gráczér<sup>1</sup>

<sup>1</sup>University of Szeged, Albert Szent-Györgyi Medical School, Department of Behavioral Sciences, Hungary

**Background:** Being a young adult has many challenges in terms of body image, body appreciation, and expected body appearance. Several factors, such as familial role models, sporting habits, and personal well-being can greatly influence them, particularly in the case of young females; however, these connections remain unclear. Our purpose was to investigate the associations of body appreciation with disordered eating and psychological and familial factors.

**Methods:** We conducted our study among Hungarian female university students (N=261, mean age = 22.0 years; SD=2.2 years) using an online questionnaire package. Besides the Body Appreciation Scale-2 (BAS-2), we applied the Eating Attitude Test-26 (EAT-26), the Rosenberg Self-esteem Scale, and the Life Orientation Test (LOT-R), moreover, we asked questions regarding familial eating patterns, sporting, and body mass index (BMI).

**Findings:** Results of multiple linear regression showed that body appreciation was associated with all variables except with bulimia and obesity in the family. The strongest connection was found with self-esteem ( $\beta=0.06$ ,  $p<0.001$ ), dieting ( $\beta=0.07$ ,  $p<0.001$ ), sporting ( $\beta=0.73$ ,  $p<0.01$ ) and BMI ( $\beta=0.10$ ,  $p<0.01$ ). Surprisingly, eating disorders ( $\beta=1.37$ ,  $p<0.05$ ) in the family were in a positive relationship with body appreciation, while optimism ( $\beta=0.09$ ,  $p<0.05$ ) was a predictor of higher body appreciation.

**Discussion:** Our data support the literature, that is appropriate level of self-esteem, regular exercise, and controlling food intake can contribute to healthy body appreciation. On the other hand, constant dieting and higher BMI scores predict body dissatisfaction among young females. As expected, family plays a critical role in shaping the body appreciation of the youth.

# Quality of Life of Pediatric and Adult Osteogenesis Imperfecta Patients: A Systematic Review and Meta-Analysis

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<sup>4</sup>Division of Metabolism, University Children's Hospital Zurich, Zurich, Switzerland

**Background:** The present systematic review and meta-analysis aimed to provide an overview across the versatile nature of quality of life (QoL) in the context of osteogenesis imperfecta (OI), for both children and adults.

**Methods:** For this systematic review and meta-analysis, 9 databases were searched with predefined key words. The selection process was executed by two independent reviewers and was based on predefined exclusion and inclusion criteria. Effect sizes were calculated as standardized mean differences (SMDs). Between-study heterogeneity was calculated with the I<sup>2</sup> statistic.

**Findings:** Among the studies included 2 featured pediatric patients (N = 190), and 4 consisted of adult OI patients (N = 804). Children with OI had significantly lower QoL levels concerning emotional, and school functioning compared to controls and healthy norms (respectively, SMD = -.516, 95% CI, -.707; -.326, p < .001, SMD = -1.248, 95% CI, -1.451; -1.045, p < .001). In the adult sample, all OI types exhibited significantly lower QoL levels across all physical component subscales, and almost all mental component subscales compared to healthy norms. However, the mental health subscale was significantly lower for OI type I (mild type), but not for type III (severe type) and IV (moderate type) (SMD = -.254, 95% CI, -.477; -.034, p < .05).

**Discussion:** Differences among different OI subtypes show that the clinical severity of an OI diagnosis does not automatically lead to worse mental health QoL. Future research is needed to explain the missing relation between clinical severity and mental health in OI type I.

## Caregivers' perspectives on health-related quality of life for young children with tuberculosis and respiratory illnesses

M.G. Anthony<sup>1</sup>, G. Hoddinott<sup>1</sup>, A.C. Hesselning<sup>1</sup>, M. Van Niekerk<sup>1</sup>, A. Mtshabe<sup>1</sup>, A. Pienaar<sup>1</sup>, I. Dewandel<sup>1</sup>, L. Africa<sup>1</sup>, A. Mfazwe<sup>1</sup>, B. Bavuma<sup>1</sup>, C. Mckenzie<sup>1</sup>, M.M. van der Zalm<sup>1</sup>

<sup>1</sup>Stellenbosch University, South Africa

### BACKGROUND

There is a lack of holistic health-related quality of life (HRQoL) measures for children aged 0-5 years with respiratory illnesses. We aimed to understand caregivers' perceptions of common HRQoL domains for their children's experience with respiratory illnesses.

### METHODS

Data collection was nested in a prospective observational cohort study of children routinely presenting to a public hospital with respiratory symptoms presumptive of pulmonary tuberculosis (PTB). We used purposive sampling and conducted 10 semi-structured in-depth interviews with children's caregivers (<5 -years of age) with TB and other respiratory illnesses to explore perceptions of the relevance of 5 commonly measured HRQoL domains; physical health, social support, emotional and psychological wellbeing, and schooling. We used case descriptive analysis and thematic coding.

### RESULTS

Caregivers were the parents (n=9) or grandparents (n=1) of 10 children; 5 girls and 5 boys. The participants' socioeconomic context framed their responses while exploring HRQoL; QoL was expressed to be about having sufficient basic resources for children to not experience deprivation e.g., food. HRQoL experiences varied according to the severity of the child's symptoms, but not between TB and non-TB illness. Manifestations in the psychological domain were difficult to distinguish from the emotional domain; however, some behavioural changes were observed. Caregivers felt that social support should also include extended family members. Although children were of pre-school age, caregivers were concerned about their children's early developmental milestones and future schooling.

### CONCLUSION

This exploratory study shows that HRQoL domains require adaptation to be applicable for young children affected by respiratory illnesses.

## Exploring perceptions of living with obesity and the prospect of having bariatric surgery

R. Keyte<sup>1</sup>, H. Egan<sup>1</sup>, M. Hussain<sup>1</sup>, M. Mantzios<sup>1</sup>

<sup>1</sup>Birmingham City University, United Kingdom

**Background:** The success of bariatric surgery is well documented, however, the occurrence of weight-regain after surgery, along with the presence of mental health difficulties poses a question of how contemporary psychology could assist bariatric surgery. The aim of this research was to explore individuals' attitudes, beliefs and experiences towards obesity and bariatric surgery. It is aimed this research will add to the existing literature providing guidance towards a pre- and post-surgery psycho-social-behavioural support plan.

**Methods:** Seventeen adult participants (males: 4, age range: 26–64 years) were recruited and participated in a semi-structured interview; twelve participants were pre-operative patients with a mean BMI of 45.9. The data was analysed using thematic analysis following Braun and Clarke's (2006) model.

**Findings:** Participants outlined how weight is something they have struggled with for the majority of their lives, affecting physical and psychological wellbeing, with individuals outlining the many psychological motivators that influence eating behaviours. There was high optimism displayed for positive outcomes following bariatric surgery with there being a shift in locus of control for weight management from self to healthcare professionals. Whilst this is adaptive, and should align with individuals viewing obesity as a chronic disease, there was the presence of unrealistic optimism about surgery outcomes.

**Discussion:** Despite the optimism individuals feel about bariatric surgery, the psychological factors influencing eating behaviours are not being addressed. Participants suggested the need for support groups, with this research also acknowledging the significant role mindfulness/mindful eating (and self-compassion) could play in supporting weight regulation in bariatric care.

# eHealth for diet, physical activity, and smoking

14:00 - 15:30

Kiev

Olga Perski

## Evaluation of digital interventions for physical activity promotion: Scoping review of reviews

K.K. De Santis<sup>1,2</sup>, T. Jahnel<sup>2,3</sup>, K. Matthias<sup>4</sup>, L. Mergenthal<sup>1</sup>, H. Zeeb<sup>1,2</sup>

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<sup>4</sup>University of Applied Science Stralsund, Germany

**Background:** Digital interventions (DI) could support physical activity (PA) promotion. The current study aimed to investigate how DI are evaluated in the context of PA promotion using a scoping review of reviews.

**Methods:** Of 300 reviews published up to March 2021 in Medline, PsycInfo and CINAHL, 40 reviews (one rapid, nine scoping, 30 systematic) focusing on DI for PA promotion were included in this preregistered scoping review. Two authors independently performed review selection and data coding. Data were synthesized using relative frequencies or narratively by identifying common themes.

**Findings:** Most reviews were published in 2019-2021 and originated from Europe or Australia. Most primary studies in all reviews were cited only once, included adult samples in any settings and focused on mobile apps or wearables for PA promotion. Evaluation target was any user outcome (e.g., efficacy, acceptability, usability, feasibility or engagement in 38/40 reviews) or tool performance (e.g., validation in 24/40 reviews). Evaluation methods relied on objective (tool) data (in 35/40 reviews) or other data from self-reports or assessments (28/40 reviews). Evaluation frameworks based on Behaviour Change Theory (BCT) were mentioned in 22/40 reviews. BCT was used to develop DI according to 20/22 reviews.

**Discussion:** DI evaluation is of high priority according to 40 reviews included in this scoping review. BCT may provide useful guidance for DI development and for evaluation of user outcomes in the context of PA promotion. Investigation of factors that could improve DI efficacy and standardisation of DI terminology and reporting are required in future research.



## Exploring the content of the STAND-VR intervention: a qualitative interview study

D. Healy<sup>1</sup>, E. Carr<sup>2</sup>, O. Conlan<sup>3</sup>, A. Browne<sup>1</sup>, J. Walsh<sup>4</sup>

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<sup>2</sup>Amara Therapeutics, Ireland

<sup>3</sup>Trinity College Dublin, Ireland

<sup>4</sup>NUI Galway, Ireland

**Background:** Evidence suggests that prolonged sedentary behaviour independently predicts numerous negative health outcomes. Immersive virtual reality (IVR) can be defined as fully computer-generated environments that are displayed through a head-mounted display. IVR offers opportunities for older adults to take part in meaningful non-sedentary activities that may not be available to them in their own environment due to various physical and social barriers. Following the behaviour change wheel process, intervention content was developed to encourage retired and non-working adults to take part in meaningful non-sedentary activities in IVR. This study aimed to explore this content with retired and non-working adults.

**Methods:** Ethical approval was granted for the study. Semi-structured interviews were conducted with 12 retired and non-working adults over the age of 55, where they took part in a 15-minute IVR experience and later discussed the content of the intervention. Reflexive thematic analysis was then conducted.

**Findings:** Participants generally had positive experiences with IVR. The patterns identified across the data suggested that older participants need a graded approach to IVR training to instil the belief that they are capable of using IVR. The experience must also be highly adaptive, allowing participants to choose whether to use various strategies such as goal setting, reminders and monitoring to reduce their sedentary behaviour. The findings also suggested that the primary motivation to use IVR would be to take part in meaningful activities and not to reduce their sedentary behaviour.

**Discussion:** These findings will inform the refinement of the intervention content and future logic model.

## Towards more personalized digital health interventions: impact of emotions and physical complaints on action&coping plans

H. Schroé<sup>1</sup>, D. Van Dyck<sup>1</sup>, A. De Paepe<sup>1</sup>, M. Braun<sup>1</sup>, G. Crombez<sup>1</sup>

<sup>1</sup>Ghent University, Belgium

**Background:** Despite effectiveness of action and coping planning in digital health interventions to promote physical activity(=PA), attrition rates remain high. Indeed, support to make plans is often abstract and generic. Nevertheless, people are different, and context varies. Tailored support involving personalized suggestions of specific plans, may be one way to help. As a first step, we designed a study to identify whether dynamic user information (i.e. emotions, physical complaints) relates toward specific action plans (=APs) and coping plans (=CPs).

**Methods:** Each morning for eight consecutive days, students (n=362) were instructed to create APs and CPs to reach their PA goal and answered questions regarding emotions and physical complaints. Associations between emotions, physical complaints and content of the created APs and CPs were examined using logistic regressions.

**Findings:** Students reporting pain were more likely to choose leisure activities than daily living activities (OR=1.093,95%CI=1.010-1.184,P=0.028). Students reporting positive emotions were more likely to choose activities outside than inside (OR=1.155,95%CI=1.078-1.239,P<0.001). Students reporting positive emotions preferred doing activities with someone else (OR=1.256,95%CI=1.175-1.343,P<0.001), while students reporting negative emotions and fatigue preferred doing activities alone (OR=0.922,95%CI=0.858-0.991,P=0.027;OR=0.944,95%CI=0.896-0.995,P=0.031). Lastly, students reporting positive emotions were more likely to report external barriers to do activities (OR=0.849,95%CI=0.793-0.908,P<0.001), while students reporting negative emotions, fatigue and pain were more likely to report internal barriers (OR=1.081,95%CI=1.004-1.163,P=0.038;OR=1.150,95%CI=1.090-1.214,P<0.001;OR=1.139,95%CI=1.071-1.212,P<0.001).

**Discussion:** This study reveals relations between emotions, physical complaints and the content of APs and CPs. Consequently, the knowledge acquired from these findings might be used to ultimately personalize suggestions of APs and CPs. Notwithstanding, expert consultation remains important.

## Predicting lapses in smokers attempting to stop with a popular smartphone app using machine learning

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<sup>4</sup>University of East Anglia, United Kingdom

**Background:** Temporary smoking episodes after the quit date ('lapses') often lead to full relapse. Real-time support delivered via just-in-time adaptive interventions (JITAI) may help to prevent lapses. To inform JITAI development/optimisation, we used observational data from a popular smoking cessation app to construct supervised machine learning algorithms to predict lapses at the group- and individual-level.

**Methods:** We used data from users with  $\geq 20$  unprompted diary entries, which asked about craving severity, mood, activity, social context, and lapse incidence. A series of group-level algorithms (e.g., Random Forest) were developed. Their ability to predict lapses for out-of-sample i) observations (i.e., randomly selected rows) and ii) individuals (i.e., each individual's dataset) were evaluated. Finally, a series of individual-level algorithms were developed.

**Findings:** We included 814 users (8.2% lapses). The best-performing group-level model was an XGBoost algorithm, with an area under the receiver operating characteristic curve (AUC) of 0.96 (95% CI = 0.96-0.97) when predicting lapses for out-of-sample observations. Its ability to predict lapses for out-of-sample individuals ranged from poor to excellent (0.44-1.00), with an average AUC of 0.78. Individual-level models could be constructed for only 6% of users, with an average AUC of 0.91 (range: 0.50 to 1.00).

**Discussion:** Using unprompted app data appeared feasible for constructing a high-performing group-level lapse prediction algorithm but its performance was variable when applied to unseen individuals. Separate algorithms trained and tested on each individual's data led to improved performance but could only be constructed for a minority of users due to a high proportion of non-lapsers.

## Public self-monitoring of eating via social media – effects on eating and underlying mechanisms

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<sup>1</sup>University of Mannheim, Germany

<sup>2</sup>University of Konstanz, Germany

**Background:** Posts about eating are omnipresent on social media. Based on the extended reasoned action approach, we experimentally test effects and underlying mechanisms of eating-related social media posting on eating behavior change.

**Methods:** Participants (N = 128) were asked to increase their baseline intake of fruits and vegetables by 33% for one week (intervention- and diary-period). Participants were randomly assigned to self-monitor their fruit and vegetable intake (1) publicly via Instagram postings or (2) via photos in a private chat. We examined between-group effects (ANOVAs) on fruit and vegetable intake and hypothesized mechanisms (i.e., attitudes, among others) and dose-response associations between intake-related Instagram use with fruit and vegetable intake and the hypothesized mechanisms at the day-level (multilevel-models).

**Findings:** Both groups increased their intake (time: partial  $\eta^2 = .18$ ,  $p < .001$ ), but public self-monitoring did not enhance this effect (time  $\times$  condition: partial  $\eta^2 = .00$ ,  $p = .984$ ). We found little evidence for changes in the hypothesized mechanisms. Higher than usual intake-related Instagram use was positively associated with fruit and vegetable intake, perceived social support, self-efficacy, attitudes, and goal commitment at the day-level (all  $p < .050$ ).

**Discussion:** Public self-monitoring of eating behavior via social media is as effective as private self-monitoring. Possibly, effects of social media on eating behavior change and its underlying mechanisms might be more pronounced in responses to momentary social media use. More research is needed to better understand social media environments as important aspect of the daily food choice architecture, especially for young adults.

## eHealth guidelines for people with low socioeconomic position: recommendations via Delphi methodology

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<sup>2</sup>Delft University of Technology, Netherlands

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<sup>4</sup>Capri Cardiac Rehabilitation, Netherlands

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<sup>8</sup>NDDO Institute for Prevention and Early Diagnostics (NIPED), Netherlands

<sup>9</sup>Leiden University Medical Centre, Netherlands

<sup>10</sup>National eHealth Living Lab, Netherlands

<sup>11</sup>Medical Delta, TU Delft, Erasmus University, Leiden University, Netherlands

**Background:** eHealth has great potential to help vulnerable groups, including people with low socioeconomic position (SEP), to adopt a healthy lifestyle. However, clear instructions to support professionals (i.e., health professionals or researchers) in developing eHealth interventions to meet the needs, preferences, and skills of people with low SEP are needed. This study investigated the barriers and facilitators professionals experience or expect in the development, reach, evaluation, adherence, and implementation of eHealth interventions for people with low SEP.

**Method:** A Delphi technique comprising two online questionnaire rounds for building consensus in different eHealth areas (development, reach, adherence, evaluation, and implementation) was conducted. First, participants answered open-ended questions about the barriers and facilitators they experience or expect for each eHealth area. Second, participants rated the statements generated in round one. A consensus level for each statement was calculated using the interquartile range.

**Findings:** Twenty-seven participants from different disciplines (i.e., health professionals and researchers) completed round one, and 19 participants (70.4%) completed round two. Various barriers and facilitators emerged, the most dominant of which were related to the everyday lives and social environments of people with low SEP and the time and financial resources of professionals.

**Discussion:** This study increases the understanding of factors that can facilitate or hinder development, adherence, evaluation, reach, and implementation of eHealth interventions for people with low SEP. Moreover, it provides useful information for various professionals that can be used, for example, when developing or implementing eHealth interventions customized for people with low SEP.

# Personality and health

15:30 - 17:00

Ioana Podina

## Specificity in the relationships between emotional intelligence and quality of life with ischemic heart disease

O. Razumnikova<sup>1</sup>, I. Tarasova<sup>2</sup>, O. Trubnikova<sup>2</sup>

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<sup>2</sup>Research Institute for Complex Issues of Cardiovascular Diseases, Russia

**Background:** There are different points of view on changes in the regulation of emotional states during aging, i.e. an overestimation of positive emotions (Mather and Carstensen, 2005) or an increase in negative reactions (Blanchard-Fields and Coats, 2008). As emotional stress is a factor of cardiovascular diseases, the relationship between emotional intelligence (EI) and coronary heart disease may be due to decreased ability to regulate emotions as well as higher frequency of negative expressiveness.

**Methods:** To study a role of EI in quality of life in patients from cardiologic clinic (PG, 61.2±8.3 years) vs. control group (CG, 66.2±6.2 years), the Russian versions of the Emotional Intelligence IPIP Scales and SF-36 questionnaire were used.

**Findings:** Using regression analyses the EI components were revealed as predictors of integral indices of psychological health (IIPH). In PG, 'positive expressivity' and 'attending to emotions' components of EI were correspondingly positive and negative predictors of IIPH whereas in CG the 'responsive distress' was negatively correlated with IIPH scores. Multitudinous correlations between the 'positive expressivity' and the SF-36 scales were found in PG but single relation between the 'responsive distress' and 'social functioning' scale in CG.

**Discussion:** The discussion focuses on the role and applications of the EI traits in different domains and a variance in dominance of positive or negative emotional reactions due to life situations in PG and CG.

**Funding:** This work is supported by the Russian Foundation for Basic Research, project no.19-29-01017.

## Core Fear of Cancer Recurrence Symptoms in Cancer Survivors: A network approach

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**Purpose.** To better understand the multidimensional construct of Fear of Cancer Recurrence (FCR) in cancer survivors, the purpose of this study was to highlight key FCR symptoms and their strongest associations with depression and anxiety comorbidities. This approach is critical for developing effective interventions tailored to cancer survivors. We also investigated whether the network changes its symptom connectivity across different diagnostic and treatment subgroups classified as vulnerable or less vulnerable. **Methods.** We collected data from 234 cancer survivors (women: 78.20%; mean age: 35.58) who had been diagnosed with cancer, were undergoing cancer treatment, or had completed treatment. In addition to cancer-related data that allowed subgrouping, they completed the Fear of Cancer Recurrence Inventory (FCRI) and the Hospital Anxiety and Depression Scale (HADS). The FCRI is a multidimensional construct that captures symptoms on the spectrum of intrusive thoughts, coping skills, and five others. Networks were estimated using the Gaussian graphical model. **Results.** The main findings suggest that intrusive thoughts were overall the most influential network symptoms. However, coping skills were central to the network and associated with depression only in the vulnerable subgroups. **Conclusions.** The present study found that intrusive thoughts were core network symptoms, whereas coping skills and their association with depression were significant only for some subgroups. **Implications.** Future clinical trials and interventions for FCR should specifically target intrusive thoughts and other repetitive thinking patterns. More research should be conducted to understand the unique characteristics of survivors and their interaction with symptomatology to maximize treatment efficacy.



## Psychological distress in individuals with Rosacea: the interplay between trait emotional intelligence and social phobia

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### Abstract

**Background:** Previous findings have suggested that individuals with rosacea may suffer from psychological distress and experience fear of social interaction and others' evaluation due to altered facial appearance. Concurrently, several studies have showed emotional-related dispositions are crucial to handle medical conditions, it is thus relevant to assess the role of trait emotional intelligence (Trait EI) in the context of Rosacea.

The goal of this study is to test a mediation model of Social phobia in the relationship between Trait EI and Psychological distress.

**Methods:** In a sample of 224 individuals with Rosacea aged between 18 and 73 years old ( $M = 38.29$ ;  $SD = 10.59$ ) instruments were administered to measure Trait EI, Social Phobia, and Psychological distress.

**Results:** A structural equation modelling with latent variables was used to test a model with Trait EI as predictor variable, social phobia as mediator, and psychological distress as outcome. The model showed adequate fit indices:  $\chi^2(24) = 61.73$ ;  $p < .001$ , CFI = .97, RMSEA = .08 (90% CI = .06 – .11).

Significant paths were found from Trait EI to social phobia ( $\beta = -.50$ ;  $p < .001$ ) and psychological distress ( $\beta = -.60$ ;  $p < .001$ ). Moreover, a significant path was found from social phobia to psychological distress ( $\beta = .26$ ;  $p < .001$ ). Furthermore, a significant indirect association was found from Trait EI to psychological distress by social phobia ( $\beta = -.13$ ;  $p < .05$ ).

**Discussion:** Intervention programs should foster Trait EI in individuals with Rosacea to improve their clinical efficacy.

## Cognitive impairment and mental health outcomes among treatment-naïve women with breast cancer

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**Background:** Cancer-related Cognitive Impairment (CRCI) is among the most common and feared side-effects of breast cancer (BC). CRCI remains understudied, with only a few studies examining CRCI during or following BC treatment. Furthermore, few studies have studied the association between CRCI and mental health. The aim of this study was to explore CRCI among treatment-naïve women diagnosed with BC.

**Methods:** Participants comprised 78 newly diagnosed, treatment-naïve, women with BC who completed a mental health and neuropsychological assessment. Established measures were used to determine probable diagnosis of post-traumatic stress disorder (PTSD; IES-R > 33) and major depressive disorder (MDD; CES-D > 16). The PROMIS Cognitive Function and PROMIS Cognitive Function Abilities assessed patient experiences of their cognitive function. The neuropsychological assessment consisted of Psychomotor Vigilance Test, Trail Making Test and Digit Span. Independent samples t-tests were performed.

**Preliminary results:** Participants with a probable diagnosis of either PTSD or MDD rated their cognitive function significantly worse and scored significantly lower on all neuropsychological assessments than participants below the cut-off criteria ( $p < 0.05$  on all tests).

**Current stage of work:** Data collection is ongoing. The expected sample size in September 2022 is 120.

**Discussion:** These preliminary results suggest that CRCI may start prior to treatment for breast cancer and may be influenced by symptoms of PTSD and MDD. These results may inform the management of CRCI in the future.

# Eating Behaviours and Food-Related Emotional Regulation among Adults with Varying Levels of Depression and Anxiety

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**Background:** Previous research shows that anxiety and depression can promote unhealthy eating behaviour. Here, we examined differences in unhealthy and healthy eating behaviours as well as in emotional overeating as the functions of levels of depression and anxiety.

**Methods:** Polish adults (N = 414; Mage = 31.61 ± 13.56) completed: the Depression Anxiety Stress Scales (DASS), the Healthy and Unhealthy Eating Behavior Scale (HUEBS), the Emotional Overeating Questionnaire (EOQ) and the Eating Motivation Survey (EMS). A median split was used to categorise participants as high or low in depression and anxiety and a cluster analysis was chosen to identify clusters based on high or low in depression and anxiety.

**Findings:** Focusing on the most important findings, ANOVAs revealed that participants with low levels of depression and anxiety had: (1) a higher level of healthy eating behaviours (HUEBS) compared to those with a high level of depression and high level of anxiety,  $F(3, 409) = 5.71, p < 0.001$ ; (2) a lower level of unhealthy eating behaviours (HUEBS) compared to those with high levels of both of these variables,  $F(3, 409) = 6.08, p < 0.001$ ; (3) a lower level of emotional (over)eating (EOQ; EMS) compared to those with high levels of both of these variables (EOQ:  $F(3, 409) = 19.96, p < 0.001$ ; EMS:  $F(3, 409) = 25.32, p < 0.001$ ).

**Discussion:** Depression and anxiety can reduce resources for coping with emotions and lead to disordered eating.

## Trauma Type Clusters and mental health: examining the role of gender differences

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**Background:** Gender differences in trauma type exposure are marginally studied. The present study aims to identify gender differences in trauma type clusters and their association with mental health.

**Methods:** A cross-sectional study involving 1307 participants (66.64% female) was conducted. The experience of potentially traumatic live events was assessed using the Life Events Checklist for Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (LEC-5). The Depression Anxiety Stress Scales (DASS) was used to examine mental health. Trauma type clusters were identified through network analyses. Associations between trauma type clusters and mental health were examined through Multiple Linear Regression Analyses.

**Findings:** Three different trauma type clusters for women and six different trauma type clusters for men were identified. Multiple regression analyses indicated that women who experienced traumatic events connected to victimization showed higher levels of anxiety, stress, and depression (all  $p$ 's  $<.018$ ). For men, traumatic events connected to hostility and combat were associated with lower levels of anxiety, stress, and depression (all  $p$ 's  $<.014$ ).

**Conclusion:** The findings support the existence of gender specific differences in trauma type clusters. Relations with mental health differ between men and women. In line with current research, women show higher mental strain after experiencing traumatic events connected to victimization. The negative association between experiences of hostility and combat and mental health in men seems paradoxical and requires further exploration. Importantly, further studies are needed to replicate the identified trauma type cluster structures and to ascertain generalizability of the findings.

## Role of body mass index, perfectionism, and emotional regulation difficulties in eating disorders

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**Background:** Theoretical models and empirical studies show that difficulties with emotion regulation and perfectionism play significant role in eating disorders (ED), as risk and maintaining factors (e.g. Fairburn et al., 2003; Lavender et al., 2015; Levinson et al., 2017).

**Methods:** A total of 649 Croatian adolescents (49% girls; mean age: 15.00) participated in this study. Participants completed self-reported questionnaires assessing difficulties in emotion regulation, perfectionism, and disordered eating, during regular preventive health examinations. Based on the number of ED symptoms reported on the Eating Disorder Examination Questionnaire (EDE-Q) participants were divided into two groups: without ED symptoms (reported no or only one symptom) and with ED symptoms (reported two or more symptoms on EDE-Q).

**Findings:** Firstly, results showed that BMI, perfectionism, and difficulties with emotion regulation explain a total of 23.8% variance of ED symptoms. The results of the second set of analyses (logistic regression to predict occurrence of ED symptoms) indicated that an increase of 1 point in perfectionism or difficulties in emotion regulation score, increases the odds of having ED symptoms by 1.52 and 1.54, respectively.

**Discussion:** Even though BMI is an important risk factor for developing ED in adolescents with overweight or obesity, in the general sample of adolescents the role of perfectionism and emotion regulation difficulties was more important. Our results suggest that clinicians and researchers should consider the role of emotion regulation and perfectionism when planning effective treatment and preventive interventions.

**Funding:** This research was fully supported by the University of Rijeka project (uniri-drustv-18-63).

## Key dimensions of interoceptive sensitivity in relation to alexithymia, emotion regulation, and depressive symptoms

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**Background:** The objective of this study was to examine the associations between the eight dimensions of interoceptive sensibility (IS) of the Multidimensional Assessment of Interoceptive Awareness-2 (MAIA-2), alexithymia, and emotion dysregulation in accounting for depressive symptoms. Based on previous research, we tested two models: the first model proposed that alexithymia and emotion dysregulation are mediators at the same level in the association between IS and depression, whereas the second model reflected the assumption that alexithymia is a precedent of emotion dysregulation.

**Methods:** The sample included 391 participants (61.0% women; M=29.00 years old, SD=11.40) who completed the MAIA-2 (IS), the Toronto Alexithymia Scale-20, the Difficulties in Emotion Regulation Scale, and the Beck Depression Inventory-II.

**Findings:** The fit indices for the first model indicated an adequate fit ( $\chi^2(8)=33.08$ ,  $p<.001$ , CFI=.93, SRMR=.03), suggesting that (1) alexithymia mediated the relationships between Not-Distracting ( $\beta=-.04$ ,  $p=.011$ ), Not-Worrying ( $\beta=-.04$ ,  $p=.005$ ), Attention Regulation ( $\beta=-.04$ ,  $p=.042$ ), and Trusting ( $\beta=-.05$ ,  $p=.005$ ), and depression; (2) emotion dysregulation mediated the relationships between Not-Worrying ( $\beta=-.10$ ,  $p<.001$ ) and Emotional Awareness ( $\beta=.07$ ,  $p=.010$ ), and depression, accounting for 31.0% of the variance. The fit indices for the second model indicated a poor fit ( $\chi^2(17)=123.22$ ,  $p<.001$ , CFI=.70, SRMR=.07).

**Discussion:** This study highlights the relevance of IS dimensions involving non-judgmental, accepting attitudes towards bodily sensations for healthy emotional functioning, rather than the extent to which bodily signals are subjectively perceived (e.g., Noticing, Body Listening). Moreover, this study supports that alexithymia and emotion dysregulation are same-level mediators of the link between IS and depression.

## The relationship of the heartbeat-evoked potential (HEP) to interoception and emotion in adolescents

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**Background:** Heartbeat-evoked potentials (HEPs) can be modulated by emotions and are greater in individuals with a higher interoceptive accuracy, who perceive emotional cues as more arousing and have better emotional appraisal abilities. Hence, an association between HEPs and affective processes like emotion recognition, emotional difficulties and empathy is indicated but yet unresearched in adolescents.

**Methods:** 47 adolescent participants (53.2% female) with a mean age of 14.29 years performed a heartbeat perception task to measure interoceptive accuracy and an emotional faces recognition task using the Karolinska Directed Emotional Faces dataset, while an EEG was recorded to assess the HEP. Additionally, they completed the Toronto Alexithymia Scale (TAS-20) and the Strength and Difficulties Questionnaire (SDQ).

**Findings:** HEPs were neither modulated by emotion category, nor by interoceptive accuracy. HEPs were associated with behavioral and emotional difficulties in the SDQ ( $r=.39$ ,  $p=.007$ ) and with the TAS-20 subscale “Difficulty Describing Feelings” during the presentation of sad faces in a frontocentral and central cluster (respectively:  $r=-.30$ ,  $p=.05$ ;  $r=-.39$ ,  $p=.01$ ). Furthermore, central HEPs could positively predict the number of correctly identified happy faces ( $R^2=0.10$ ,  $\beta=0.32$ ).

**Discussion:** This study is one of the first underlining the link between HEPs, emotional processing and alexithymia in adolescents. However, the relationship of the HEP to psychological constructs is seemingly highly task-dependent. Moreover, parts of the HEP’s variance are going presumably beyond the explanatory power of questionnaires for emotional processes. In future studies with adolescents, the HEP should be further investigated as a potential additional marker for impaired emotional abilities.

## Examining Health Anxiety from the Perspective of Self-Evaluation, Coherence and Social Support in Hungarian adults

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**Background:** Nowadays, health anxiety is an increasingly prevalent feeling and pattern of behavior affecting all age groups. Feeling threatened can affect an individual lifestyle and ability to adapt. The research aims to examine the protective factors based on the theory of self-determination, the strengthening of which can reduce the health anxiety of individuals.

**Methods:** The instruments were the Short Health Anxiety Inventory (Salkovskis et al., 2002), Core Self-Evaluation Scale (Judge et al., 2003), Sense of Coherence Scale (Rahe & Tolles 2002), MOS-SSS Social Support Assessing Scale (Sherbourne & Stewart, 1991) and the Health Self-evaluation Questionnaire. **Participants:** 147 Hungarian adults from the 17-73 age group (mean age 37.5), 31 male, and 116 female.

**Findings:** Results show significant differences between health anxiety and age. Adults who were more satisfied with their health had lower levels of health anxiety. Core self-evaluation and social support were negatively related to respondents' levels of health anxiety. This negative correlation was higher in the case of the "perceived probability of becoming ill" subscale than for the "perceived consequence of the disease" subscale from the health anxiety scale. Sense of coherence was also significantly associated with positive self-rated health status, a high level of social support, and lower health anxiety.

**Discussion:** Strengthening and developing protective factors based on the theory of self-determination, such as high self-evaluation, coherence, and social support, can reduce the health anxiety of individuals. Health anxiety interventions should also consider both the age characteristics and the health status of the individuals.



## Developmental trajectories of depression and predictive associations with personality traits: A six-wave longitudinal study

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The goals of this study were (a) to establish the different developmental trajectories of depression and (b) to examine how two personality traits; Behavioral Inhibition System &#40;i.e., sensitivity to punishment&#41; and Behavioral Activation System &#40;i.e., sensitivity to reward&#41; contribute to the developmental trajectory courses of depression by using a group-based trajectory modeling. A larger sample of Japanese adults (N = 1,448, mean age = 45.28, SD = 13.65, at the first wave) was assessed on depressive symptoms by the CES-D (20 items) at six time points on an annual basis, and on two personality traits by the BIS/BAS scales (20 items) only at the first wave. Developmental trajectories of Japanese adults' depressive symptoms were modeled, and by model comparisons in terms of the BIC, three distinct trajectories were identified: Low (31.22%), moderate (55.59%), and high (13.19%) groups. Multinomial regression analysis also revealed that personality variables differential contributions to development of depressive symptoms. Specifically, depressive symptoms were elevated by higher BIS and lower BAS. Previous studies have only reported that depressive symptoms were positively correlated with BIS and negatively correlated with BAS. However, the results in this study additionally demonstrated the heterogeneity in developmental profiles of depression during the adulthood, and that individual differences in personality traits could predict the group membership probability for these heterogeneous trajectory courses. This finding may have implications for the effectiveness to identify individuals at risk for further evaluation, and for the selection of intervention targets and strategies.

## Cognitive reserve predicts false memory paradigm effect in Latvian adults

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**Background.** The term “false memory” refers to a distorted recognition or even a complete misremembering of an event. Higher sensitivity to stimuli inducing false memories might be mitigated by higher levels of cognitive reserve (CR), the individual differences that explain the differential susceptibility of cognitive abilities (Stern, 2020, Lee & Yang, 2012). In this study, we aimed to examine whether CR could predict false memories.

**Method.** 71 native Latvian speaking adults aged from 18 – 84 ( $M = 48,62$ ,  $SD = 19,58$ , 56,34% female) took part in this quasi-experimental study. To obtain data on CR, Cognitive Reserve Index questionnaire - a combined method of assessing lifetime education, occupation, and leisure time experience - was used (Nucci et al., 2012). False memories (critical lures) were induced using a digital adaptation of Deese/Roediger-McDermott paradigm and completed online (Bērenfelde & Šneidere, 2020).

**Findings.** Correlation analysis indicated statistically significant relationships between critical lures and CR index ( $r_s = -.58$ ,  $p < .01$ ). A similar relationship was found also between CR subindices “Education”, “Occupation” and “Leisure time” (accordingly,  $r_s = -.52$ ,  $r_s = -.48$  and  $r_s = -.52$ ,  $p < .01$ ). Linear regression analysis indicated that CR might explain 29% of the variation of false memories ( $R^2 = .029$ ,  $F(1,69) = 23.68$ ,  $p < .01$ ).

**Discussion.** Higher education, occupational complexity and social and cultural activities might help to reduce false memories. Further studies in a larger sample are needed to better understand the underlying mechanisms.

This study was conducted under the research project MOBILE-COG.

## Sense of coherence and social support profiles: Associations with Demographic, wellbeing and Lifestyle Indicators

F. Brivio<sup>1</sup>, N. Palena<sup>1</sup>, A. Viganò<sup>1</sup>, A. Paterna<sup>1</sup>, I. Aiolfi<sup>1</sup>, M. Rigamonti<sup>1</sup>, L. Fagnani<sup>1</sup>, M. Todaro<sup>1</sup>, A. Greco<sup>1</sup>

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**Background.** The salutogenesis theory entails that the ability to use resources such as knowledge, experience, self-esteem, social support for individual's well-being is more important than the resources themselves. Many studies have focused on isolately Sense of Coherence (SOC) and social support in the context of healthy lifestyle. Still, nothing is known about how these characteristics interact and combine to create new profiles. The present study aimed to evaluate which clusters emerged from the interaction between these factors, and the relationship with other lifestyle variables. This can help better understand the factors behind wellbeing and a healthy lifestyle during stress period, such as pandemic covid-19.

**Methods.** The study involved 1065 subjects (mean age = 44.9 years; SD = 19.6 years; 62,5% women). Latent profile analysis with SOC and social support was applied. External variables, such as socio-demographic, psychological well-being, psychological distress, social capital and lifestyle were assessed.

**Results.** Five groups, each with its own unique combined Sense of coherence and Social Support profile scores, were identified: Low SOC (sense of coherence) (n=337), low Social Support (n=247), low SOC and Social Support (n=113), high SOC and Social Support (n=294), high Social Support (n=74). The Low SOC and Social Support displayed the worst profile: namely higher psychological distress, physical inactivity, lower intake of healthful foods and, psychological, social, and emotional well-being.

**Discussions.** Identifying combined SOC and social support profiles in relation to psychological, social wellbeing and lifestyle is important to better identify and clarify protective factors on which to intervene through tailored programs.

## Health-protecting role of the intellectual activity in the stressful conditions of life

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The objective a this presentation is to substantiate that even in the stressful conditions of life the level of the quality of life can remain higher of the individuals maintains high level of the intellectual activity.

Methods. Using three basic forms of assessing the quality of life of the individuals': 1) awareness of the sense of life, 2) involvement into the process of life and 3) satisfaction with life the subjects 104 professionals in different spheres of life were split into two polar groups by the method of cluster analysis (k-means algorithm) which statistically significantly differed both by the integral characteristics of the quality of their levels and the levels of the three forms of intelligence, which they possessed cognitive, emotional and positive, assessed by the corresponding techniques, traditionally used in the personality psychology research for measuring IQ, EQ and PQ Scores.

Findings. It has been found out that the clusters of the participants of this research, the members of which were characterized by comparatively higher levels of the quality of life, did not differ significantly on the IQ scores, but did differ on the levels of emotional and positive forms of intelligence manifestation which can be individually enhanced in the course of the life-span. The most remarkable differences were registered in the following components of the emotional intelligence: emotional competence, involvement into the process of life, regulation of the emotions, the locus of self-control, empathy. The overall component of the PQ Score varies in the groups with different levels of the quality of life in the range between 54-65%.

Conclusion. The research has shown that in the stressful conditions of life professionals manifest sufficiently high level of their intellectual activity, resistance to the difficulties of life, which allows to expect that owing to the intellectual activity in various forms of its manifestation their health will be protected from the contemporary situation.

# Personality and health-compromising behavior

15:30 - 17:00

Leonie Aßmann

## Medical decision making beyond evidence: correlates of belief in complementary and alternative medicine and homeopathy

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Many people use complementary and alternative medicine (CAM) to address health issues or prevent diseases. Empirical evidence for many CAM treatments is either lacking or controversial due to methodological weaknesses. Thus, individuals rely on subjective references. This study aims to examine whether cognitive and personality factors are able to explain differences in CAM belief and belief in homeopathy.

We investigated the predictors' robustness when examined together to obtain an insight into key determinants of such beliefs in a sample of 599 participants (60% female, 18-81 years). The variables were collected with an online questionnaire. There were 21 predictors included in the regression analyses.

A combination of cognitive and personality factors explained 20% of the variance in CAM belief (predictors: ontological confusions, spiritual epistemology, agreeableness, death anxiety, and gender). Approximately 21% of the variance in belief in homeopathy was explained with the predictor model (predictors: ontological confusions, illusory pattern perception, need for cognitive closure, need for cognition, honesty-humility, death anxiety, gender and age).

Our findings indicate that individuals who believe in CAM and homeopathy have cognitive biases and certain individual differences which make them perceive the world differently. They do not rely on evidence as a proof of efficiency but rather explain it in terms of personal experiences. However, evidence should be the normative guideline for health-related decisions. Thus, interventions that foster an understanding of science and placebo effects as well as a better communication of scientific results is needed to help people make use of evidence for health-related decisions.

## Reducing blurred boundaries: results of a systematic review of correlates of workaholism and work addiction

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<sup>1</sup>Vytautas Magnus University, Lithuania

**Background.** Given the increased attention devoted to differences between workaholism and work addiction coupled with the existing confusion surrounding the appropriate conceptualizations and measurements of the constructs, it is imperative that we start creating meaningful frameworks for summarizing and criticizing the growing volume of data. Therefore, the principal purpose of the current study was to systematically review scientific literature on the correlates of workaholism and work addiction and to separate the factors inducing both phenomena.

**Methods.** Five online databases were used to search for papers. Computer-based literature searches were conducted through June, 2020. The relevance of the studies was determined by screening the titles, abstracts and full texts.

**Findings.** Forty-four papers published during the period between 2005 and 2019 were included. All studies examining the relationship between neuroticism and work addiction were found to confirm a positive link, whereas the studies examining the link between neuroticism and workaholism reported contradictory results. Further, all studies examining the relationship between extraversion and work addiction confirmed a non-significant link, whereas studies examining the role of this trait in predicting workaholism presented contradictory results.

**Discussion.** As it was found in our review, work addicted individuals could be differentiated from the non-addicted ones (workaholics) on the basis of their unique dispositional attributes. These results correspond to the idea that correlates of work addiction may differ from those of workaholism and provide some support for viewing these phenomena as some kind of separate constructs.

## Narcissism, Fear of Missing Out and Social Capital as predictors of Social Media Usage

C. Rugina<sup>1</sup>, M. Boza<sup>1</sup>

<sup>1</sup>Alexandru Ioan Cuza University of Iasi, Romania

**Background:** This study analyses the relation between narcissism, fear of missing out, social capital and the usage of social media. We hypothesized that narcissism, social capital and fear of missing out altogether will predict the problematic use of social media.

**Methods:** Using a convenience sample of social media users (N = 250) aged 18 to 58 years old, we measured, via Google Form, levels of narcissism, fear of missing out, social capital and components of addiction to online media, by applying Pearson correlations and linear regression to our variables.

**Findings:** Results showed that every variable correlates (narcissism –  $r = .20$ ,  $p = .001$ ; fear of missing out –  $r = .55$ ,  $p < .001$ ; social capital –  $r = .26$ ,  $p < .001$ ) significantly with the usage social media, illustrating the drawbacks of addiction to online sites that users suffer from. The results showed that altogether, only fear of missing out is an important predictor to social media usage ( $\beta = .523$ ,  $p < .001$ ).

**Discussion:** People with a greater desire to know what their peers are doing and what they have shared on their social media accounts, experience the fear that they may lose such information when they do not have access to those notifications, so it plays an important part in how easily can drive him to an online addiction. However, narcissism and social capital have their own positions in problematic social media usage, by making people obsessed with their image and how other see them, as well as desiring multiple connections that are mostly superficial.



## Smartphone and social media addiction: are college students with attention deficit hyperactivity disorder at risk?

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Smartphone/social media use and addictions are strongly related to youth's mental health. The primary objective of this study is to identify the relationship of smartphone/social media addiction with their academic life and symptoms of ADHD.

A sample of college students (N=488, M=26.82 years, SD=8.89) responded to an online self-administered questionnaire, assessing demographic data, academic boredom (ABS-10), active and passive procrastination, intention of drop-out (FBK), smartphone addiction (SAS-SV), social media addiction (BSMAS), and symptoms of ADHD (ASRS v1.1).

Findings demonstrated positive correlations between ADHD symptoms and smartphone addiction ( $r=.48$ ,  $p<.001$  with attention deficit,  $r=.23$ ,  $p<.001$  with hyperactivity) and with social media addiction ( $r=.38$ ,  $p<.001$  with attention deficit,  $r=.18$ ,  $p<.001$  with hyperactivity). Likewise, positive associations were found between ADHD symptoms and the intention of dropping out ( $r=.29$ ,  $p<.001$ ), boredom during classes ( $r=.40$ ,  $p<.001$ ) and during studying ( $r=.49$ ,  $p<.001$ ), passive procrastination ( $r=.53$ ,  $p<.001$ ), while negative correlation was found between active procrastination and ADHD symptoms ( $r=-.32$ ,  $p<.001$ ). Results of multiple linear regression analysis explained 57% of variance:  $R^2=.57$ ,  $F(5, 48)=130.37$ ,  $p<.001$ . It was found that symptoms of ADHD attention deficit ( $\beta=.16$ ,  $p<.001$ ), passive procrastination ( $\beta=.12$ ,  $p<.001$ ), academic boredom ( $\beta=.10$ ,  $p<.001$ ), social media addiction ( $\beta=.58$ ,  $p<.001$ ) and the intention of drop-out ( $\beta=-.07$ ,  $p<.001$ ) significantly predicted smartphone addiction.

Findings suggest that students with ADHD are particularly at risk and smartphone addiction can affect their educational development and academic failure. Results of this study shift attention from the substance-related addictive disorders to the limited existing research relevant to modern behavioral addictions among college students.

## Examining the social contagion of attitudes towards childhood vaccination in parental networks: Work in Progress

A. Kassianos<sup>1,2</sup>, A. Christodoulou<sup>1</sup>, P. Konstantinou<sup>1</sup>, Z. Antoniou<sup>1</sup>, Z. Boda<sup>3</sup>, M. Iasonides<sup>4</sup>, M. Kyprianidou<sup>1</sup>, L. McHugh<sup>5</sup>, M. Michaelides<sup>6</sup>, M. Karekla<sup>1</sup>

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**Background.** Increasing vaccination hesitancy that burdens global health and safety can be attributed to multiple reasons. Individuals' social environment seems to be the catalyst for vaccination hesitancy perpetuation, thus it is important to examine the influence of different social network mechanisms in vaccination attitudes' contagion.

**Methods.** The proposed randomized controlled experiment will examine the social contagion of childhood vaccination attitudes within a parental community using social network interventions. Parents will be randomly assigned into four groups. Firstly, each group will participate in an online game to map their social networks and identify members with certain network position, who will then receive a five-week training program on values clarification and values-consistent living and vaccination information. All groups' members will participate in five weekly vaccination discussion meetings, where the selected members will spread positive vaccination attitudes to others. We hypothesize that centrally located individuals will more efficiently cause a change on the social network attitudes. Additionally, we will examine whether spreading values-based messages will have a greater impact in altering others vaccination attitudes. We hypothesize that people spreading values-based messages would more effectively alter parents' attitudes.

**Expected Results.** By identifying centrally-located people or groups of like-minded individuals from a parents' community, we will examine whether the position within a social group can have a greater impact in spreading positive vaccination messages to other community members.

**Discussion.** Evidence on social contagion mechanisms of spreading vaccination attitudes can help re-think how public health interventions can be designed and delivered.

## Effect of perceived social self-efficacy on attentional bias for game stimuli in multiplayer online games

E. Lee<sup>1</sup>, H. Kwon<sup>1</sup>, J. Lee<sup>1</sup>

<sup>1</sup>Chung-Ang University, South Korea

The present study aimed to confirm whether manipulation of the perceived level of social self-efficacy is affected by the reduction of attentional bias towards game stimuli in MMO game addiction tendencies through comparison with non-addictive gamers. A total of 503 undergraduate students were recruited from the MMO game addiction tendency group and the control group as the Korean version of the Internet Game Disorder Scale. A total of 30 students were assigned to high and low conditions according to the level of perceived social self-efficacy manipulated by false feedback. In order to compare the difference in attentional bias to game stimuli according to the perceived level of social self-efficacy, dot probe tasks were performed before and after the manipulated feedback of the false task called the "social intelligence test". The attentional bias score was measured as the difference in reaction time between stimuli (neutral stimuli-game stimuli). As a result of comparing the difference in attentional bias to game stimuli of each group, the addiction tendency group showed attentional bias towards game stimuli due to a higher attentional bias score than that of the control group. However, after intervention, the addiction tendency group that induced high social self-efficacy showed a decreased attentional bias score. In addition, no significant change in scores in the control groups and the addiction tendency group that induced low social self-efficacy were observed. These results confirmed that increasing the perceived social self-efficacy among MMO game addiction tendencies reduces attentional bias towards game stimuli.

# Coping with Cancer

15:30 - 17:00

Phillippa Lally

## Meaning-making process in cancer: the role of psychological flexibility

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**Background:** Meaning-making is a significant element of adapting to disease. However, this process is still poorly understood. We are conducting intensive longitudinal research aimed at an in-depth understanding of the meaning-reconstruction process in cancer. We postulate that psychological flexibility can foster meaning-making in cancer by building more flexible and workable meaning-making explanations of disease.

**Methods:** At least 150 participants will be requested to complete the daily-diary related to situational meaning, meaning-related distress, meaning-making, psychological flexibility, meanings made, and well-being for ten days during isolation after hematopoietic cell transplantation. Statistical analysis of the data will be performed using multilevel and dynamic structural equation modeling.

**Expected results:** We expect that daily psychological flexibility can determine meaning-making and therefore can mediate between daily distress and meaning-making. Alternatively, daily psychological flexibility can be determined by meaning-making and can mediate between daily meaning-making and meanings made.

**Current stage of work:** Data collection.

**Discussion:** The study will fill in the gaps in health psychology in the understanding of the meaning-reconstruction process in cancer by within- and between-person verification of the integrative meaning-making model and its extension by the psychological flexibility model. The data obtained will be used in further research on the development of meaning-making through interventions based on psychological flexibility.

## Physical activity and well being among those living with and beyond cancer

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<sup>1</sup>UCL, United Kingdom

<sup>2</sup>University of Leeds, United Kingdom

**Background:** This study aimed to describe the levels of physical activity (PA) in adults living with and beyond cancer (LWBC), using self-report and pedometer data, and to describe associations with well-being.

**Methods:** Data were from baseline assessments in the 'ASCOT' trial (1348 breast, prostate or colorectal cancer patients recruited 2015-2019). A modified Godin-Shephard Leisure Time PA Questionnaire was used to calculate the Leisure Score Index (LSI,  $\geq 24$  considered active) and weekly minutes of Moderate-Vigorous PA (MVPA, 150 considered active). Pedometer data was used to calculate daily step count (8000 considered active for older adults). Loneliness (UCLA loneliness scale), fatigue (FACIT-Fatigue), quality of life (EQ-5D descriptive scale), sleep quality (PSQI) were measured. Multiple imputation was used to account for missing data. Multiple linear regressions were conducted to examine associations between these variables and each of the PA outcomes, controlling for clinical and demographic variables.

**Findings:** 621/1254 (50%) were classified as active on the LSI, 548/1235 (44%) using MVPA and 284/1236 (23%) on mean daily steps. Lower fatigue was associated with higher levels of PA across all outcomes (LSI ( $\beta = 0.111$ ,  $p = 0.003$ ) MVPA ( $\beta = 0.123$ ,  $p = 0.001$ ), daily step count ( $\beta = 0.162$ ,  $p < 0.001$ )). Higher quality of life was associated with higher daily step count ( $\beta = 0.108$ ;  $p = 0.005$ ).

**Discussion:** There is a need to promote PA in those LWBC, and this is more evident when an objective measure is used. Different conclusions may be drawn when different measures of PA are used.

# Acceptance and Commitment Therapy processes and distress in cancer– a systematic review and meta-analysis

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## Background

Distress is prevalent in cancer and whilst there is some evidence suggesting psychological interventions such as Acceptance and Commitment Therapy (ACT) can reduce distress, it is essential to identify which therapeutic processes are associated with distress in cancer, in order to inform effective interventions. This systematic review and meta-analysis is the first to identify those key processes in cancer.

## Method

The search terms included cancer, distress outcomes, ACT processes and self-compassion. Six online databases including OVID, CINAHL, Web of Science and Cochrane library (CENTRAL) and grey literature were searched resulting in 5236 papers being screened. Ninety-one manuscripts (90 observational studies) were included, totalling n=13487. Forty-six were included in meta-analyses of ACT processes and distress outcomes.

## Findings

Meta-analyses revealed higher scores on flexible processes (acceptance, present moment awareness, self-compassion) were associated with lower distress (rpooled -0.18 to -0.55); whilst higher scores on inflexible processes (experiential avoidance) were associated with increased distress (rpooled 0.65 to 0.73). Narrative synthesis on a small number of studies implied cognitive fusion was significantly and positively associated with distress whilst values and committed action were significantly and negatively associated with distress.

## Discussion

The results provide evidence that increasing the use of psychologically flexible skills and decreasing the use of inflexible processes may reduce distress in individuals with cancer. However, to build on these results, further longitudinal studies and mediation analyses of ACT interventions are needed to establish whether change in these processes results in reduced distress.

## Profiles of mindfulness in cancer patients and associations with psychological outcomes and coping strategies

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<sup>1</sup>Shaanxi Normal University, China

<sup>2</sup>UMCG, Netherlands

**Background:** Mindfulness has been confirmed as a protective factor in facilitating adaptation to cancer, but few studies considered the value of possible distinct combinations of mindfulness skills. This study aimed to (1) identify distinct mindfulness profiles in cancer patients, (2) examine socio-demographic predictors of patients with distinct profiles, and (3) examine associations of mindfulness profiles with psychological outcomes and coping strategies.

**Methods:** This cross-sectional study included 245 people with heterogeneous types of cancer. Latent profile analysis was applied to identify distinct profiles of mindfulness. The Bolck-Croon-Hagenaars method was used to examine how mindfulness profiles related to socio-demographic characteristics, psychological outcomes, and coping strategies.

**Findings:** Four mindfulness profiles were identified: “average mindfulness” (50%), “judgmentally observing” (20%), “high mindfulness” (15%) and “non-judgmentally aware” (15%). Patients with “high mindfulness” profile tended to have higher educational attainment, and reported better psychological outcomes (i.e., low on depression and negative affect and high on positive affect) as well as better coping strategies (i.e., high positive reappraisal and low rumination).

**Discussion:** This study confirms that distinct mindfulness skills combinations exist in people with cancer, and patients with high mindfulness are more likely to adapt to cancer with more adaptive coping strategies. In addition, tailored mindfulness-based interventions are needed for cancer patients, taken into account different combinations of mindfulness skills.



## Self-efficacy and intention mediate the association between barriers and physical activity after a cancer diagnosis

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**Background:** Despite multiple health benefits of physical activity (PA) for people with cancer, majority of individuals is insufficiently active after their diagnosis. Structural barriers might contribute to insufficient PA, but underlying mechanisms of their effect on post-diagnosis PA have not been investigated. Therefore, the aim of the current study was to explore the potential mediating role of PA self-efficacy and intention in this context.

**Methods:** In a cross-sectional study, 856 people with breast, prostate or colorectal cancer completed items on socio-demographic and medical characteristics, pre- and post-diagnosis PA, PA self-efficacy, PA intention, and PA impediment by structural barriers. A serial mediation model was used to probe whether the association between structural barriers and post-diagnosis PA was mediated by PA self-efficacy and/or PA intention, also taking individuals' pre-diagnosis PA into account.

**Findings:** The analyses yielded that a higher impediment by structural barriers was significantly associated with lower PA self-efficacy (95%CI [-0.35;-0.17]), but not a lower intention to perform PA. Testing the hypothesized mediation model confirmed that structural barriers did not exert a direct effect on post-diagnosis PA (95%CI [-0.45;0.10]), but that the effect was mediated by PA self-efficacy (95%CI [-0.245;-0.061]). Furthermore, a serial pathway via PA self-efficacy and PA intention (95%CI [-0.186;-0.045]) was detected, particularly among previously active individuals.

**Discussion:** The present study helps to explain why structural barriers prevent people with cancer from being sufficiently active. PA self-efficacy and intention might be important and amenable target points for PA interventions that aim to improve PA behavior after a cancer diagnosis.

# Perceived Cognitive Impairment in Patients With Cancer in Croatia

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<sup>1</sup>University Hospital Centre Zagreb, Croatia

Even though specific oncology treatment can help to improve health-related outcomes, it can also have many adverse outcomes. This is of great concern given the high rates of coping difficulties with treatment regimen and dealing with side effects of treatment which can adversely impacting well-being and treatment adherence. Many patients self-report changes in cognitive functioning after chemotherapy, but this does not necessarily correlate with objective testing.

The purpose of this study was to determine the frequency and severity of self-reported problems with memory and concentration in cancer patients.

Methods: Personal and health related data, frequency and severity of self-reported cognitive problems were collected via online survey. In the total sample (N = 398; 99% female; age 47,15 ±9,622 years), majority of 69% had breast cancer, 11% ovarian cancer, and 5% colorectal cancer. Majority of them were married (66%), had children (80%) and were of high-school education (46%). Data were collected from July to October 2019.

Discussion: Concentration problems were reported by 48% of the participants. The participants reported following problems: impaired memory of everyday tasks or plans (41%) verbal fluency (44%), multitasking (44%), learning (32%) and spatial orientation (22%). The participants reported difficulties in managing time (44%) and in executive function (31%). All of the reported symptoms were more severe in patients receiving chemotherapy than other treatments (p<0.001).

Conclusion: A significant proportion of patients that underwent cancer therapy self-report problems with cognitive functioning. Cognitive impairment related to oncology treatment stays present even 12 months following the conclusion of treatment.

## The impact of COVID-19 on health behaviours of people living with and beyond cancer

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**Background:** Positive health behaviours (exercise, healthy diet, limiting alcohol and not smoking) can improve multiple outcomes after a cancer diagnosis. Observational studies during the pandemic suggested that health behaviours were negatively impacted for some but not all individuals living with and beyond cancer. The aim of this study was to qualitatively explore the impact of the pandemic on the health behaviours of people living with and beyond breast, colorectal and prostate cancer.

**Methods:** Thirty participants were purposively sampled from participants in the 'ASCOT' trial for characteristics including: diagnostic group, gender, time since diagnosis and age. Semi-structured interviews were conducted by telephone. Thematic analysis and a secondary Ideal Types analysis were conducted.

**Findings:** Strict restrictions and changes in routines impacted engagement in positive health behaviours among many participants. Five themes covered modifications in: food, weight management, relationship to alcohol and exercise. Five "types" were identified, representing orientations to health behaviours.

**Discussion:** Protracted amounts of time spent at home during the pandemic appeared to contribute to increased consumption of alcohol and unhealthy food, and reduced physical activity. Given the importance of healthy behaviours in this population, results from this study can help inform management of people living with and beyond cancer during future health emergencies. The typology helps to define how orientations to health behaviours underpin responses of people in this group. With further development, health behaviour interventions could be targeted based on individual orientations to health, rather than demographic or clinical variables.

# Living with long term conditions

15:30 - 17:00

Pamela Rackow

## Coping strategies predicting post-traumatic growth in Multiple Sclerosis patients and caregivers

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**Background:** tactics used in dealing with multiple sclerosis (MS) can influence the post-trauma growth elaboration. Our objective is to identify coping strategies that predict post-traumatic growth in MS patients and caregivers. **Methods:** the sample was composed of a matched group of 209 patients (147 females and 62 males) and caregivers (111 females and 98 males). Patient mean age was 45.4 years (SD=11.8) and caregivers 47.5 years (SD=13.4). The family relationships were: partner (64.6%), parent (17.2%), child (9.1%), siblings (6.2%), or other (2.9%). Post-traumatic Growth Inventory (PGI-21) evaluated perception of personal benefit undergone after MS. Brief COPE Questionnaire (COPE-28) assessed different actions in dealing with stressful circumstances. Stepwise multiple linear regression models were used to identify coping strategies predicting post-traumatic growth in both groups. **Findings:** positive reframing ( $p<0.0001$ ), instrumental support ( $p=0.007$ ), religion ( $p=0.004$ ), and active coping ( $p=0.041$ ) PGI-21 in patients. The model explained the 27.7% of PGI-21 variance. Emotional support ( $p<0.0001$ ), self-blame ( $p=0.004$ ), positive reframing ( $p=0.022$ ), and venting ( $p=0.031$ ) predicted PGI-21 in caregivers. The model explained the 27.5% of PGI-21 variance. **Discussion:** a higher use of positive reframing, instrumental support, religion, and active coping in patients, and a greater usage of emotional support, self-blame, positive reframing, and venting, in caregivers predicted greater post-traumatic growth. Strategies use in dealing with stressful situations might play an important role in developing a post-traumatic growth after the experience with MS health condition. Encouraging certain coping strategies might be a therapeutic key point in promoting perception of self-improvement and personal benefit in MS patients and caregivers.

## Coping strategies of Slovak university students with and without special educational needs

K. Černickaja<sup>1</sup>, L. Sokolová<sup>1</sup>, A. Antalová<sup>1</sup>

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Students with various types of disabilities and disorders are considered as vulnerable groups not only in primary and secondary education but also at universities. Both primary and secondary symptoms of their disabilities could be a barrier to successful university studies. In our research project, we focus on students with learning disabilities and attention disorders and their coping strategies. We aim to compare the structure of coping strategies between the groups of students with and without symptoms of dyslexia and/or ADHD and to analyse individual cases of students with special educational needs. For the quantitative study (N = 200), we use Coping Orientation to Problems Experienced Inventory (Brief COPE, Carver, 1997), screening of ADHD symptoms (ASRS, Adler, Kessler, & Spencer, 2003) and screening of dyslexia symptoms (Cimlerová et al., 2014) to analyse correlations of dyslexia and/or ADHD symptomatology and coping strategies. In the qualitative study (N = 2), we use thematic analysis to analyse life story interviews of university students with learning disabilities. The preliminary data will be presented, using mixed method design we aim to analyse coping strategies in a broader context. Based on previous research, we expect to detect differences and specificities in coping strategies of individuals with dyslexia and ADHD symptomatology that could be used as a background for further research and planning of interventions.

Keywords: coping strategies, dyslexia, ADHD, university students, mixed design

## Psychological distress, illness perceptions, coping and quality of life in women with Premature Ovarian Insufficiency

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**Background:** Premature Ovarian Insufficiency (POI) can cause many psychological symptoms including: depression, anxiety, feelings of loss of femininity and decreased self-esteem. The present study aimed to investigate the associations between certain psychological factors with the quality of life (QoL) in patients with POI.

**Methods:** One hundred patients with POI completed: 1. The Center of Epidemiological Studies-Depression Scale (CES-D), 2. The State-Trait Anxiety Inventory (STAI), 3. The Brief Illness Perception Questionnaire (Brief-IPQ), 4. The Brief- Coping Orientation to Problems Experienced Inventory (BRIEF COPE) and 5. The World Health Organization Quality of Life Instrument – brief version (WHOQOL-BREF)

**Findings:** Multivariate regression analyses showed that CES-D score was negatively associated with the Psychological Health (Beta=-0.09,  $p<0.0001$ ) and Social Relationships domain (Beta=-0.10,  $p<0.0001$ ) and STAI-T was negatively correlated with the domain of Psychological Health (Beta=-0.07,  $p=0.004$ ). Furthermore, the total Brief-IPQ score was negatively correlated with the Physical Health (Beta= -0.04,  $p=0.01$ ) and Environment domain (Beta=-0.05,  $p=0.001$ ). Lastly, the Active Coping (Brief COPE) showed positive correlation with the Social Relationships domain (Beta=0.94,  $p=0.003$ ). Non-significant associations were observed between sociodemographic and clinical characteristics of the patients and the four factor score domains of the WHOQOL-BREF.

**Discussion:** Depression and anxiety as a personality trait was associated with the patients' QoL, independently of their sociodemographic and clinical characteristics. Additionally, more threatening view of the illness was correlated with poorer Physical Health. Thus, psychological interventions focused on identifying and managing the psychological distress and the illness perceptions are important to improve the quality of life in women with POI.

## Biopsychosocial predictors of mortality in patients with lymphedema: a longitudinal study

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**Background:** Lymphedema is a chronic, inflammatory disease of the lymphatic system and is either innate or caused through cancer treatment, trauma, or operations. Persons affected are mostly women and research as well as disease-specific knowledge in practitioners is sparse. Patients often experience low physical and mental wellbeing. To this date, there is no longitudinal study evaluating biopsychosocial predictors for mortality in lymphedema. This study aims to identify possible predictors and opens innovative ways for treatment options.

**Methods:** Participants (n = 312) were patients with lymphedema in a rehabilitation clinic and were assessed at four time points. Beginning with t1 in 2002-2006, whereas t4 was assessed 15-19 years later. We assessed a variety of biopsychosocial variables, such as anthropometric data, self-rated physical and mental health, and sociodemographic data. The study sample consisted of 86.2% women, aged between 15 and 83 years (M = 53.42, SD = 12.54), with a BMI (kg/m<sup>2</sup>) ranging between 19.4 and 75.8 (M = 31.64, SD = 8.26). At t4 18.9% of participants were deceased.

**Findings:** Cox proportional hazards regression was used to analyze mortality. As predicted, being male (HR = 2.26) increased risk of mortality, whereas BMI and marital status did not impact mortality significantly. Low self-assessed global (HR = 1.29) and functional health (HR = 1.35) were both predictors of mortality.

**Discussion:** In this study, we were able to identify possible predictors for mortality in patients with lymphedema. Thus, shedding light on this patient population and opening ways for implementing evidence-based innovative biopsychosocial treatment options.



## Determinants of physical activity in cancer survivors: an EMA study

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**Background:** Being free of cancer does not guarantee being free of symptoms. With their health-related quality of life being lower than the general population, many post-treatment cancer survivors experience fatigue, pain, sleep problems, anxiety, depression, and many more. Participating in a physically active lifestyle may offer a solution to these experiences. Yet despite these benefits, many survivors struggle to meet the recommended physical activity (PA) guidelines.

**Method:** After completing a baseline questionnaire, participants (n=50) will complete a 14-day period of semi-random Ecological Momentary Assessment (EMA). Participants will daily receive 4 prompts, reminding them to complete a smartphone-based questionnaire. They will also complete a morning- and evening diary, and wear an activity tracker throughout the 14 consecutive days. Questionnaires assess PA determinants of the Health Action Process Approach, as well as treatment side-effects (e.g. fatigue, pain, anxiety...).

**Expected results:** We hypothesize a cross-lagged relation between treatment side-effects and physical activity, where side-effects lead to a decrease in PA, and a decline in PA leads to an increase in side-effects. We also expect within-person effects of PA determinants on the activity levels measured in the hours after the prompt.

**Current stage of work:** We are currently developing the protocol. By June 2022, we expect to start data collection.

**Discussion:** This study will inform us on the complexity of day-to-day fluctuations in treatment side-effects, determinants of PA, and levels of PA. This brings insight into the relationships between these factors, and allows us to tailor interventions to the needs of post-treatment cancer survivors.

## A Qualitative Thematic Analysis on the Experiences of Living with Lynch Syndrome

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<sup>3</sup>Lynch Syndrome Ireland, Ireland

**BACKGROUND.** Lynch Syndrome is a common hereditary cancer syndrome, which occurs due to germline pathogenic variants in certain genes. This leads to an increased risk of developing certain cancers, such as colorectal and endometrial. Previous research notes psycho-social issues such as decreased quality of life, heightened distress and anxiety in individuals with Lynch Syndrome. This occurs due to this increased risk and the need to make decisions about risk management. This study assessed the experiences of being tested for, and being identified as having Lynch Syndrome.

**METHODS.** Interviews (N = 12) were conducted with individuals with Lynch Syndrome, of which over half were female (n = 7). Interviews were analysed using reflexive thematic analysis. A public and patient involvement panel were involved in the conception, design, recruitment, and dissemination of the study.

**FINDINGS.** Two themes were noted in the data. The first was 'Disjointed Medical Care', with two subthemes: 'Knowledge - The Dominant Obstacle' and 'Seeking an Integrated Approach'. This theme indicated that participants often experienced a lack of support and information provision from healthcare professionals. The second theme was 'Burden of Guilt', which encompassed the guilt felt regarding potentially passing Lynch Syndrome to offspring, and depicting the distress experienced while children underwent genetic testing.

**DISCUSSION.** It is vital that these findings are addressed to ensure that people identified with Lynch Syndrome are adequately supported and healthcare professionals are knowledgeable on the implications of Lynch Syndrome. Health psychologists play an important role supporting and educating individuals in managing Lynch Syndrome.

## An investigation into social cognition and executive function in Multiple Sclerosis (MS)

C. Pennington<sup>1</sup>, M. Chen-Sien-Yee Oxtoby<sup>1</sup>, D. Shaw<sup>1</sup>

<sup>1</sup>Aston University, United Kingdom

**Background:** Interpersonal dysfunction and impaired social cognition are recognised as characteristic symptoms of various psychiatric and neurological disorders. Emerging evidence suggests that this is true particularly for Multiple Sclerosis (MS; Lin et al., 2021). Like many other clinical populations, however, MS is also characterised by compromised general cognition, with executive abilities (e.g., attention, memory) among the most frequently affected (Raimo et al., 2017; Sumowski et al., 2018). The current study aims to ascertain whether individuals with MS exhibit impairments in social cognition and executive functioning, and to explore further their relationships. **Methods:** Two hundred and sixty-eight participants will be recruited in a between-participants design, with 134 individuals reporting a clinical diagnosis of MS matched with 134 healthy controls (HC). Participants will complete an online battery of social cognition tasks that measure emotion recognition (Reading the Mind in the Eyes Test) and social sensitivity (Faux Pas Task), and executive functioning tasks that measure inhibition (Stroop task), updating (Keep Track Task), and switching (Colour Shape Shifting task). **Expected results:** We hypothesise that the MS group will perform significantly poorer on all measures of executive functioning and social cognition compared to the HC group. We will also explore relationships between executive functioning and social cognition. **Current stage of work:** This experiment has been preregistered on the Open Science Framework and data collection will begin in February 2022. **Discussion:** Improved understanding of how impairments to domain-general mechanisms contribute to altered social cognition will afford a more precise characterisation of dysfunctional interpersonal behaviour in MS.

# Subjective Cognitive Complaints in End-Stage Renal Disease: A Systematic Review

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**Background:** Subjective cognitive complaints refer to personal experience of difficulties with everyday cognitive tasks. Although there has been a fair amount of research on cognitive complaints in end-stage renal disease (ESRD), the research has not been drawn together to provide an overview of what is known about this frequently reported problem.

**Methods:** This systematic review aimed to synthesise frequency and severity of cognitive complaints in adult ESRD patients, its association with demographic, clinical, and psychosocial factors, and its relevance to objective cognitive function. Five databases were searched from inception to January 2022, which identified 221 studies.

**Findings:** The Kidney Disease Quality of Life Cognitive Function subscale was the most frequently used measure. Cognitive complaints were highly prevalent in dialysis patients, with more than 70% reporting these complaints sometimes or more often. Although kidney transplantation recipients reported cognitive complaints less frequently than dialysis patients, this advantage was less apparent in studies directly comparing across treatment modalities. Cognitive complaints also appeared comparable between haemodialysis and peritoneal dialysis. In terms of other factors, cognitive complaints were associated with hospitalisation, quality of life, and mood. The relationship between subjective and objective cognition was unclear due to the lack of research available.

**Discussion:** Future research should investigate cognitive complaints guided by theories of symptom representation. Comprehensive cognitive complaint measures should be developed for ESRD patients. More research in this area is needed to determine the relation between subjective and objective cognition, and the impacts of these complaints on ESRD patients' daily functioning and self-management.



## Irritable bowel syndrome in inflammatory bowel disease: distinct, intertwined, unhelpful? Views and experiences of patients

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**Objective:** This article explores beliefs about pain and related coping strategies of individuals experiencing abdominal pain during remitted inflammatory bowel disease (IBD), as well as perceptions of irritable bowel syndrome (IBS) in the context of IBD.

**Methods:** In-depth semi-structured interviews with 23 participants who self-reported experiencing abdominal pain during remission of their IBD. The study was embedded in the constructivism tradition and reflexive thematic analysis was used to analyse the interviews.

**Results:** Themes addressed how people monitor symptoms to distinguish active from quiescent IBD, which coping strategies they employ to navigate the pain and how these may aid the discernment of inflammation, how context influences pain interpretation and management, what role illness history and health literacy play in the meaning of ongoing pain, and how IBS is perceived.

**Conclusion:** IBS labels have the potential of being perceived as invalidating, although they help some people to worry less about ongoing pain and symptoms. Even for those for whom the label helps, IBS does not necessarily bring a clear understanding. Participants' responses signal a need for explanations that incorporate the complexity of IBD, including explanations of ongoing pain during remission. Ongoing pain needs to be appreciated in the wider context of illness history and health literacy.

## Weight loss-related beliefs and behaviours among adults with psoriasis and obesity: a qualitative interview study

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**Background:** Obesity is a common (30-40%) comorbidity of psoriasis. Weight loss is shown to improve severity of psoriasis; however, little is known about the factors that may influence successful weight loss in the context of obesity and psoriasis. The current qualitative study aimed to explore the obesity-associated beliefs, perceptions, and behaviours related to weight loss in psoriasis. Preferences for a weight loss intervention were also explored.

**Methods:** Qualitative in-depth semi-structured interviews with 24 adults (62.5% male) with moderate-to-severe psoriasis and obesity (Mean BMI= 35.2 kg/m<sup>2</sup>, SD= 4.1) recruited through a UK-based patient organisation website. Data were analysed using inductive thematic analysis.

**Findings:** Most participants viewed psoriasis as unrelated to obesity. A well-controlled psoriasis and improvements in psoriasis symptoms were considered as major motivators for engaging in a weight loss program by individuals who viewed psoriasis and obesity as related conditions. Comfort eating was perceived as an escape strategy from the psoriasis-induced negative emotions. Participants shared their dissatisfaction with current weight loss recommendations which were too generic. They suggested that a desirable weight loss program would require both emotional and behavioural support, with an emphasis on psoriasis's burden.

**Discussion:** The findings accentuate the importance of 1) clinicians discussing the link between obesity and psoriasis with patients, 2) weight loss advice to include both behavioural and emotional support, and 3) a weight loss advice to consider the psoriasis burden and the perceived barriers which may potentially lead to improved outcomes to obesity management in psoriasis.

## Help-seeking toward mental health professionals among patients with epilepsy

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Patients with epilepsy have a low quality of life due to psychological problems such as a high rate of comorbid depression, and formal support is needed for such problems. However, data on help-seeking of patients with epilepsy from mental health professionals is scarce. The purpose of this study is to reveal a profile of help-seeking in patients with epilepsy for psychological problems. Two hundred patients with epilepsy and healthy controls participated in this study. They completed a questionnaire on demographics, depression, help-seeking attitude (comprised of seeking professional psychological help and self-direction), help-seeking intention, help-seeking behavior, and barrier to help-seeking. Separate t-tests and chi-squared tests were performed to compare help-seeking between patients with epilepsy and the healthy control. In both seeking professional psychological help and self-direction, patients with epilepsy had significantly higher scores than the healthy control. In help-seeking intention, patients with epilepsy had a significantly higher intention to see psychologists and psychiatrists than the healthy control. In help-seeking behavior, the percentage of individuals who saw psychiatrists was significantly higher in patients with epilepsy than in the healthy control, but no significant difference in help-seeking from psychologists was found. Patients with epilepsy tend to seek psychological help when compared to the healthy control. However, considering the observed gap in findings on help-seeking intention and help-seeking behavior, the actual help-seeking in patients with epilepsy might be hindered. In future studies it would be important to reveal specific barriers to seeking help from psychologists in patients with epilepsy.



# Current Evidence in Psychodermatology on the Stigmatizing Experience of Visible Skin Diseases: A Meta-analysis Review

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**Background:** People with chronic skin disease experience considerable psychological distress and report frequent experiences of stigma. This social stigma (SS) can become internalized stigma (IS), where people adopt biases about their condition. A systematic literature review was conducted to examine the relationship of IS and SS with multiple adjustment indicators: well-being, quality of life, physical health, social relationships, sexual functioning, and preventive health behaviors among adults with visible skin disease.

**Methods:** Databases were searched for peer-reviewed articles that measured stigma and any indicator of adjustment. Native-speaking reviewers conducted screening and data extraction. Meta-analyses used a random-effects model to examine these relationships.

**Results:** Thirty-two articles were included after both screenings. Most studies were cross-sectional (97%), conducted in Europe (69%), and written in English (97%). Measures blended multiple types of stigma (59%), with no studies solely addressing internalized stigma. Narrative synthesis found that stigma was associated with greater psychological distress and lower perceived health; relationships with the other outcomes were more variable. Meta-analyses: Pooled effect sizes revealed that stigma was positively associated with depression (Fisher's  $Z = 0.52$ ) and anxiety (Fisher's  $Z = 0.42$ ), and negatively with quality of life (Fisher's  $Z = -0.63$ ;  $p$ 's  $< 0.01$ ).

**Discussion:** Relationships between stigma and illness adjustment were largely in the expected direction. Few studies address social, sexual or health behavior outcomes. Stigma might be a mechanism by which visible skin disease affects well-being. Improvements in stigma measurement are warranted to detect nuances in how social or internalized stigma influence adjustment.

## Combining the SIA to Health with the ICF – participation experiences of people with MS

E. Dilger<sup>1</sup>, N. Reeck<sup>1</sup>, D. Hoekstra<sup>2</sup>, A. Thiele<sup>2</sup>, A.L. Brütt<sup>1</sup>

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<sup>2</sup>Research Group for Education and Didactics in Chronic and Progressive Diseases and Physical Disabilities, Department of Special Needs Education and Rehabilitation, Germany

**Background:** People with Multiple Sclerosis (PwMS) are prone to participation restrictions which in turn are associated with reduced health and well-being. In particular mobility limitations are eventually experienced by the majority of PwMS.

The concept participation, described as involvement in a life situation according to the International Classification of Functioning, Disability and Health (ICF), lacks the subjective facet of participation.

By complementing the ICF with the Social Identity Approach (SIA) to Health in order to characterize subjective facets of participation, this study sheds light on how PwMS with gait impairment experience participation and the contextual factors influencing it.

**Methods:** The qualitative design comprised 4 online focus groups with 4-6 participants (altogether N=19) of whom 12 were also interviewed individually. Participants were PwMS with gait impairment from Germany aged between 33 and 76 years. The data was transcribed verbatim and is analyzed using qualitative content analysis according to Kuckartz.

**Expected results:** Preliminary data analyses show that the SIA to Health is suitable to characterize subjective facets of participation. It is expected to gain a nuanced understanding on how contextual factors interact with the extent and subjective facet of participation.

**Current stage of work:** Deductive coding with the coding frame developed from the ICF and the SIA to Health is completed. Inductive fine coding and analyses will be carried out.

**Discussion:** This study offers a theory-driven insight into the participation experiences of PwMS with gait impairment. It exemplifies the usefulness of transferring a health psychology model to the territory of disability research.

# Coping with COVID-19 stress and Fatigue

15:30 - 17:00

Márcia Filipa Carvalho

## Long-term fatigue due to COVID-19: the role of goal flexibility

S. Maes<sup>1</sup>, S. Van Damme<sup>1</sup>, D. Van Ryckeghem<sup>1,2</sup>, M. De Mooij<sup>2</sup>, V. Jeanine<sup>2</sup>

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### Background:

Fatigue is a frequent symptom in Long-Covid (i.e., long-term debilitating complaints after COVID-19 diagnosis). Little is known about the severity and progress of fatigue over time, and its underlying mechanisms, in Long-Covid. Contemporary theories on fatigue emphasize the potential importance of goal management. This study aims to examine the role of goal flexibility in persisting fatigue after intensive care admission due to Covid. It is hypothesized that higher ability to flexibly adjust goals is associated with less severe fatigue.

### Methods:

A sample of 50 intensive care admitted Long-Covid patients at Adelante UMC is recruited for online assessment. Fatigue (PROMIS SF v1.0) is measured at rehabilitation-onset (T1) and after two (T2) and twelve (T3) months. Goal flexibility is measured at T3 using the Goal Adjustment Scale (goal disengagement-reengagement) and TENFLEX (tenacious goal pursuit–flexible goal adjustment).

### Findings:

Preliminary findings are presented, as data collection is ongoing (T1, N = 23; T2, N = 21; T3, N = 14). Fatigue worsened from T1 (M = 21.05, SD = 8.08) to T2 (M = 24.71, SD = 9.47),  $t(20) = -2.11$ ,  $p = 0.02$ , and improved non-significantly between T2 (M = 24.54, SD = 9.86) and T3 (M = 22.92, SD = 8.70),  $t(12) = -0.96$ ,  $p = 0.18$ . Fatigue at T3 was negatively related to flexible goal adjustment ( $r = -.68$ ,  $p = .011$ ), disengagement ( $r = -.57$ ,  $p = .04$ ), and reengagement ( $r = -.384$ ,  $p = .176$ ).

### Discussion:

These preliminary results are in line with the hypothesis that goal flexibility is associated with less severe long-term fatigue, and have promising implications for understanding and treating fatigue in Long-Covid.

## A discriminant content validity study of fatigue assessment items in a transdiagnostic chronic medical population

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<sup>1</sup>Ghent University, Belgium

<sup>2</sup>Maastricht University, Netherlands

### Background:

Fatigue is a highly prevalent symptom in patients with chronic medical conditions. Contemporary theories highlight the multidimensional nature of fatigue, hereby emphasizing the importance of a motivational dimension, i.e., urge to disengage from effortful behaviour. A variety of tools were developed to assess fatigue via a limited number of items. The underlying assumption is that the items of the various screening tools are actually identifying the multidimensional nature of fatigue. To test this assumption, we will conduct a content analysis investigating the discriminant content validity of the items used in available assessment tools.

### Methods:

We aim to question 400 participants (+18 years), who are diagnosed with a chronic medical condition, using an online assessment (i.e. LimeSurvey via Prolific) based on Johnson et al.'s (2014) discriminant content validity method. In particular, participants will be asked to indicate whether questionnaire items assess the dimensions of interest (subjective experience, energy depletion, motivation) or related constructs (dysfunctioning, distress and sleepiness). Additionally, participants will be requested to rate their rating confidence.

### Expected results:

Study findings will be presented and discussed during the meeting. It is expected that the results of the content analysis will give more insight in the dimension(s) each item represents and which dimensions of fatigue are included in various assessment tools.

### Current stage of work:

Data collection will be finalized in March 2022.

### Discussion:

It is expected that insights will be gained on the actual content of fatigue assessment tools. This may have implications for future understanding and assessment of fatigue.

# Quality of Life and Medication Adherence Among People With Diabetes During the COVID-19 Pandemic

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<sup>2</sup>PTE ÁOK Magatartástudományi Intézet, Hungary

## Background:

Type 2 diabetes is a chronic illness that requires strict adherence to the daily treatment regimen. This condition is very often associated with emotional distress as well. Chronic illnesses make people more vulnerable to the COVID-19 infection and the risks of complications. There is a fast-rising collection of new works on COVID-19, but little is known about the psychological impact of the pandemic in patients with diabetes.

## Methods:

A cross-sectional survey was conducted by online questionnaires to 252 adults with type 2 diabetes. The questionnaire included items on COVID-19-specific concerns, sociodemographic and health status data, diabetes distress, quality of life, medication adherence. Spearman correlation was calculated for characterising the relationships between variables.

## Findings

There is a weak positive correlation between diabetes distress and fear of COVID-19 scales ( $\rho = 0,250$ ,  $p < 0,001$ ). There is a positive, weak correlation between medication adherence and fear of COVID-19 ( $\rho = 0,131$ ,  $p = 0,038$ ). A weak negative correlation was found between quality of life and fear of COVID-19 ( $\rho = -0,286$ ,  $p < 0,001$ ). With the crescendo of the fourth wave, both diabetes distress and fear of COVID-19 rose, but the differences were not significant.

## Discussion:

These correlations are noteworthy because they show significant associations between a disease-specific distress-, and quality of life scale, and an epidemic-specific anxiety scale, which cannot be explained by an overlap in the content of the items on these scales.

## Fatigue as symptom of long-COVID in relation to sleep quality and daily activities

C. Bode<sup>1</sup>, M. Wensink<sup>1</sup>, G. Schaap<sup>1</sup>, P. ten Klooster<sup>1</sup>, C. Doggen<sup>1</sup>, J. van der Palen<sup>2</sup>, H. Vonkeman<sup>2</sup>

<sup>1</sup>University of Twente, Netherlands

<sup>2</sup>Medisch Spektrum Twente, Netherlands

**Background:** A wide range of physical and mental symptoms has been reported as long term consequences of COVID-19 infection, among which fatigue. To understand the course of fatigue on a daily basis and identify its behavioural predictors, the current study explored the relationship between physical and mental fatigue over the course of two weeks and investigated sleep quality and daily activities as risk factors for fatigue.

**Method:** Experience Sampling Methodology was used to collect repeated momentary self-reports six times a day from ten Dutch ex-hospitalized people with long-COVID (Mage = 59.7, 50% women; 50% overweight; 80% one or more comorbidities) for 14 consecutive days. LMM was applied to analyse the longitudinal relationships between fatigue, daily activities and sleep.

**Results:** Strong association between physical and mental fatigue over time ( $\beta = .61$ ,  $p = <.001$ ; significant at between-person level ( $\beta = .55$ ,  $p = <.001$ ) and within-person level ( $\beta = .43$ ,  $p = <.001$ )) were found. Sleeping more hours at night was predictive of (lower) physical and mental fatigue levels the following day. Performing household chores was predictive for less physical and mental fatigue two hours later whereas eating/drinking activities were found to increase physical fatigue two hours later.

**Conclusion:** Longitudinal daily data clarified associations of physical and mental fatigue over time and in relation to behavioural predictors for people with long-COVID symptoms. Consequences for just-in-time interventions to decrease fatigue in long-COVID patients will be discussed.

## Men living alone during the COVID-19 pandemic report lower need satisfaction and wellbeing

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<sup>1</sup>University of Basel, Switzerland

<sup>2</sup>University of Kent, United Kingdom

**Background.** Social isolation has a negative impact on mental health and well-being. During COVID-19, lockdowns might have had an especially strong impact on people living alone. We investigate how living alone was related to subjective well-being, in interaction with gender; and additionally how much this link was underpinned by satisfaction of fundamental psychological needs.

**Methods.** We rely on data from a large-scale COVID-19 research project in the UK (N = 1004). Data (cross-sectional) were collected in May-June 2021. Participants completed measures for need satisfaction and subjective well-being, and reported demographics (50% male, 16% living alone). We hypothesised that gender and household situation jointly influence need satisfaction and wellbeing, and that the effect on wellbeing is mediated by need satisfaction, which we tested with a structural equation model.

**Findings.** Analyses revealed a significant household situation x gender interaction on both need satisfaction ( $z = 2.54$ ,  $p = .011$ ,  $\beta = .118$ ) and well-being ( $z = 2.33$ ,  $p = .020$ ,  $\beta = .104$ ). Specifically, men living alone reported lower need satisfaction and well-being than women living alone and men not living alone. In contrast, women reported similar levels of need satisfaction and well-being regardless of their household situation. Need satisfaction mediated the household x gender effect on well-being.

**Discussion.** Our findings revealed difference in how men and women coped with living alone during COVID-19 and highlighted a greater vulnerability of men. They are consistent with a growing body of literature calling for a better understanding of men's lived experiences and well-being.



# Novel Interventions in the context of illness

15:30 - 17:00

James Reynolds

## Psychological impacts of an online genetic counselling narrative group intervention in people with hereditary ataxia

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<sup>2</sup>CGPP - Centre for Predictive and Preventive Genetics, IBMC - Institute for Molecular and Cell Biology, UnIGENe – Unit for Genetics and Epidemiological Research on Neurological Diseases, i3S - Instituto de Investigação e Inovação em Saúde, Universidade do , Portugal

<sup>3</sup>ICBAS - Institute of Biomedical Sciences Abel Salazar, Universidade do Porto, Portugal

<sup>4</sup>CPUP - Centre of Psychology, Universidade do Porto, Portugal

**Background:** Hereditary ataxia patients frequently show high levels of psychological distress. However, support interventions are lacking. The patient organization APAHE approached CGPP stating the need for a support intervention for their associates. A pilot, short-term narrative-based group intervention was then adapted and remotely delivered. This study aimed to explore and evaluate the intervention's impact on participants' illness narratives and psychological wellbeing.

**Methods:** APAHE recruited the participants through social media. The intervention included two online sessions, facilitated by a health psychologist and a genetic counsellor, with six participants attending. A multiple, mixed-method case study was conducted. Measures included an expressive writing exercise comprised of four narratives, GAD-7, PHQ-9 (all taken at baseline, post-intervention, and two weeks follow-up), an expressive writing questionnaire and a focus group (at two weeks follow-up). Data analysis included thematic analysis of participants' narratives and statistical analysis (descriptive statistics and Friedman test) of scores' differences.

**Expected results:** Participants reported high satisfaction with the intervention.

Preliminary results did not show significant differences over time. However, a decrease in anxious and depressive symptoms, ranging from clinically significant scores pre-intervention (GAD-7: M=12.33, SD=3.011; PHQ-9: M=12.67, SD=3.724) to subclinical scores (GAD-7: M=6.67, SD=3.077; PHQ-9: M=7.17, SD=6.113) post-intervention; an increase at follow-up was observed (GAD-7: M=8.17, SD=3.656; PHQ-9: M=12.67, SD=3.502).

Thematic analysis of illness narratives is ongoing, which may elucidate further psychological impacts.

**Current Stage of work:** Qualitative data analysis.

**Discussion:** Results may inform future application of this intervention in larger studies. This intervention could also provide follow-up support in genetic counselling protocols.

## HED-Start: A positive skills intervention to improve psychological adjustment in incident haemodialysis patients

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**Background:** Initiation onto hemodialysis is a critical transition that entails multiple psycho-behavioral demands. Interventions guided by self-management and cognitive-behavioral therapy to improve distress have been variably effective yet are resource-intensive or delivered reactively. Positive psychology interventions are lacking. This randomized controlled trial (NCT04774770) aimed to determine the effectiveness of HED-Start (life skills-orientated intervention), to improve illness perceptions, distress symptoms and adjustment in patients new on hemodialysis (<6 months at baseline).

**Methods:** Hemodialysis patients (n = 99) were randomized to usual care (n = 58) or HED-Start (n = 41). HED-Start comprised 4 fortnightly sessions focusing on positive emotions, acceptance, cognitive reframing, affirmations and life-orientated goal setting. Self-report questionnaires [distress/mood (HADS; SPANE); quality of life (KDQOL-SF, WHOQOL-BREF); benefit-finding (BFS, BIPQ); life-oriented skills (HEIQ, CD-RISC-2); self-efficacy (CD-SES)] and clinical data were collected at baseline and at 12 weeks follow up. Intention-to-treat analyses were conducted.

**Results:** Adjusting for baseline, significant between group differences were noted in favor of HED-Start for BIPQtotal (p = .049), BFStotal (p = .01), BFS personal growth subscale (p = .002), and positive and active engagement in life HEIQ subscale (p = .013). There were no other significant effects.

**Current Stage of Work:** Recruitment is ongoing.

**Discussion:** HED-Start had initial significant, positive effects on adjustment indices, suggesting that interventions that enhance new hemodialysis patients' ability to accept situations and find meaning are promising. Upon completion, the trial will determine if these effects are sustained and if there are any improvements, on distress, quality of life and clinical outcomes.

## Hernia Active Living Trial: Feasibility study of an exercise intervention for people with parastomal bulging

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<sup>5</sup>The Ostomy Studio, United Kingdom

**Background:** Parastomal bulging is a common complication associated with a stoma. Strengthening of the abdominal muscles via exercise may be a useful self-management strategy. The aim of this feasibility work was to address uncertainties around testing a Pilates-based exercise intervention for people with parastomal bulging.

**Methods:** An exercise intervention under-pinned by the principles of self-determination theory was developed and tested in a single-arm trial (n=17 recruited via social media) followed by a feasibility RCT (n=19 recruited from hospitals). Adults with an ileostomy or colostomy who perceived they had a bulge around their stoma were eligible. The intervention involved a booklet, videos and 12 sessions with an exercise specialist. Surveys pre and post intervention captured self-reported quality of life, self-efficacy, and physical activity. Feasibility outcomes included intervention acceptability, fidelity, adherence, retention and missing data. Interviews explored participants' qualitative experiences of the intervention.

**Findings:** 19/28 participants referred to the intervention completed the programme (67%), and received on average 8 sessions, lasting an average of 48 minutes. Sixteen participants completed follow-up measures (44% retention), with low levels of missing data, apart from body image and work/social function quality of life subscales (50% and 56% missing respectively). Themes from qualitative interviews related to the benefits of being involved, including behavioural and physical changes in addition to improved mental health. Identified barriers included time constraints and health issues.

**Discussion:** The exercise intervention was feasible to deliver, acceptable to participants, and potentially helpful. However, strategies to improve retention need to be included in a future study.

## Delivery of supported self-management in asthma reviews: an observational study nested in the IMP2ART programme

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<sup>2</sup>Queen Mary University London, United Kingdom

**Background:** Supported self-management reduces the risk of asthma attacks, improves asthma control and quality of life. During routine primary care asthma consultations, healthcare professional (HCP) communication and behaviour can influence a person's skills, knowledge and confidence to manage their own condition. Nested within the IMPLementing IMProved Asthma self-management as RouTine (IMP2ART) programme, which is developing and evaluating a strategy delivering patient, professional, and organisation resources to improve self-management, we aimed to assess HCP delivery of patient-centred care and behaviour change strategies to promote asthma self-management during routine reviews.

**Methodology:** We will conduct a mixed-method observational study using video-recordings of routine face-to-face and telephone asthma reviews in a sub-sample of practices participating in the IMP2ART UK-wide cluster-randomised controlled trial (implementation n~5; control n~5). Analytical methods will include: ALFA Toolkit Multi-Channel Video Observation, to code and quantify types of speech; Patient Centred Observation Form and The Behaviour Change Counselling Index, to assess patient-centeredness and behaviour change techniques used by HCPs. Clinician perceptions of asthma reviews will be explored using semi-structured interviews, analysed thematically.

**Expected Results:** Our findings will contribute to interpreting outcomes of the IMP2ART trial, and inform how supported self-management is embedded within asthma consultations.

**Current Stage of Work:** Data collection (video-recordings) is underway in IMP2ART practices.

**Discussion:** The insights from observing asthma reviews will inform training programmes directed at providing HCPs with the skills they need to implement a motivating and patient-centred asthma review, in which behaviour change and collaborative supported self-management strategies are prioritised.

## Optimising well-being and promoting wound healing in DFU: Psychological perspectives and patient informed intervention strategies

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**Background:** Diabetic foot ulceration (DFU) is associated with high morbidity and mortality rates. Psychological factors are believed to play a role in wound healing but it remains uncertain if psychological interventions can help individuals with DFU to achieve wound healing or prevent recurrence. This study will examine the impact emotional and psychosocial factors have on wound healing and investigate if an online psychological intervention is suitable, acceptable and beneficial for individuals with DFU.

**Methods:** A scoping review will be conducted in accordance with JBI methodology for scoping reviews and PRISMA-ScR will guide the reporting. Semi-structured interviews will be conducted with individuals with DFU and structured focus groups will be carried out with relevant stakeholders and healthcare professionals. Findings will be analysed using thematic analysis guidelines described by Braun & Clarke. A psychological intervention will subsequently be co-developed with individuals with DFU. A mixed-methods process evaluation will be conducted to assess suitability of design and usefulness of the intervention. The MRC Framework will guide the development of the intervention and the CONSORT extension for pilot and feasibility studies will be followed to standardise conduct and reporting.

**Expected results:** An intervention that will optimise well-being and promote wound healing in individuals with DFU.

**Current stage of work:** Conducting the scoping review and recruiting a PPI panel.

**Discussion:** Psychological factors can influence illness perception, health behaviours, and disease management. Thus, it is important to examine the impact on wound healing in DFU and to explore if psychological interventions can help prevent reoccurrence.

# Biopsychology of stress and coping

15:30 - 17:00

Melanie Bamert

## How do we regulate stress in daily life? An ambulatory heart rate variability study

M. Bamert<sup>1</sup>, J. Inauen<sup>1</sup>

<sup>1</sup>University of Bern, Switzerland

Stress has been linked to a variety of unfavorable health effects. The physiological stress response has been explored in laboratory studies using objective methods such as heart rate variability (HRV). Promisingly, the vagal tank theory (VTT) has recently emerged predicting adaptive HRV values concerning stressful events. This intensive longitudinal study, for the first time, aimed to investigate if the predictions of the VTT about HRV dynamics translate to naturalistic stressful events. For four days, sixty-seven students wore an EcgMove 4 sensor. Data was segmented into before, during, and after stressful events using a combination of device-based, event-based, and prompted self-report measurements. Multilevel modeling was used to examine HRV segments, taking into consideration physiological and psychological factors. In line with hypothesis, HRV prior to experiencing stress predicted HRV change during stressful events but unexpectedly there was no interaction with physical activity requirements of the event ( $p = .896$ ). In line with hypothesis, HRV prior to stress predicted HRV recovery after stressful events but the expected moderating effect with HRV changes during the event was not found ( $p < .001$ ). Results did not fully support the idea that HRV temporal stress dynamics translate to daily life, underlining how little is known about how adaptive HRV surrounding stressful events in daily life looks like. These findings emphasize the importance of moment-to-moment changes in physiological stress and recovery and enable health psychology research to think about interventions that could potentially increase momentary HRV in order to buffer negative effects of stress.



## Cardiovascular reactivity during couple conflict: The influence of relationship quality and emotion regulation

K. Salo<sup>1</sup>, L. Pauw<sup>1</sup>, A. Milek<sup>1</sup>

<sup>1</sup>University of Münster, Germany

Although romantic relationships are generally considered beneficial for wellbeing, dysfunctional relationships may have detrimental effects on health. For example, marital strain represents a risk factor for cardiovascular disease. The unfavorable association between unhappy relationships and cardiovascular health may be partly explained by cardiovascular reactivity in response to couple conflict. Therefore, the present study aims to investigate the underlying assumption that relationship quality may shape cardiovascular reactivity during conflict. Further, we investigate whether the use of adaptive emotion regulation strategies may buffer cardiovascular reactivity. We hypothesize 1) that relationship quality attenuates cardiovascular reactivity during conflict, and 2) that adaptive emotion regulation strategies employed by one partner attenuate cardiovascular reactivity in both partners during conflict. Couples engaged in a 10-minute conflict discussion and answered several questionnaires (including relationship quality). Prior to discussion, one partner per couple was randomly assigned to one of three experimental conditions (acceptance, cognitive reappraisal, control group). In both emotion regulation groups, the manipulated partner was instructed to apply either acceptance or cognitive reappraisal strategies during the following conflict. Heart rate variability (HRV) was assessed at baseline and during conflict. Cardiovascular reactivity is operationalized as a temporary shift in HRV from baseline to conflict. Currently, data is being collected (current N = 70, target N = 150 couples). Data will be analyzed using an actor-partner interdependence model. Results will be discussed in the light of cardiovascular health in romantic relationships.

## Squeeze the beat: Enhancing cardiac vagal activity during resonance breathing via coherent pelvic floor recruitment

J.M. Tatschl<sup>1</sup>, A. Schwerdtfeger<sup>1</sup>

<sup>1</sup>University of Graz, Austria

Resonance breathing (RB) has been shown to benefit health and performance within clinical and non-clinical populations. This is attributed to its baroreflex stimulating effect and the concomitant increase in cardiac vagal activity (CVA). Hence, developing methods that strengthen the CVA boosting effect of RB could improve its clinical effectiveness. Therefore, we assessed whether supplementing RB with coherent pelvic floor activation (PRB), which has been shown to entrain the baroreflex, yields stronger CVA than standard RB. N = 32 participants performed 5-minutes of RB and PRB, which requires to recruit the pelvic floor during inhalation and release it at the initiation of the expiration. CVA was indexed via heart rate variability using RMSSD and LF-HRV. PRB induced significantly larger RMSSD ( $d = 1.04$ ) and LF-HRV ( $d = 0.75$ ,  $p_s < .001$ ) as compared to RB. Results indicate that PRB induces an additional boost in CVA relative to RB in healthy individuals. However, subsequent studies are warranted to evaluate whether these first findings can be replicated in individuals with compromised health, including a more comprehensive psychophysiological assessment to potentially elucidate the origin of the observed effects. Importantly, longitudinal studies need to address whether PRB translates to better treatment outcomes.

## The coping heart: Vagal reactivity moderates the relation between cognitive reappraisal and advantageous decision-making

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**Background:** The decision we make can have major and lasting consequences in the long term. Growing evidence shows that making decisions resulting in favorable outcomes require efficient emotion regulation strategies. Interestingly, the autonomic nervous activity has been shown to play a central role in decision-making according to the somatic marker theory, but also in emotional processing according to the neurovisceral integration model. Here, we test whether efficient vagal changes (heart rate variability) during the task modulate the interplay between emotion regulation strategies.

**Methods:** Young adults (n=54), completed the Iowa Gambling Task (i.e. test that simulates real-life decision making) while wearing an electrocardiogram monitor. Then, they answered the Emotion Regulation Questionnaire (assessing cognitive reappraisal). Vagal activity in resting state and during the task were recording and subtracted to compute vagal reactivity. Several potential confounders (alcohol intake, smoking, body mass index, depression, anxiety, medication...) were controlled.

**Results:** Vagal reactivity modulates the association between cognitive reappraisal and advantageous decision-making ( $F(3, 49) = 6.22, p < .001, R^2 = .23$ ). Cognitive reappraisal positively predicts advantageous decision-making, but only when vagal reactivity during the task is high ( $\beta = 1.03, p < .01$ ) or moderate ( $\beta = 1.03, p = .02$ ) and not when it is low ( $p > .10$ ).

**Discussion:** Our results support the role of heart-brain interactions in decision making. In addition to therapeutic exercises on emotion regulation, lifestyle interventions, such as simple breathing exercises that enhance vagus nerve activity, may further benefit patients with difficulties in making self-beneficial choices (e.g., alcoholism).

## Should we use the inverse movement to detect psychologically meaningful non-metabolic heart rate variability reductions

A. Schwerdtfeger<sup>1</sup>, C. Rominger<sup>1</sup>

<sup>1</sup>University of Graz, Austria

The development of an interactive psychophysiological assessment targeting to trigger psychologically relevant moments of increased stress and vulnerability is still in its infancy. Specifically, the concept of additional heart rate variability reductions (AddHRVr), that is decreases of HRV independent from metabolic demands, seems to be a powerful approach for future online applications. Recently, we presented a 2-step approach to simulate various AddHRVr algorithm adjustments to finally attain potential settings for an online application. First, individual algorithm parameters are estimated based on linear regressions predicting participants' HRV via movement. This step may have a strong impact on the later functioning of the AddHRVr algorithm. However, until today, no study has systematically investigated if movement or its inverse more adequately predicts HRV and finally can trigger psychologically meaningful situations. Therefore, we simulated the online functioning of several algorithm settings based on the simple movement and its inverse in two independent samples. Following from the simulated power and the effect size estimates, the algorithm based on inverse movement might be more sensitive when detecting objective transitions of stress (in a sample of 38 firefighters). However, the simple movement approach seemed to outperform an inverse algorithm when predicting subjectively assessed quality of social interactions (in a sample of 21 students). These two simulation studies deliver first evidence that simple and inverse movement approaches might both achieve adequate performances depending on the psychological phenomenon under study. Nevertheless, we need more (simulation) studies to derive robust algorithms for an interactive psychophysiological triggering of momentary psychological phenomena.

# Stress and Coping in Pandemic Times

15:30 - 17:00

Chantal den Daas

## Well-being in Children and Adolescents with Hearing Impairment During the COVID-19 Pandemic

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**Background:** Research on well-being among children with hearing impairment has not yet received much attention. The aim was to gain insights into children's stressful situations during the Corona pandemic and to examine associations with well-being, taking into account gender, age, and self-efficacy.

**Method:** Data were collected from 92 students (45% girls; mean age: 14.89 years, SD = 1.96) from a specialist school for deaf and hard-of-hearing children in Germany in May 2021. Occurrence of and perceived stress of different stressful situations (general everyday stressors, corona-specific stressors, and hearing-specific stressors), self-efficacy, and well-being were assessed via self-report. Analyses of variance and multiple regression analyses were computed.

**Results:** Girls scored lower on well-being and higher on perceived stress (everyday and hearing-specific). For self-efficacy, there were no gender differences. Perceived stress was negatively associated with well-being, self-efficacy correlated positively with well-being. The association of self-efficacy with perceived stress and stressor occurrence was less consistent. Regression analyses showed that perceived stress for corona-specific stressors (homeschooling, crowds) and self-efficacy respectively occurrence of everyday stressors (gossiping, parents have no time) and self-efficacy predicted well-being. Self-efficacy did not moderate the association between stressors and well-being.

**Discussion:** When all variables were considered simultaneously, gender or age were unrelated to well-being. However, stressful situations as risk factor and self-efficacy as protective factor showed significant for well-being. Thereby, especially everyday and corona-specific stressors should be taken seriously among children and adolescents with hearing impairment. Self-efficacy should be strengthened as a resource.

## Covid-19-vulnerable students are highly psychologically distressed

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**Background:** The Covid-19 pandemic can be understood as a multidimensional toxic stressor causing an increase in the incidence and prevalence rates of mental disorders in the general population, and especially in students. Until now, the special situation of Covid-19-vulnerable students does not seem to have been sufficiently illuminated.

**Objective:** To analyze the special distress of Covid-19 vulnerable students.

**Methods:** In 2020 (n=408) and in 2021 (n=729) students were asked questions regarding distress and resources in the light of Covid-19 lockdown with a special focus on Covid-19-vulnerable students (2020: 13%, 2021: 12%, asthma and obesity as the main diagnosis). Besides questions about the digital studies and living in the lockdown, BSI-18, stress and social support were answered.

**Findings:** In both years, the health status was lower in the vulnerable group; and the group suffered more from digital study stress and from Covid-19-everyday stress. 50% of all students were psychologically distressed (BSI-18) and 50% suffered from stress in both years. In 2020 60% and in 2021 65% were burdened either in one or in the other area. The vulnerable group reported lower social support in both years.

**Discussion:** On the one hand, around 60-65% of the students reported increased psychological or stress levels in lockdown 2020 and 2021. On the other hand, the situation of Covid-19-vulnerable students is more problematic. This is not only due to the poorer health, but also to digital study stress, daily hassles in the lockdown and lower social support. Therefore, special online-interventions are necessary.

## COVID-19-related stress in students, examination of the CSSQ - a pilot study

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<sup>2</sup>University of Applied Sciences Neubrandenburg, Germany

**Background:** The Covid-19 pandemic and its consequences have negative effects on the mental health of students. The Italian COVID-19 Student Stress Questionnaire (CSSQ) has been translated and tested in a pilot study.

**Method:** In summer semester 2021, N = 132 German students were surveyed in an online study using the CSSQ, which comprises seven items, as well as the Mini-SCL (to assess psychological distress with 18 items), the TICS short scale (to assess chronic stress with 9 items) and the 3 item Oslo Social Support scale.

**Results:** Using EFA, the factorial structure could be partially replicated. CFA showed a good global fit ( $\chi^2=11.333$ ,  $df=12$ ,  $\chi^2/df=0.94$ ,  $p=0.501$ ,  $GFI=0.97$ ,  $CFI=1.00$ ,  $SRMR=0.051$ ,  $RMSEA<0.001$ ,  $pRMSEA=0.69$ ), with low reliability ( $\omega=.60$ ). There were hardly any substantial correlations with the other questionnaires. German students had a higher total CSSQ value ( $M=11.85 \pm 3.81$ ) than the comparative Italian sample ( $M=10.07 \pm 4.52$ ;  $t=3.61$ ,  $p\leq 0.0003$ ,  $d=-0.43$ ) and described higher stress levels with regard to the 'Relationship and student life scale' ( $t=6.08$ ,  $p\leq 0.0001$ ,  $d=-0.67$ ). Using the Mini-SCL, 46% described themselves as mentally stressed, of which 13% were mildly, 25% moderately and 8% were severely psychologically distressed. The students described more chronic stress (TICS,  $t=5.25$ ,  $p\leq 0.0001$ ,  $d=-0.72$ ) and less social support (OSSS,  $t=-8.91$ ,  $p\leq 0.0001$ ,  $d=-4.11$ ) than the respective comparison norms.

**Conclusion:** Despite the relaxation of the measures in summer semester 2021, the students showed COVID-19-related stress; they described more stress and strain with less social support. The CSSQ, especially the German adaptation, should be psychometrically tested again in a larger sample.



## Post-Acute Sequelae of COVID-19-Checklist (PASC-C): new screening tool for long-COVID physical, psychological, and cognitive symptoms

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**Background:** The heterogeneous subacute and chronic clinical manifestations after the end of the acute phase of SARS-COV-2 infection may preclude a full return to the previous health status. This study aims to investigate symptoms of COVID-19 that may continue or develop over time, through a new screening tool, "Post-Acute Sequelae of COVID-19-Checklist (PASC-C)", created for assessing physical, psychological, and cognitive symptoms.

**Methods:** This on-going study involved 40 COVID-19 patients (64.98±12.87 years old; 70% male; 77,5% previously hospitalized) of ICS Maugeri IRCCS, Montescano (n=35) and Milano (n=5) Institutes. PASC-C was created by literature review and through discussion meetings among the authors. It investigates the presence of 30 symptoms divided into 10 areas, each one with a specialized clinical recommendation. PASC-C was conducted by telephone 2 years after COVID-19 infection (T1). Additional psychological questionnaires (anxiety-depression:PHQ-4; PTSD:NSESSS) were administered at 2-3 months after COVID-19 infection (T0) and during the aforementioned follow-up.

**Results:** Preliminary follow-up data show the presence (prevalence >50%) of fatigue (82,5%), loss of vision/hearing (50%), dyspnea (52,5%), insomnia (60%), joint-muscle pain (60%), cognitive (memory disturbances:55%) and psychological symptoms (anxiety:57,5%). Moreover, 87,5% received specialist recommendations. 22,5% of the participants showed moderate-severe anxiety-depression and 12,5% moderate-severe PTSD. Comparing T0 and T1, there are no significant changes in anxiety-depression (4,05±3,46 vs 3,05±3,32, p=0,98); conversely, there are significant lower levels of PTSD (17,70±8,16 vs 10,05±8,23, p<0.01).

**Discussion:** This new screening tool can be promising to monitor patients over time after COVID-19 infection and to identify which psycho-physical sequelae still deserve multidisciplinary and/or rehabilitative taking-care assistance.

## How have we been dealing with the COVID-19? Findings from a longitudinal study in Portugal

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The current pandemic crisis of the COVID-19 is causing widespread concern about the mental health of individuals to this global and prolonged stressor. Therefore, the present study aimed to analyze the differences in the levels of well-being and psychological distress reported by a group of participants living in Portugal during the first general lockdown (April and May 2020) and about nine/ten months after the pandemic outbreak. It also aimed to analyze the role of Positive Life Orientation (PLO) and coping strategies in predicting the levels of well-being, depression, anxiety, and stress reported at the second moment of assessment. The full sample consisted of 133 participants (82.0% women) with ages ranging from 20 to 72 years ( $M = 39.29$ ,  $SD = 11.46$ ). The results suggested a significant decrease in the levels of well-being reported at the first moment of assessment compared to the levels reported by the same individuals at the second moment of assessment. However, depression, anxiety, and stress levels did not change significantly, despite being higher at the second moment. More importantly, results suggested that PLO is a significant predictor of both psychological distress and well-being during the pandemic crisis. However, coping strategies predicted psychological distress, but not well-being. Among the strategies used by individuals at the first moment, only self-blame, denial, and self-distraction proved to be significant predictors.

This study highlighted the key role of PLO in adjusting to the current pandemic crisis and the long-term impact of using specific coping strategies on the mental health of individuals.

## Which factors have affected anxiety during COVID-19 outbreak? - a longitudinal study

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<sup>2</sup>Memory Lab, Romania

This longitudinal study aims to identify the factors that have influenced the variance of the level of anxiety state during isolation, the anticipatory anxiety, and the factors that have affected the variance of the anxiety trait measured at the beginning and the end of the lockdown. The subjects (N = 495) answered questionnaires assessing anxiety trait (before and after the lockdown), anxiety state (seven repeated measures over the course of 10 weeks), anticipatory anxiety, resilience, experiential avoidance (four repeated measures), as well as the recollection of the isolation period. Data was analyzed with a R type path analysis. The anxiety trait level is significantly lower at the end of isolation, compared to the first measurement, and this decrease is moderated by the emotional reframing of the social isolation period. The anxiety state variance was mainly influenced by the anxiety trait level (1.06) and experiential avoidance (0.23). The anticipatory anxiety was influenced by the anxiety trait (0.23), the experiential avoidance (0.18), living environment (0.13), cohabitation arrangements (0.13), as well as by the way people framed the home isolation time (0.13). The results may suggest interventions in pandemic crises or similar situations.

## Peculiarities of responses to the pandemic of local and foreign students at a Ukrainian university

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**Background:** The aim is to find out how the pandemic has affected mental state, psychoactive substance (PS) use and preventive behavior of students, considering various socio-psychological factors.

**Methods:** Questionnaire of 17 questions with Likert rating scale. Research period: May-June 2021. Participants: 337 Ukrainian students (287 women) and 192 foreign students (85 women) of 1-6 study years in psychology and medicine. The Kolmogorov-Smirnov test and Spearman's correlation analysis were used for data analysis.

**Results.** Although Ukrainian students more frequently had symptoms of COVID-19 and ill relatives, they had fewer concerns about pandemic and less frequently used precautionary measures (mask, social distance). Although they had lower resilience to stress and used more PS before the pandemic, during it they used them less than foreigners, and felt less exhausted, depressed, lonely, angry, and nervous.

Despite that fewer foreign students and their relatives had Coronavirus disease, they felt more fears about the pandemic and used precautionary measures more often. Despite higher resilience to stress and lower levels of PS use before the pandemic, they reported stronger experiences of negative states and used more PS during the pandemic (differences are significant at  $p < .0001$  except negative states:  $p < .004$  and resilience:  $p < .022$ ).

Foreigners have more factors contributing to precautionary measures use (religiosity, presence of COVID-19 symptoms and ill relatives, fears of a pandemic). Correlation coefficients ranged from 0.400 to 0.150 at  $p < .0001$  to  $p < .05$ .

**Discussion.** The results can be interpreted in terms of risk perceptions, in particular, how fears activate preventive behavior.

# Special populations

15:30 - 17:00

Chris Noone

## Seasonal trends in depressive symptoms among women newly diagnosed with breast cancer

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<sup>1</sup>Department of Psychology, Reykjavik University, Iceland

<sup>2</sup>Mount Sinai School of Medicine, United States

**Background.** Elevated depressive symptoms are common among individuals newly diagnosed with cancer. Seasonal variations in sunlight and fluctuations in COVID-19 incidences may also result in elevated depressive symptoms. The aim of this study was to examine whether depressive symptoms among women newly diagnosed with breast cancer varied by seasonal changes in sunlight and rates of COVID-19 incidences in 2020 and 2021.

**Methods.** Women (n=94) recently diagnosed with breast cancer completed an established measure of depressed mood (CES-D). The number of sunlight hours in Reykjavik by month was obtained from the Icelandic Met Office and incidence rates of COVID-19 by month were obtained from the Directorate of Health. Generalized linear models determined whether seasonal variation in sunlight exposure and COVID incidence rates predicted depressive symptoms.

**Preliminary results.** A marginal effect of sunlight exposure on depressive symptoms was noted ( $B = -0.077$ ,  $SE = 0.046$ ,  $p = 0.098$ ), with fewer hours of sunlight being associated with higher depressive symptoms. COVID-19 incidence rates, however, did not significantly predict depressive symptoms ( $B = -0.001$ ,  $SE = 0.011$ ,  $p = 0.925$ ).

**Current stage of work:** Data collection is ongoing. Expected sample size in September 2022 is 120.

**Discussion.** Preliminary findings suggest that depressive symptoms among women newly diagnosed with breast cancer may in part vary by seasonal variations in sunlight. If replicated, the findings may have important clinical implications for Northern countries, as they suggest that special attention needs to be paid to the women's mental health during seasons with limited hours of sunlight.

## PTSD symptoms, driving stress, and anxious driving behavior at novice drivers

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<sup>3</sup>Alexandru Ioan Cuza University of IASI, Romania

Exposure to a traumatic life event can result in posttraumatic stress disorder (PTSD) symptomatology, including re-experiencing the trauma in the form of intrusions, avoidance of trauma reminders, alteration in mood and cognition. A limited number of studies have assessed the relation between PTSD, driving stress, and anxious driving behavior at novice drivers. The first aim of this present study is to evaluate the extent to which PTSD and general stress predict anxious behavior. A sample of 119 drivers in their first year of obtaining the driving license who were implicated in a car crash in the last year participated in this study (50.9% men,  $M_{age} = 23.78$ ,  $SD = 5.47$ ). The participants completed scales measuring symptoms of PTSD, driving stress, and driving behavior. The results show that PTSD symptoms and driving stress explained 33% variance in performance deficits and accidents, 6% variance in exaggerated safety behavior, and 39% variance in hostile behavior. Moreover, the results indicate that performance deficits are positively related to aggression, dislike of driving, hazard monitoring, thrill-seeking, and proneness to fatigue. Also, exaggerated safety caution is positively related to dislike of driving and hazard monitoring, while hostile behavior is positively related to modifications of mood and cognition, aggression, and thrill-seeking. It is known that driving anxiety is problematic behavior, but it is not yet clear what factors are more strongly related to this behavior. Thus, the results of this study add to the literature on anxiety behaviors and related factors.

## Merging psychology and technology to develop an early warning system for driver stress and fatigue

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**Background:** Level 3 automated driving sees many driving tasks performed by advanced driving systems (ADS), making drivers susceptible to fatigue and cognitive underload (in response to lower situational awareness), in addition to stress and cognitive overload (in response to sudden changes in task demands). This has led to the development of driver monitoring systems (DMS), which monitor the physiological profile of the driver, using invasive methods. The present research will pilot a non-invasive DMS for the measurement of physiological indicators of stress, cognitive load and fatigue.

**Methods:** In the proposed DMS, near-infrared imaging will be used to monitor eye movements and electrodermal activity, and motion video magnification will be used to monitor heart period, respiration rate, and heart rate variability. The DMS will be piloted in a simulator designed to invoke target psychological states. Data will be classified using machine learning algorithms, and compared against established invasive methods.

**Expected results:** It is envisaged that participants will vary in terms of the impact of psychological processes on driver behaviour. This will be explored through the examination of moderating factors, such as trust in automation.

**Current stage of work:** A systematic review and meta-analysis is to be conducted to assess the state-of-the-art regarding autonomous driving and driver psychophysiology. Qualitative interviews will be conducted to explore drivers' experiences with autonomous driving and monitoring.

**Discussion:** The proposed research aims to further current knowledge of the psychological processes underpinning autonomous driving, and to develop technology which will monitor driver psychophysiology and promote safe driving behaviours.



## Relationships between distancing strategies, perspective taking, and forgiveness in anger-inducing events

M. Oikawa<sup>1</sup>, S. Kagawa<sup>1</sup>

<sup>1</sup>Tokyo Gakugei University, Japan

Appropriate anger management is critical to psychological and interpersonal adaptation. An important factor in managing anger is perspective taking, which is considered to lead to forgiveness. It refers to understanding an event from the perspective of the anger target. This requires people to detach themselves from their subjective viewpoint. This study focused on the use of distancing, a reappraisal sub-strategy, to promote perspective taking. Adoption of a third-person objective perspective and psychological or physical distancing were examined as separate strategies. We investigated the relationships between distancing strategies, perspective taking, and forgiveness in the context of experiencing and managing anger. Participants were 287 adults who were asked to recall an anger-inducing event involving a familiar person and to answer a related questionnaire. We found that taking an objective view was positively related to perspective taking, which in turn was positively related to forgiveness. Moreover, psychological or physical distancing was directly and positively related to forgiveness. The results suggest that taking an objective view of a situation can make people empathize with the anger target, thereby leading to forgiveness, and that psychological or physical distancing can lead to forgiveness.

## Attachment, shame and depersonalization mediate the relationship between Childhood maltreatment and physical and psychological wellbeing

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**Background.** The relationship between experiences of abuse/neglect and current psychological and physical well-being are well established. However, psychological mechanisms of action are less well understood. How depersonalization, shame and attachment style mediate these relationships needs to be explored within an Affect Phobia theoretical model.

**Method.** A university press release with both national radio and press coverage invited adults to partake in a study of psychological factors which may affect a person's physical and psychological well-being during the Covid-19 pandemic.

1020 adults completed the full survey.

**Measures.** Physical well-being was measured by the PHQ-15 and Psychological Well-being was measured by the WHO-Five Well-being index. Mediators were measured by the Cambridge Depersonalization Scale, Shame was measured by the Internalised Shame Scale. Attachment style was measured by the Experiences in Close Relationships Questionnaire. Childhood trauma was measured by the Short Form of the Childhood Trauma Questionnaire. Traumatic events in the previous 6 months were also recorded.

**Analysis.** Hierarchical multiple regression models and mediation analyses were completed

**Findings.** Current Psychological wellbeing was predicted by both emotional abuse and neglect in childhood with 25% and 23% of the variance respectively accounting for well-being in the model. Physical well-being was predicted by Emotional abuse and sexual abuse with respective variance of 32% and 8% being accounted for. Serial mediation models demonstrated how current insecure attachment, depersonalization and shame mediated the relationship between childhood maltreatment and current physical and psychological well-being.

**Discussion.** How health psychology can create and test interventions to address these mediators will be addressed.

## The potential of an online mindfulness-based stress reduction intervention for police officers

E. Varnagirytė<sup>1</sup>, G. Jarašiūnaitė-Fedosejeva<sup>1</sup>, L. Gustainienė<sup>1</sup>, T. Vadvilavičius<sup>1</sup>

<sup>1</sup>Vytautas Magnus university, Lithuania

**Background.** Police officers experience high levels of acute and chronic stress, and this leads to elevated rates of burnout, anxiety, depression, and poorer quality of life. Research shows that mindfulness-based intervention helps to deal with negative stress-related psychological consequences. This study aimed to evaluate the possibilities of an online mindfulness-based stress reduction intervention in a sample of police officers.

**Methods.** An online mindfulness-based stress reduction intervention was carried out in three police departments in Kaunas, Lithuania, while other three departments served as the control group. Police officers in the experimental group (N=113) participated in a 15-minute daily online practical mindfulness sessions with a psychologist at the beginning of the shift for 4 weeks, whereas the control group had no sessions. Perceived Stress Scale, Five-Facet Mindfulness Questionnaire – short form and Connor-Davidson Resilience Scale were used before the intervention, 2-weeks from the start, at the end of the intervention and one month after the program to evaluate levels of perceived stress, mindfulness and resilience.

**Findings.** A significant reduction in police officers' stress was observed at mid-intervention, post-intervention, and one month after the intervention. Mindfulness skills increased after the program and remained so one month after it. However, changes in resilience were not observed.

**Discussion.** An online month-long mindfulness-based intervention shows positive results for stress reduction after the program and 4 weeks later. This program may be incorporated into police officers daily work, thus contributing to a greater coping with stress, and a better quality of their life.

## The impact of interpersonal traumas in Portuguese women's psychological wellbeing

E. C. V. Costa<sup>1</sup>

<sup>1</sup>Portuguese Catholic University, Portugal

The impact of child abuse history and adult rape on 302 Portuguese women's emotional wellbeing (depression and post-traumatic stress symptoms), recruited from primary care settings, was examined as well as the role of emotional regulation and social support in women's resiliency. A cross-sectional study design was used with retrospective self-report of interpersonal traumas. Women who reported a history of interpersonal trauma also reported more depression and post-traumatic stress (PTSD) symptoms, and more difficulties in emotional regulation (less cognitive reappraisal and more expressive suppression) than those who reported no abuse history. Results from hierarchical linear regression showed that reporting a history of child abuse and lower perceived social support predicted depression symptoms. On the other hand, having lower yearly income, reporting a history of child abuse, cumulative trauma, and lower perceived social support predicted PTSD symptoms. The results show greater predictive power of child abuse on women's psychological morbidity. According to results, social support and specific emotional regulation strategies such as cognitive reappraisal may be important constructs to be included in intervention programs to promote resilience, decrease depression and PTSD symptoms and to buffer the cumulative impact of interpersonal traumas.

## Examining the trajectories of burnout symptoms in Gaelic games players across two seasons

S. Woods<sup>1</sup>, S. Dunne<sup>1</sup>, P. Gallagher<sup>1</sup>

<sup>1</sup>Dublin City University, Ireland

Athlete burnout is characterised by enduring feelings of physical/emotional exhaustion (PEE), reduced accomplishment (RSA) and sport devaluation (SD). However, limited longitudinal research has identified conflicting trajectories of symptoms over time, including linear and curvilinear change, and an absence of significant changes. Existing work is also potentially limited by insufficient spacing/number of timepoints to allow for modelling of more complex trajectories.

Understanding burnout trajectories can allow for identification of high risk periods and inform targeted interventions.

Athletes aged over 18 were recruited via social media. Participants completed the Athlete Burnout Questionnaire in early-, mid- and late-stages of two seasons (6 timepoints). 222 athletes who completed at least 2 timepoints were included in latent growth modelling analysis. Intercept-only, linear, quadratic and piecewise models were assessed using fit indices and compared using loglikelihood-based chi-squared tests.

Only the linear model showed significant improvement on the intercept model for PEE (chi-square diff.(3) = 24.97,  $p < 0.001$ ) and SD (chi-square diff.(2) = 17.23,  $p < 0.001$ ), with small, significant negative (Beta = -0.04, SE = 0.01,  $p < 0.001$ ) and positive slopes (Beta = -0.02, SE = 0.01,  $p < 0.05$ ) respectively. Only the RSA quadratic model showed improved fit over the intercept model (chi-square diff.(4) = 9.57,  $p < 0.05$ ). The quadratic function was non-significant (Beta = 0.002, SE = 0.00,  $p > 0.05$ ).

Results suggest PEE and SD decrease and increase respectively as the season progresses, while RSA is best described by curvilinear change. Findings also highlight variability in trajectories for burnout dimensions.

## Alcohol and pregnancy: A cultural perspective

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<sup>1</sup>University of Glasgow, United Kingdom

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The study investigates cross-cultural differences in beliefs and attitudes concerning alcohol use among pregnant Spanish migrants and British nationals. In addition, the process of Spanish migrants acculturating into British drinking culture and its effect on alcohol use in pregnancy is explored. This research was completed to help support Sustainable Development Goals - Good Health and Well-being. Focused ethnography directed this qualitative research. Semi-structured interviews were conducted with 16 women of both nationalities. The data was transcribed, coded and analyzed following the thematic framework approach. In terms of the amount consumed, no differences were found between Spanish migrants and British nationals. However, the findings indicate that several cultural factors contribute to increased alcohol consumption. A belief became evident that consuming small amounts of alcohol during pregnancy was socially accepted within an individualistic culture (UK) versus a collectivist culture (Spain), where total abstinence was widespread. A society which deeply values group affiliation may contribute to decreased alcohol intake during pregnancy. Additionally, the acculturation process from wet culture (Spain) to dry culture (UK) leads Spanish migrants to dismiss the host culture after first attempting to integrate into British society. The greater understanding of acculturation associated with geographic mobility allows professionals in the field to learn about changes in cultural values and behaviors -which can strongly influence health outcomes. Therefore, the research provides insights that could design effective culture-based intervention strategies to lessen alcohol use during pregnancy in a dynamic world where cultures interact.

Keywords: alcohol, acculturation, culture, British nationals, pregnancy, Spanish migrants

# Pain: Psychosocial mechanisms and interventions

15:30 - 17:00

Gabriele Helga Franke

## Cluster of coping with pain and their differences in personality and distress

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<sup>3</sup>University of Neubrandenburg, Health, Nursing, Management, Germany

**Background:** Chronic pain -often caused by arthritis- leads to higher comorbidity -especially psychological distress. To develop more effective interventions to improve quality of life, there is a need for a better understanding.

**Objective:** To analyze different types of coping with disease in pain patients and to prove if they differ in personality facets and psychological distress.

**Methods:** 554 patients of different rehabilitation centers in Germany answered the Essen Coping Questionnaire (ECQ), the short NEO-FFI-25, and the BSI-18. Hierarchical cluster analysis (Ward-method) resulted in three clusters of coping with disease; differences between them were proved by multivariate analyses of variance.

**Findings:** The mean age was 54 years (SD = 14, 19-88), 61% were female, 50% married, 45% were employed, and 40% were in- and 60% outpatients. According to the ECQ 45% of the patients demonstrated active, 40% passive and 15% depressive coping styles. 49% of all patients were markedly psychologically distressed (86% of the depressed, 57% of the passive, and 31% of the active cluster,  $p < .0001$ ). The active cluster had high scores in agreeableness and conscientiousness and the passive cluster had low scores in openness ( $p < .0001$ ).

**Discussion:** For patients with active coping strategies short lessons of psychoeducation and for them with passive strategies a strengthening of their resources would be helpful. To find out if psychotherapeutic and/or psychopharmacological interventions are necessary, a deeper psychological investigation of the depressive group is necessary. In summary, the evaluation of coping with disease strategies -besides the questions about psychological distress- seems helpful in pain patients.



## The role of perfectionism in explaining different chronic pain coping patterns

M. Njegovan<sup>1</sup>

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**Background:** There are four different patterns of responses to pain according to The avoidance-endurance model of pain, marked with different sets of cognitive, emotional and behavioral reactions. These responses are determined by various pain beliefs and predisposing factors.

Perfectionism is predisposing factor that has been recently studied in relation to physical health and well-being. According to The stress and coping cyclical amplification model of perfectionism in illness, perfectionism can compromise effective coping with chronic illness through non-adaptive styles of coping.

The aim of this study is to test if chronic pain patients in Croatian sample can be classified in predicted groups, according to their pain coping patterns and to explore the role of perfectionism in explaining different coping responses.

**Methods:**Participants: 300 adult chronic pain patients with mechanical type of pain.

**Measures:**Pain characteristics questionnaire, Avoidance-endurance questionnaire (measures different responses to pain), Positive and negative perfectionism scale (measures perfectionism), Pain disability index (measures pain interference with life activities), The quantitative analgesic questionnaire (documents medication use). Planned analysis include cluster analysis, regression and correlation analysis.

**Expected results:** Participants are going to form clusters according to different patterns of responses to pain and perfectionism will be a predictor of these responses. Responses to pain will be related to pain interference and pain medication use.

**Current stage of work:** Preliminary research planning.

**Discussion:** Research would contribute to a better understanding of the pain coping process. It could also help to identify risks for development of non-adaptive coping strategies and to individualize better existing pain treatments.

## The role of attention bias malleability in predicting pain and disability

D. Van Ryckeghem<sup>1,2</sup>, J. MacGoris<sup>1,2</sup>, J. Todd<sup>3</sup>

<sup>1</sup>University of Luxembourg, Luxembourg

<sup>2</sup>Maastricht University, Netherlands

<sup>3</sup>University of Sydney, Australia

**Background:** Attentional processing of pain has been theorized to play a key role in the development and maintenance of pain and associated disability. Yet, research findings on the role of pain-related attention bias in predicting pain outcomes as well as the impact of attention bias training are inconsistent. This has resulted the idea that it is attention bias malleability, rather than attention training away from pain information that may predict poor pain outcomes.

**Methods:** To investigate this, we conducted two studies. Study 1 consisted of a lab study with 55 healthy participants who performed an attention bias malleability paradigm, followed by an experimental pain induction probing pain experience and pain-related task interference. Study 2 consisted of an online study with 71 people suffering chronic pain who completed an attention bias malleability paradigm and questionnaires probing pain-related outcomes.

**Findings:** Results of study 1 fail to support our hypotheses, and show no relationship between attention bias malleability and experimental pain outcomes. Results of study 2, however, indicate that in chronic pain patients higher levels of attention bias malleability are related to higher levels of pain experience ( $r(71)=.332$ ,  $p<.01$ ) and disability ( $r(71)=.312$ ,  $p<.01$ ).

**Discussion:** Overall, the current findings provide initial support for the link between attention bias malleability and poor pain outcomes in chronic pain patients. Further research is needed to investigate potential reasons for inconsistent findings between study 1 and study 2 as well as to address the causal relationship between attention bias malleability and poor pain outcomes in chronic pain patients.

# Responses to Critical Stressors in a Cross-cultural Context

15:30 - 17:00

Wendy Maltinsky

## Cross-border differences in HIV-testing: data from a EuRegion in Belgium, Germany, and The Netherlands

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<sup>2</sup>Department of Health Promotion & Care and Public Health Research Institute, Maastricht University, Netherlands

In regions with several countries in close proximity, HIV-risk is determined by both within-country and between-country differences in sexual healthcare access. We explored between-country differences in HIV-testing in the EuRegion Meuse-Rhine (EMR) consisting of the border-regions of Belgium, Germany, and The Netherlands. We used data from the cross-sectional EMIS-2017 survey including 2,669 men who have sex with men (MSM) who resided in the EMR based on postal code. We employed multilevel multinomial regression modelling to identify sociodemographic factors associated with recent (<1 year), non-recent (≥1 year) or never-testing for HIV, while adding a random effect to explore differences between EMR-countries. Half of MSM (n=1,335) were recently tested for HIV, 26% were not-recently tested (n=693) and 24% (n=641) were never-tested. 8% of HIV-testing variance was explained by between-country differences (7.6% for non-recent; 8.3% for never-testing) with both outcomes most prevalent in German-EMR. Non-recent testing and never-testing were both significantly but inversely associated with age (positively with non-recent; negatively with never-testing) and relationship status (non-recent more likely in a steady relationship; never-testing less likely in a complicated relationship). Both outcomes were more prevalent among less “out” MSM, those with less sexual risk behaviour, and those financially struggling. Never-testing, but not non-recent testing, was additionally more likely in less-urban regions and among transgender persons. The results show between-country differences in HIV-testing leading to differences in HIV-risk that MSM living in border-regions might not be aware of. Targeted approaches to address these regional and sociodemographic differences are urgently needed.

## Interaction between age and country of origin predicts subjective well-being in unaccompanied refugee minors (URM)

L. Scholaske<sup>1</sup>

<sup>1</sup>German Center for Integration and Migration Research (DeZIM), Germany

**Background:** For unaccompanied refugee minors (URM), the transition to adulthood is often associated with increasing uncertainties about different domains in their lives which can pose a risk for their mental health. Given that there are differences in the personal biographies and residence statuses by country of origin, these challenges may not affect all URM equally. This study aimed to examine the relationship between age (minority age vs. legal age) and subjective well-being among URM in Germany, taking into account the role of country of origin.

**Methods:** 176 URM and former URM in Germany (15-21 years, 62.5%  $\geq$  18yrs of age) participated in a survey. Respondents provided demographic data and completed measures on anxiety and depressive symptoms, life satisfaction, subjective health status, and worries about different life domains.

**Results:** In multiple regression analyses, age and country of origin were not consistently associated with the different indicators of subjective well-being. An interaction term between age and country of origin was significant and suggested that participants from Afghanistan and Guinea  $\geq$  18yrs reported poorer subjective well-being compared to participants from Afghanistan and Guinea  $<$  18yrs and compared to participants from Syria  $\geq$  18yrs.

**Discussion:** The transition from adolescence to adulthood can constitute a greater challenge for URM from Afghanistan and Guinea, while URM from Syria may have a more critical time when they are minors. The joint consideration of age and country of origin in the context of subjective well-being among URM helps identify vulnerable groups that might particularly benefit from psychological support.

## Psychological factors associated with conspiracy mentality during the COVID-19 pandemic

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<sup>1</sup>"Alexandru Ioan Cuza" University, Romania

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During the COVID-19 pandemic, the world saw a surge in the circulation of conspiracy theories, misleading information and polarized opinions. The origins and the reality of the pandemic and COVID-19 vaccination were greatly debated. Lack of compliance with preventive measures and vaccination refusal are just few of the consequences of such controversial dissemination of false narratives.

In the present study we explored the relationship between conspiracy mentality, conspiracy theories, compliance with the preventive measures and pandemic related stress. We further hypothesized that three maladaptive personality traits and religiosity positively predict conspiracy mentality.

362 Romanian participants aged 18 to 68 took part in our study. They completed questionnaires to measure maladaptive personality traits (PID-5), endorsement of COVID-19 conspiracy theories, Conspiracy mentality, anxiety (Beck anxiety inventory), pandemic-related stress and compliance with preventive measures.

Anxiousness, suspiciousness, unusual beliefs and religiousness predicted 20% of the variance in conspiracy mentality. Suspiciousness was the strongest predictor. Conspiracy mentality and endorsement of COVID-19 conspiracy theories negatively predict compliance with preventive measures and positively predict pandemic related stress.

Our study underlines the need for better communication strategies in handling health crisis situations. Religious leaders should be included in public information campaigns about pro-social behavior. People should be educated about digital literacy and critical thinking, to reduce the impact of conspiracy theories.

Acknowledgement: Authors are thankful to Romanian Ministry of Research, Innovation and Digitization, within Program 1 – Development of the national RD system, Subprogram 1.2 – Institutional Performance – RDI excellence funding projects, Contract no. 11PFE/30.12.2021, for financial support.

## Is conspiracy mentality a risk factor for the psychosocial wellbeing of informal caregivers?

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<sup>1</sup>University Medical Center Hamburg-Eppendorf, Germany

**Background:** This study aims to analyze if and how conspiracy mentality is associated with mental health, burden and perceived social isolation and loneliness of informal caregivers of older individuals with care needs.

**Methods:** A quantitative, cross-sectional study was conducted. Participants (at least 40 years of age) were drawn randomly from the German online panel forsa.omninet and questioned during the 4th and 19th March 2021. A sample of 489 informal caregivers of adults aged ≥60 years was questioned. The Conspiracy Mentality Questionnaire, the Patient Health Questionnaire (PHQ-9), the De Jong Gierveld Loneliness Short Scale and the scale on social exclusion from Bude and Lantermann were used. Multiple linear regression analyses, adjusted for characteristics of the caregiver and contextual factors of the caregiving situation during the pandemic, were conducted.

**Findings:** Significant positive associations between conspiracy mentality and caregiver burden, loneliness, social exclusion, and depressive symptoms were found. No gender differences were found.

**Discussion:** Findings indicate that conspiracy mentality could be a risk factor for mental health, perceived social isolation and loneliness, and contribute to increased caregiver burden among informal caregivers of older care recipients during the COVID-19 pandemic. Accordingly, informal caregivers could benefit from actions focused on reducing conspiracy mentality during a health crisis, which could improve psychosocial health and wellbeing in this vulnerable group.

## Vaccine Hesitancy of Parents for Their Children: Meaning Given to Health Practices in Switzerland

C. Michoud<sup>1</sup>, M. del Río Carral<sup>1</sup>

<sup>1</sup>University of Lausanne, Switzerland

Vaccine hesitancy has been extensively discussed in the social and human sciences literature. In psychology, existing research stems from a cognitive and behavioural perception of illness prevention, seeking to improve vaccination rates by encouraging behaviour change among individuals. However, scarce research has considered people's experiences, meanings, and affectivities attached to vaccine hesitancy and vaccination as a social practice. By adopting a social constructivist approach, this proposal is interested in understanding parents' vaccine hesitancy, understood as a complex and socioculturally embedded process. Our study will revolve around the following research question: 'How is vaccine hesitancy regarding children constructed among parents as a social practice in daily life?'. It will adopt a qualitative methodology that focus on parents' everyday health-related practices concerning their children as well as meanings attached to such practices within a Swiss context. The sample will include fifteen participants, who will participate in semi-structured interviews and focus groups. The former will be analysed using narrative methods and the latter using a Foucauldian discursive analysis. The expected results will underline the psychological conflicts surrounding vaccine hesitancy. These tensions may be giving rise to new health norms and practices adopted by parents for immunization among children. With regards to the planned work, this project is in its early stages and will be submitted for approval to the University Committee by end of March. The implications of our study will help to understand meanings and practices around childhood vaccination and contribute to provide recommendations based on a sociocultural approach to vaccine hesitancy.



# Gender and Sexualities: Inequities and Resilience

15:30 - 17:00

Maria del Rio Carral

## Navigating through a postfeminist social media culture: Young females' experiences of health and wellbeing (MeStories)

E.J. Rabel<sup>1</sup>, D. Ferraz<sup>2,3</sup>, M. del Rio Carral<sup>1</sup>

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<sup>3</sup>University Lumière Lyon2, France

With the rise of platforms like Instagram and TikTok, used by 98% of adolescents in Switzerland, 'media influencers' have become important mediators of discourses on femininities, bodies, and the individual pursuit of health. In this context, postfeminist sensibilities emphasise self-regulation, self-responsibility, and individual choice by encouraging constant body and identity work, especially among women. This proposal aims to understand the role of the social media culture in the construction of narrative identities and health-related practices among young females during late adolescence.

Based on a social constructionist approach in health psychology, the study will use in-depth interviews and focus groups, including a total of 60 young females aged 18-20 years old living in Switzerland. Data will be analyzed combining inductive thematic analysis and narrative analysis.

The results will contribute to the understanding of ways in which narrative identities relate to experiences and practices involving the self, the body, and health in a context of postfeminist and social media cultures. It also will provide an overview of young females' social media practices and their perspectives about how it relates to their health and wellbeing.

Participants are currently being recruited. Data collection started on February 2022 and the first results are expected to be published in 2023.

The study results will be discussed with public health and education partners and will contribute to define sustainable, timely and relevant recommendations concerning young females' health and well-being regarding social media use.

## Using vignettes to explore how youth use sexual scripts to make sense of sexual consent

S. Healy-Cullen<sup>1</sup>, T. O'Rourke<sup>1</sup>, S. O'Higgins<sup>2</sup>, C. McIvor<sup>1</sup>, L. Achteresch<sup>1</sup>, A. Bharath<sup>1</sup>, K. Dawson<sup>3</sup>, L. Burke<sup>1</sup>, R. Connolly<sup>1</sup>, M. D'eath<sup>1</sup>, E. Foden<sup>1</sup>, S. McGrath<sup>1</sup>, L. Tierney<sup>4</sup>, P. MacNeela<sup>3</sup>

<sup>1</sup>NUI Galway, Ireland

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Our research is the first to explore consent communication practices among secondary school students in Ireland. We constructed three variations of a complex, real-life 'hook-up' vignette using 'status quo' scripts related to gender roles, gendered power dynamics, and alcohol consumption. Young people aged 14-17-years were recruited from five secondary schools across the Republic of Ireland. Participants (N = 613) rated their dis/agreement as to whether the vignette variation they were presented with demonstrated sexual consent, and provided written comments to explain their decision. We used descriptive statistics and sexual scripting theory, as developed by feminist discursive psychologists, to analyse the data from this mixed methods study. Our findings show that young people have complex, nuanced and varied understandings of sexual consent. When accounting for sexual consent negotiation, youth drew on sexual scripts that both uphold and trouble a heteronormative binary that responsabilises women, and abdicates men. We highlight instances where youth responses illuminate possibilities for future pedagogical practices on the topic of consent.

## Experiences of Excised Women in Switzerland in the Digital Age

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<sup>1</sup>University of Lausanne, Switzerland

**Background:** Widely practiced throughout the world and found in many Western countries, including Switzerland, excision is performed to fit certain representations of women's bodies and sexualities. The contemporary Western societies, highly sexualized and digitalized, disseminates specific socio-cultural narratives and firmly condemns excision. Furthermore, the care excised women receive in this context is strongly focused on the physical consequences of the practice to the detriment of the equally central cultural, social, and psychological aspects. Hence, it has been shown that experiences of excised women living in the West are deteriorating, yet scarce research has focused on this aspect. The present proposal draws upon a broader Ph.D. project. It aims to investigate narratives among excised women and health professionals to understand how these may relate to broader socio-cultural discourses.

**Methods:** Mobilizing a qualitative research approach, narrative methods are applied to collect and analyze data. The number of participants to be reached is estimated at 25 (15 excised women and 10 professionals).

**Preliminary and Expected Results:** Preliminary results indicate that narratives among excised participants living in Switzerland converge with the dominant western societal discourses. Although sometimes no problem related to excision are mentioned. The expected outcomes for professionals are mainly body-centered care and presumptive problem narratives.

**Current stage of work:** The study presented is in the process of collecting and analyzing the data obtained in Switzerland.

**Discussion:** The research presented should give avenues to provide culturally appropriate care by developing a health psychology model of women's bodies and sexualities in contextualized ways.

## FOREST: a qualitative study exploring health and sexuality of transmasculine individuals in France

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<sup>2</sup>Université Lumière Lyon 2, France

<sup>3</sup>OUTrans NGO, France

<sup>4</sup>University of Lausanne, Switzerland

**Background:** A collaboration between the OUTrans association, the University of Lumière Lyon 2 and the University of Lausanne, FOREST is a community-based research program in social psychology of health aiming to explore the overall health, intimacy and social representations related to sexualities among transmasculine people, to date, underinvestigated.

**Methods:** A qualitative methodology is adopted. Semi structured interviews and focus groups are being performed with two groups: key informants, who are health practitioners and community-based support services workers recognized by the trans community as trans-friendly (N=13); and people self-identifying as transmasculine (N=40). Inductive thematic analyses will be conducted, supported by NVivo.

**Expected results:** This study will produce data specific to the transmasculine population. In this communication will present results on key informants' perspectives as well as preliminary results on transmasculine people's experiences.

**Current stage of work:** Data collection among key informants has been concluded and their interviews transcribed. Data collection among transmasculine people is ongoing and will be concluded by March 2022.

**Discussion:** We will analyze our epistemological and methodological choices as well as key ethical challenges we have been confronted with. This contribution will be useful for researchers interested in the implementation of community-based research in social psychology of health, and those investigating health and sexualities among transmasculine people in particular and among gender-diverse groups at large.

## From parental victimization and internalized homophobia to LGBTQ+ resilience: mediating effect of outness and support

M. Boza<sup>1</sup>

<sup>1</sup>Alexandru Ioan Cuza University of Iasi, Romania

**Background.** The aim of this research is to test a path of LGBTQ+ resilience through outness and support from others. Parental or family verbal victimization and internalized homophobia are two major psychological factors affecting LGBTQ+ mental health and wellbeing, which need to be counteracted. The present study points out two factors which could increase resilience and could be taken into consideration for psychological practice and intervention.

**Method.** Participants (N=357) from the LGBTQ+ community in Romania were recruited online via an LGBTQ+ association. They filled a questionnaire of parental homophobic verbal victimization, sexual identity distress scale for internalized homophobia, social support scale, outness inventory, modified Connor Davidson resilience scale and demographics. Regression and mediation were used to analyze the data.

**Results.** Linear regression analysis shows that participants identifying other than cis-gender ( $\beta=.18$ ,  $p<.001$ ) are more verbally abused by parents, participants identifying as cis-gender ( $\beta= -.13$ ,  $p=.016$ ) and those who are men ( $\beta=.19$ ,  $p=.001$ ) have higher levels of internalized homophobia. The relation between parental verbal homophobic victimization and resilience is fully mediated by support ( $b=.44$ ,  $p<.001$ ) and partially mediated by outness ( $b=.35$ ,  $p<.001$ ). The relation between internalized homophobia and resilience is partially mediated by outness ( $b=.31$ ,  $p<.001$ ) or support ( $b=.40$ ,  $p<.001$ ) but fully mediated by outness plus support.

**Discussion.** Resilience in LGBTQ+ community is crucial in a country where they face intolerance and stigmatization. Being able to come out to people, in different contexts, and having the support of at least few people, when facing difficulties, would decrease the negative effects of homophobia.

## Understanding how gay men construct 'good' chemsex participation through interpretative repertoires and discursive devices

S. Healy-Cullen<sup>1</sup>, C. Noone<sup>1</sup>

<sup>1</sup>NUI Galway, Ireland

Research to date has focused on the potential 'risks' arising from chemsex (i.e. the use of specific drugs by gay and bisexual men during sexual encounters), and often seeks to uncover what is 'wrong' with those who are motivated to engage in chemsex. Critical chemsex studies reaches beyond this harm-orientated focus and instead adopts a social justice approach that recognises chemsex participants as legitimate sexual citizens who are situated within a specific socio-political and historical context. The present study—comprising eight interviews with gay men living in Ireland—is situated within this critical research praxis. Using a critical discursive psychology framework, our analysis shows how participants draw on various interpretative repertoires to discursively negotiate chemsex identities in a bid to position themselves in a culturally intelligible manner. Participants deployed three key repertoires, namely; repertoires of (i) harm, (ii) essentialism and (iii) ethics. These repertoires are deployed in an interweaving manner to ultimately construct a hierarchal continuum of chemsex participants—from flourishing, to flailing. Our analysis demonstrates how chemsex participants construct 'other' chemsex users as 'flailing' towards the bottom of the continuum by mobilising various interpretative repertoires that draw upon prevailing notions of 'good' sexual citizenship (i.e., healthy, responsible, self-governing). We demonstrate how the use of these repertoires allows participants to avoid the position of the 'flailing' chemsex participant. We argue that the mainstream construction of chemsex as inevitably harmful is restrictive and produces a deficit understanding of chemsex participation. We discuss the possibilities for discursively reimagining chemsex participation.

# Pregnancy, health behaviours and loss

15:30 - 17:00



## Pregnant Smoking Women and Stigma Perpetrators

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**Background.** Pregnancy smoking is associated with a public and self-stigma that might hinder access to adequate healthcare and smoking cessation. Further research is needed to identify potential intervention's relevant themes and targets in the general population. **Method.** Data from the validation study of the Pregnant Smoker Stigma Scale – Public Stigma (P3S-PS) were used to explore how stigma endorsement might vary according to gender, smoking and parenting status (n=266). Independent ANCOVA were performed on each dimension of the scale (derogative cognitions, negative emotions and behaviors, personal distress and information provision). In accordance with Identity Theory, we hypothesized that participants who were women, smokers and parents would hold fewer stigmatizing attitudes. **Results.** Women reported fewer derogative cognitions and negative emotions and behaviors. Smokers reported fewer derogatory cognitions, negative emotions and behaviors and personal distress. Parents reported fewer negative emotions and behaviors. The interaction between the three variables tends to be significant. While smoking and parental status had no effect on men scores, it was the case for women. **Discussion.** In light of the strong general negative attitude toward pregnant smoking women, we recommend that further research build mass-media interventions to reduce public stigma and test their effectiveness.

## Assessing Self-stigma in Pregnant Smoking Women

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**Background.** Pregnancy smoking is associated with a public and self-stigma that might hinder access to adequate healthcare and smoking cessation. However no psychometrically sound tool to measure it exists. A first study was designed to build a scale assessing the stigma of pregnancy smoking in the general French population (Pregnant Smoker Stigma Scale – Public Stigma, P3S-PS, Loyal, 2022). Subsequently our goal was to develop a scale assessing self-stigma in pregnant smoking women themselves (Pregnant Smoker Stigma Scale – Self Stigma, P3S-SS). **Method.** Pregnant smoking women were recruited through social media and in local maternity ward (N=120). They were given the P3S-PS items adapted to assess both felt stigma (“People think I’m a selfish”) and internalized stigma (“I feel selfish”). Confirmatory and Exploratory analyses were performed to establish the scale structure. Scale validity was explored through its association with depressive symptoms, social inclusion and smoking dissimulation. **Expected results.** The structure and validity of the P3S-SS will be discussed and compared with the P3S-PS. **Current stage of work.** The inclusion of participants is ending and statistical analyses will be performed from June. **Discussion.** Apart from valuable qualitative studies, little is known about self-stigma in pregnant smoking women. The P3S-SS will be useful to trigger research regarding the stigma of smoking while pregnant and its association with distress and smoking cessation.

## Exploring first time mothers' experiences and knowledge about modifiable risk factors for stillbirth

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<sup>4</sup>National Perinatal Epidemiology Centre, University College Cork, Ireland

<sup>5</sup>School of Psychology, NUI Galway, Ireland

### Background

The aim of this qualitative study is to use an interpretivist approach to explore women's experiences of behaviour change during pregnancy and awareness of behavioural risk factors for stillbirth.

### Methods

Purposive sampling was implemented in Cork University Maternity Hospital to recruit postpartum women. Women were eligible if they were primiparous and had an uncomplicated pregnancy and delivery. 44 women agreed and consented to be followed up 3 to 5 postpartum. Individual semi-structured online interviews were conducted with 18 women. Of the 44 women who had consented to be contacted, 4 subsequently declined to participate and 22 women were unreachable. Interviews were recorded, transcribed and imported into NVIVO; thematic analysis was used to analyse the data.

### Results

Analysis has identified three main themes: Behaviour change and pregnancy, Awareness regarding stillbirth and risk factors, and Information and advice. We identified a dual nature of behaviour change during pregnancy, with women expressing active changes towards adopting new habits (e.g., taking folic acid) and also abandoning other existing behaviours (e.g, alcohol consumption). Women spoke about behaviour change as something natural and easy to manage. Awareness of stillbirth was limited and there was no recognition of the link between the behaviours and the risk of stillbirth.

### Conclusion

Women in our study had a receptive attitude towards this information, however it was not shared with them through their carers. Providing accurate information about the behaviours associated with adverse outcomes such stillbirth might facilitate preventive efforts by establishing a clearer relationship between behaviours and outcomes.

# Sustainable and healthy diet

15:30 - 17:00

Hanna Konttinen

## Experts' perceptions on motivators and barriers of healthy and sustainable dietary behaviour among adolescents

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<sup>1</sup>Wageningen University & Research, Netherlands

**Background:** The interplay of influences shaping dietary behaviour of adolescents needs to be well understood in order to develop effective strategies stimulating adolescents to adopt healthy and sustainable dietary behaviours. This study aimed to explore motivators and barriers of healthy and sustainable dietary behaviour among adolescents (12-18), as perceived by an interdisciplinary expert panel.

**Methods:** Experts (n=33) working in practice (environmental organisations, health organisations, nutrition organisations and educational (consultancy) organisations; n=20) and academia (n=13) were invited to participate in this concept-mapping study. In June 2021, five online semi-structured focus group discussions were conducted with 6-7 participants each. Data was thematically analysed by two coders independently categorizing the discussions, using a socio-ecological framework. Subsequently, the same expert group was asked to rate the found determinants on their importance, occurrence and changeability through an online questionnaire.

**Expected results:** Initial analysis revealed an elaborate system of perceived motivators and barriers that was mapped on different levels of the socio-ecological model (e.g. 'food skills' as individual motivator and 'peer pressure' as a barrier in the social environment). Definitive results will be presented.

**Current stage of work:** We are currently analysing the focus group data using a deductive followed by an inductive content analysis. We are planning to distribute the online questionnaire in spring 2022, to identify the most important determinants as perceived by the experts.

**Discussion:** Further implications of this study, such as how these results support the development of effective intervention strategies stimulating healthy and sustainable dietary behaviour among adolescents, will be discussed.

## Socioeconomic position and the impact of increasing availability of lower energy meals on energy intake

T. Langfield<sup>1</sup>, A. Jones<sup>1</sup>, E. Robinson<sup>1</sup>

<sup>1</sup>University of Liverpool, United Kingdom

### Background

Behaviour change approaches which work by targeting the food environment (“nudging”) may contribute to improving diet and population health. One example is increasing the availability of lower energy foods to promote their consumption, though it is unclear whether such interventions result in ‘compensating’ for lower energy meals, and to what extent these effects may differ based on socioeconomic position (SEP). Our objective was to examine the impact of increasing availability of lower energy meal options on immediate and post-meal energy intake in participants of higher vs. lower SEP.

### Methods

In a within-subjects design N=77 UK adults ordered a main and side dish from a supermarket ready meal menu with standard (30%) and increased (70%) availability of lower energy food options. The meals were delivered and consumed at home as evening meals. Meal intake was measured using the Digital Photography of Foods Method. Post-meal compensation was measured using food diaries to determine self-reported energy intake after the meal and the next day.

### Findings

Participants selected (-244kcal) and consumed (-196kcal) less energy from the menu with increased availability of lower energy options versus the control menu ( $p < .001$ ). There was no statistically significant evidence that this reduction in energy intake was substantially compensated for (33% compensated,  $p = .57$ ). These effects were similar in participants from lower and higher SEP.

### Discussion

Increasing the availability of lower energy food options has the potential to be an effective and equitable “nudge” to reduce energy intake, which may contribute to improving diet and population health.

## How values relate to the consumption of red meat and plant-based alternatives for meat?

H. Konttinen<sup>1</sup>, E. Lehto<sup>1</sup>, K. Korhonen<sup>2</sup>, T. Muiilu<sup>2</sup>

<sup>1</sup>University of Helsinki, Finland

<sup>2</sup>Natural Resources Institute Finland, Finland

**Background:** Transition to more sustainable and healthy diets requires an increased understanding of factors underlying animal- and plant-based protein consumption. We aimed to examine how ten basic values and their profiles associate with the consumption of red meat, plant-based protein products, and legumes.

**Methods:** Participants were 18–75-year-old Finnish adults who completed an online survey in autumn 2020 (n=1000). Values were assessed with a Short Schwartz's Value Survey, and a short Food Frequency Questionnaire was used to assess red meat, plant-based protein product and legume consumption. Five distinct value profiles were identified using latent profile analyses. Associations between values and food consumption were examined with logistic regression analyses, adjusting for sociodemographic factors.

**Findings:** Valuing security, tradition and hedonism more, while valuing universalism less associated with frequent red meat consumption (all  $p < .05$ ). In addition, those valuing hedonism and tradition more, and valuing universalism and stimulation less tended to consume plant-based protein products or legumes less frequently (all  $p < .05$ ). Value profile Modern Universalists (5% of participants), characterized by valuing benevolence, universalism and self-direction, had less frequent red meat consumption than Conforming Traditionalists (17%), Average Conformists (32%), Indifferent Anti-Universalists (34%), and Security-oriented Benevolent (12%) (all  $p < .05$ ). Value profiles did not differ in the consumption frequency of plant-based protein products or legumes.

**Discussion:** Tailored communication and intervention strategies might be needed to make a diet characterized by decreased red meat consumption and increased plant-based food consumption more appealing for individuals valuing security, tradition, and hedonism.

## One's meat another's poison? Different social norm perceptions across meat consumers

S. Wolfswinkel<sup>1</sup>, S. Raghoobar<sup>1</sup>, H. Dagevos<sup>2</sup>, E. de Vet<sup>3</sup>, M. Poelman<sup>4</sup>

<sup>1</sup>Wageningen University, Netherlands

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<sup>4</sup>Wageningen University & Research, Netherlands

To promote the protein transition that enhances public and planetary health, it seems crucial that prevailing meat consumption norms shift towards more plant-based norms in Western societies. Understanding the current perceptions of meat consumption norms is therefore important, particularly by acknowledging the heterogeneity of meat consumers. This study aims to determine different types of meat consumers, and investigates the extent to which social meat consumption norms are perceived differently among these different segments.

British meat eaters (n=1205, 25-65 years) participated in an online survey. Meat, fish, and meat analogue consumption was measured with the adapted Oxford Meat Frequency Questionnaire. Psychosocial determinants were measured, including social norm perceptions, habit strength, and meat attachment. A two-step cluster analysis was conducted to identify meat consumer segments. ANOVAs were conducted to assess differences in the psychosocial determinants between the segments.

Four types of meat consumers were identified and labeled as "Meat-analogue (MA) eating flexitarians" (n=158), "Non-MA eating flexitarians" (n=546), "MA eating carnivores" (n=103), and "Non-MA eating carnivores" (n=398). Substantial differences in psychosocial determinants between groups were identified. For example, non-MA eating flexitarians showed significant lower norm perceptions (e.g., descriptive norm perceptions, m=5.1), habit strength (m=5.4), and meat attachment (m=4.7) than the non-MA eating carnivores (respectively, m=5.7, m=5.9, m=5.1), but these were higher compared to the MA eating flexitarians (respectively, m=4.9, m=4.4, m=4.0),  $p < .05$ .

Findings show that normative perceptions about meat eating differed across meat consumers. This heterogeneity across meat consumers should be acknowledged in future social norm interventions aiming for meat reduction.



## What's in a (Dish) Name? Greater use of Consumption Simulation Language for Diet-Congruent Foods

T. Davis<sup>1</sup>, E. Papies<sup>1</sup>

<sup>1</sup>University of Glasgow, United Kingdom

Current meat consumption levels contribute substantially to the climate crisis. Despite growing pressure for a global shift towards sustainable diets, many consumers continue to choose meat. Examining cognitive representations, or how people think about, plant-based and meat foods might identify barriers which hinder mainstream consumers from changing their consumption habits. One strategy that has shown recent success in increasing the appeal of sustainable alternatives is the use of consumption simulation language that elicits cognitive simulations of eating and enjoying a food, which in turn increases desire. Across two experiments, self-identifying omnivores (NStudy1 = 109, NStudy2 = 436) and vegans (NStudy1 = 111, NStudy2 = 407) were recruited to describe 10 meat and 10 plant-based dishes using 5 or more features. To assess representations, we coded these descriptions according to whether they reflected consumption simulations (e.g. 'tasty', 'creamy'), or whether they reflected consumption independent features, such as those related to long-term health outcomes (e.g. 'healthy') or socio-political contexts (e.g. 'climate change'). Results showed that participants used more consumption simulation language for diet-congruent dishes (meat dishes for omnivores; plant-based dishes for vegans). Conversely, participants used more eating-independent language for diet-incongruent dishes (plant-based dishes for omnivores; meat dishes for vegans). This suggests that both vegans and omnivores think about in-group foods in terms of short-term reward, and about out-group foods in terms of distant, long-term factors. This study provides key insights into the role of consumption simulations in mainstream consumer representations of foods, which can be used to increase desire for sustainable foods.

## Socioeconomic position and the effect of portion size reduction: a 1-day dietary behaviour experimental study

K. Clarke<sup>1</sup>, T. Langfield<sup>1</sup>, A. Jones<sup>1</sup>, L. Marty<sup>1</sup>, A. Ahnaf Sadab<sup>1</sup>, E. Robinson<sup>1</sup>

<sup>1</sup>University of Liverpool, United Kingdom

### Background:

People of lower socioeconomic position (SEP) may be more susceptible to external influences on eating, such as the portion size effect (PSE), but the underlying mechanisms are currently unclear. The primary objective of this study was to examine the PSE among participants of lower and higher SEP. Secondary objectives were to explore individual differences as possible mechanisms for socioeconomic differences in susceptibility to the PSE (e.g., food choice motives, perceived food insecurity, inhibition, etc).

### Methods:

In a randomised cross-over design with two conditions (larger vs. smaller lunch and dinner portions) 60 participants (50% lower SEP), were served all meals ad libitum in the lab over two days, and provided snacks. The primary outcome was total daily energy intake. A mixed ANOVA will test the within-subjects effect of meal portion size (larger vs. smaller), the between-subjects effect of SEP (lower vs. higher), and the portion size\*SEP interaction on total daily energy intake.

### Expected results:

It was hypothesised that (i) total daily energy consumption would be lower when smaller compared to larger portions are served over lunch and dinner (PSE), (ii) the PSE would be larger in participants of lower vs. higher SEP.

### Current stage of work:

Data collection is ongoing but is expected to be completed in March 2022.

### Discussion:

This study will elucidate how socioeconomic factors influence susceptibility to portion sizes, and inform the development of the most effective and equitable public health interventions to influence dietary behaviour in a way that reduces (or does not exacerbate) health inequalities.



## Positive and negative spill-over effects within and between health-promoting and pro-environmental behaviours

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<sup>1</sup>Université libre de Bruxelles, Belgium

<sup>2</sup>University of Antwerp, Belgium

<sup>3</sup>Ghent University, Belgium

When targeting multiple behaviours, effectiveness can be reduced when negative spill-over occur (when a behaviour reduces the chance of adopting a next one). Effectiveness can also increase due to positive spill-over, e.g., when increased skills or self-efficacy increase the likelihood of an additional behaviour. Health-promoting (HPB) and pro-environmental behaviours (PEB) are linked and could be targeted jointly. This study assesses the co-occurrence of HPB and PEB, and self-reported spill-over within HPB, within PEB and between HPB and PEB. An online survey on Prolific was used in an adult Western European population. HPB (physical activity, fruit-and-vegetable consumption, sleep, not smoking, limited alcohol consumption) and PEB (active transport, limiting air travel, limiting meat consumption, recycling, buying renewable energy) each included five high impact behaviours. Validated scales were used for spill-over within HPB and PEB, a new scale was designed for spill-over between HPB and PEB. The sample included  $n=314$  adults ( $M_{age}=29.26\pm 9.78$ , 50% female). Principal component analysis indicated co-occurrence in factors on energy-balance related behaviour (physical activity, fruit-and-vegetable consumption, active transport); on hedonic behaviours (smoking, alcohol, air travel); on consumption behaviours (recycling, meat consumption), and well-being behaviours (sleep, renewable energy). Factors align along personal values and health and climate identity. Positive spill-over for PEB ( $M=3.81\pm 0.75$ ) and HPB ( $M=3.68\pm 0.82$ ) was highest, followed by positive spill-over between HPB and PEB ( $M=2.98\pm 0.79$ ). Negative spill-over was lower: for sleep ( $M=2.84\pm 1.00$ ), for diet ( $M=2.72\pm 0.98$ ), for PEB ( $M=2.19\pm 0.61$ ) and between HPB and PEB ( $M=2.16\pm 0.71$ ). The co-occurrence and spill-over effects between HPB and PEB offers opportunities for integrated interventions.

## Similarities in determinants of health and climate mitigation behaviour; repertory grid study with international experts

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<sup>2</sup>University of Heidelberg, Germany

**Background:** To achieve climate mitigation targets considerable behaviour change is needed. The evidence base for effective interventions for climate mitigation behaviour change at individual and population level is in its infancy and well behind the evidence base for health. Climate mitigation and health behaviours have similarities in terms of their motivational and social determinants, and potentially their mechanisms of change. Understanding similarities between behaviours might guide the transfer of existing evidence to new applications. The aim of this study is to develop a classification of determinants of climate mitigation and health behaviours and compare and contrast characteristics.

**Methods:** The study started with a pilot study (n=2) and a small-scale (n=5) round of interviews, followed by a second round of interviews with another 10 behaviour (change) experts. They were interviewed using a repertory grid method. Respondents were asked to describe how two behaviours from a triad are similar to each other and different from a third in terms of determinants. The provided characteristics were inductively categorized. In total, each respondent evaluated eight triads.

**Preliminary findings:** We identified key determinants of climate mitigation behaviours and analysed how they compare to health behaviours. A broad range of determinants (n=31) emerged, including effort, behavioural patterns (e.g. habit), resources (e.g. energy saved), outcomes (e.g. long-term benefits) and behavioural regulation (e.g. requiring planning).

**Discussion:** This study demonstrated how multidimensional (health and) climate mitigation behaviours are. Further research efforts are needed to increase our understanding of determinants of mitigation behaviours and support the development of effective interventions.

## Geographic, sociodemographic and psychological factors related to active and Sustainable mobility

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<sup>2</sup>Univ. Grenoble Alpes, Laboratoire PACTE, France

<sup>3</sup>Univ. Grenoble Alpes, Laboratoire SENS, France

### Background:

Active and sustainable mobility (biking, walking, car sharing and using public transport) might be an important answer to address health and climate issues (Bernard et al., 2021). Nevertheless, in order to promote it efficiently, it is important to apprehend the factors related to mobility (Bartholomew et al., 2016). The main objective of this study was to apprehend the factors related to active mobility from an interdisciplinary (geography and psychology) approach.

Methods: In this cross-sectional study, 538 adults living in France responded a survey of 20 minutes. The measures included the percentage of active mobility used during a typical week, geographic (the possession of a transport pass or of a car), sociodemographic (number of children, percentage of work) and psychological factors (the attitudes towards car and active mobility, mobility habits). The data was analyzed using multiple linear regressions in R.

Findings: The model containing geographic, sociodemographic, and psychological variables predicting active mobility was significant ( $F(37, 331) = 23.11, p < .001$ ) and had an  $R^2 = .69$ . The most important predictor of having an active mobility was attitudes towards the car ( $\beta = -.41^{***}, p < .001$ ), follow by the possession of a transport pass ( $\beta = .17^{***}, p < .001$ ) and the number of children over 12 years ( $\beta = -.16^{**}, p = .002$ ).

### Discussion:

Active mobility seems to be related to geographic, sociodemographic and psychological factors, which highlights the importance of understanding the context and the motivations to change while promoting active mobility.

## ISCycle: Planning for an intervention to promote inclusive and sustainable ebike uptake and use

J. Green<sup>1</sup>, C. Woods<sup>1</sup>, Y. Ryan<sup>2</sup>, C. Fitzpatrick<sup>2</sup>

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<sup>2</sup>University of Limerick, Ireland

**Background:** Funded by the Sustainable Energy Authority of Ireland, the ISCycle project will develop and test interventions centred on ebikes, an active travel mode, enabling replacement of the private car for families/individuals commuting short to medium distances. The intervention group will be loaned e-bikes, family-friendly accessories (bike-buggies, seats etc.), safety-gear, cycle training, along with further tailored interventions identified through preliminary work. This work-in-progress poster will present our research protocol and some of our preliminary work.

**Methods:** We will use mixed-methods, including qualitative interviews with current ebike users to gain a rich understanding of how ebikes work in participants lives. We will also interview 'potential' users, people who currently travel mostly by car, and seek to understand what prevents them from considering active travel, particularly ebikes. Quantitative data gathering will include analysis of existing data, and further surveys to better understand our target population. Sustainability aspects will be addressed through the assessment of environmental impacts, life cycle analysis and the circular economy implications of ebike uptake.

**Expected results:** In an existing survey (n=1923) members of our target community reported on factors influencing their mode of transport to and from the university. 'Distance' was a main barrier to actively commuting, amongst others. This will be complemented by further qualitative and quantitative results.

**Current stage of work:** Background data collection underway.

**Discussion:** Modal shift from cars to ebikes has benefits for health, well-being and the environment.

# Understanding Health Behaviour: Distinguishing Constructs

9:30 - 11:00

London

Marta Marques



## Determinants of recovery behaviours in Olympic swimmers: A qualitative investigation using the Reasoned Action Approach

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### Background

An adequate management of training and recovery allows swimmers to achieve continuous high-level performance but also to avoid illness and injuries. A few weeks before the Olympics Games, swimmers have a taper phase of training, during which recovery is one of the most important factors to reduce the cumulative training-induced fatigue and improve performance. Although swimmers' recovery behaviours have recently been recently described, the barriers and levers for their adoption have not been studied based on behaviour change theories. Based on the reasoned action approach, we aimed to explore the sociocognitive determinants of swimmer's recovery behaviours.

### Methods

Qualitative semi-structured interviews were conducted to explore the determinants of recovery strategies' adoption. Ten French swimmers were interviewed among the 42 eligible swimmers who participated in the Olympic Games in 2012, 2016, or 2021. Interviews were analysed using thematic analysis.

### Results

Coaches schedule recovery periods during training weeks but swimmers adopt various recovery routines. The results suggest that experiential attitudes such as perceived effectiveness and pleasantness are common determinants of recovery strategies' adoption. During the taper phase, recovery is reported as more important and swimmers have a facilitated access to many recovery equipment and recovery resources, such as dedicated medical and paramedical staff, when compared to a standard training phase.

### Discussion

The semi-structured interviews provided insight into the specific determinants of the swimmer's recovery behaviours. The results of the present study could be of interest when designing interventions to change the behaviour of elite swimmers to promote recovery.

## Sedentary behavior after cardiac rehabilitation: Explicit and implicit attitudinal components and ambivalence

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Cardiac diseases are the leading cause of death worldwide. Sedentary behavior (SB) represents an important cardiovascular risk factor independent of physical activity. Thus, it is crucial to better understand the behavioral determinants of SB in cardiac disease patients. Empirical findings have repeatedly shown that attitudes are related to intention and, at times, to behavior directly. However, an under-researched area is the role of different types of attitudinal components and ambivalence for SB, particularly in everyday life after cardiac rehabilitation.

The sample comprised N=103 cardiac patients (85.4% male, age range: 24-83, M=62.3, SD=10.9). Participants filled out daily evening questionnaires for three weeks after discharge from inpatient cardiac rehabilitation (n=1'436 days). SB was measured objectively (ActiGraph). Cognitive, affective, and implicit attitudes were assessed in the evening diaries. Four different types of attitudinal ambivalence were calculated. Data were analyzed using lagged multilevel modeling adjusted for intention to be physically active, accelerometer wear time, previous-day SB, and time. Interactions between attitudes and ambivalence were included.

On days with more positive affective attitudes and higher intercomponential ambivalence (aka discrepancies between cognitive and affective attitudes) tomorrow's SB was higher. However, on days with more positive affective attitudes and higher implicit ambivalence (aka discrepancies between explicit and implicit attitudes) tomorrow's SB was lower. No other investigated association was significant.

The results emphasize the importance of different aspects in the structure of attitudes for the SB of cardiac disease patients. Particularly, affective attitudes, as well as intercomponential and implicit ambivalence should receive more attention in future research.

## The role of autonomous motivation in predicting the adherence to the Mediterranean diet

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<sup>3</sup>University of Naples Federico II, Italy

The study explores the role of autonomous motivation in the Theory of Planned Behavior (TPB; Ajzen, 1991) applied to the adherence to the Mediterranean diet. The hypothesized model integrates the TPB (extended with descriptive norm) with the inclusion of autonomous motivation, a construct from self-determination theory (SDT; Deci & Ryan, 1985). The autonomous motivation reflects personally endorsed, self-referenced reasons for acting. The main aim was to test whether autonomous motivation moderates the relationship between intention and behavior. The study was conducted in two phases, with a time lag of two weeks. In the first phase, the online structured questionnaire included measures of intention and its antecedents and items to detect autonomous motivation. In the second, the behavior of adherence to the Mediterranean diet in the previous two weeks was surveyed. A convenience sample of 225 Italian adults (66.7% were university students) participated in the study. Results of the regression analyses proved that the TPB-extended model explained 66.2% of the intention variance, and 15.3% of behavior variance. Affective attitude, descriptive norm, perceived behavioral control and autonomous motivation were significantly related to intention. Behavior was directly predicted by intention. Furthermore, autonomous motivation moderated the effect of intention on behavior, which was significant only when autonomous motivation was high. In conclusion, the results support the importance of integrating SDT and TPB in predicting the intention to adhere to this healthy and sustainable diet and the usefulness of this integration in order to better understand the intention-behavior gap.

## Contrasting constructs or continuum? Examining the dimensionality of body appreciation and body dissatisfaction

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<sup>2</sup>Iowa State University, United States

**Background:** Prevalence of body dissatisfaction is high – especially among women – and leads to poor health outcomes in part due to lowered engagement in physical activity. Body appreciation is proposed to be theoretically distinct from dissatisfaction and to be protective of activity engagement. We evaluated whether body dissatisfaction and appreciation are distinct constructs and whether they interacted in the prediction of activity-related motivation and behaviour.

**Methods:** Two observational studies were conducted in the Midwest United States: Study 1 (n = 313 undergraduates) was cross-sectional and used a self-report measure of activity (International Physical Activity Questionnaire) and Study 2 (n = 123 undergraduates and staff) was prospective (two weeks) and used FitBits to measure activity. Both studies measured intrinsic motivation (Behavioral Regulation in Exercise Questionnaire-3), the Body Appreciation Scale, and the Body Shape Satisfaction Scale at baseline. Exploratory factor analyses were used to assess construct independence and polynomial regression was used to assess the interactive effect. A multiverse approach was taken to assess the robustness of findings. **Findings:** Across studies and multiverse variations, dissatisfaction and appreciation did not represent unique constructs (one-factor solution accounting for 48.95% and 46.07% of the variance). Moreover, appreciation did not buffer against the negative effects of dissatisfaction on activity-related motivation and behaviour (ps > .05 for all non-linear models). **Discussion:** If these results are replicated, then the theoretical independence of these constructs will need to be reconsidered. Additionally, interventions may not need to target both independently in individuals with high levels of dissatisfaction.

# Rash impulsivity and sensitivity to reward predict soft drink consumption

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<sup>1</sup>Flinders University, Australia

## Background

Soft drink consumption has become a significant public health issue. The present study aimed to examine the role of rash impulsivity and reward sensitivity in soft drink consumption using the two-factor model of impulsivity. We tested the hypotheses that rash impulsivity and reward sensitivity would independently, and in interaction predict soft drink consumption.

## Methods

The study used a cross-sectional design. Participants were a community sample of 229 adults (19-77 years). They completed self-report measures of impulsivity (SUPPS-P), reward sensitivity (RST-PQ) and beverage consumption (BEVQ-15). A principal component analysis was used to produce purer measures of rash impulsivity and reward sensitivity. Correlation analyses were used to test the associations between rash impulsivity, reward sensitivity and soft drink consumption. Hierarchical multiple regression was used to test rash impulsivity and reward sensitivity as predictors of soft drink consumption.

## Findings

Both rash impulsivity and reward sensitivity were positively associated with soft drink consumption, and each independently predicted soft drink consumption. Importantly, there was a significant interaction between the two, whereby rash impulsivity moderated the effect of reward sensitivity on soft drink consumption.

## Discussion

The results support the logic of the two-factor model of impulsivity in predicting soft drink consumption. Specifically, rash impulsivity and reward sensitivity interacted to produce a “synergetic” effect. Our findings suggest that both factors should be targeted in clinical practice to reduce excessive soft drink consumption and its associated health risks

## Same construct, different names?: The jangle fallacy in evaluative and feasibility judgments of physical activity

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The “jangle fallacy” occurs when differently named measures assess the same latent construct. Although concerns regarding this fallacy are often raised, there have been few empirical efforts to address it. This project examines 2 potential jangle fallacies regarding health behavior constructs: (a) Feasibility (perceived behavioral control; self-efficacy; competence; capability/opportunity); and (b) Behavioral evaluation (attitudes; benefits/barriers; pros/cons; outcome expectations; response efficacy/costs). To test if each set of variables captures the same construct, we examined their extrinsic convergent validity in the domain of physical activity (PA). Specifically, we assessed the pattern of relations (within each set of variables) to two measures of PA (IPAQ; GLTEQ) and one measure of PA intentions.

Participants were recruited through Prolific and randomly assigned to complete one of four measures of feasibility (Study 1a; n=446) or one of five measures of behavioral evaluation (Study 1b; n=550), each measure was taken from a highly cited paper. The four feasibility measures were positively associated with intentions ( $R^2 = .36-.56$ ) and behavior ( $R^2 = .11-.56$  [IPAQ] and  $.16-.42$  [GLTEQ]). The five behavioral evaluations showed a similar pattern of findings:  $R^2$  ranged from  $.25-.45$  (Intentions),  $.04-.12$  (IPAQ), and  $.09-.23$  (GLTEQ). Within each set of measures, forest plots showed that the confidence intervals for the effect sizes overlapped, and Q-tests indicated homogeneous prediction of outcomes by the different measures. These findings provide initial evidence consistent with a jangle fallacy for both evaluative and feasibility judgments. If additional tests of construct validity converge with these findings, appropriate changes in construct naming should occur.

# Innovative research approaches to developing social support interventions for chronic illness and changing health behaviors

9:30 - 11:00

Rome

Christine Rini

## Patients' individualized, changing written peer support needs throughout stem cell transplant: A longitudinal, mixed-methods study

C. Rini<sup>1,2</sup>, K. Bovbjerg<sup>1</sup>, A. Chicaiza<sup>3</sup>, A. Jang<sup>1</sup>, M. Kop<sup>4</sup>, D. Lorch<sup>1</sup>, R. Omar<sup>1</sup>, L. Shahrouh<sup>3</sup>, A. Van Denburg<sup>1</sup>, K. Graves<sup>3</sup>

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<sup>4</sup>Hackensack University Medical Center, United States

**Background:** Many people undergoing stem cell transplant want to learn about other people's transplant experiences as they cope with this challenging treatment. This longitudinal, mixed-methods study investigated use of written peer support to fill this need, with three goals: (1) describe needs and motivations for accessing written peer support; (2) describe changes in needs and motivations measured in real-time with four assessments from pre- to post-transplant; and (3) identify correlates of needs and motivations. **Methods:** 155 patients completed assessments at pre-transplant (T1), during hospitalization (T2), hospital discharge (T3), and 5-weeks post-discharge (T4). Measures included questions assessing need for written peer support "right now" (1=Not at all to 5=Extremely) and open-ended questions assessing reasons for wanting and not wanting it (content analyzed). **Findings:** Need for written peer support was highest at T1 (M=3.12, SD=1.24), with moderate interest from T2-T4 (Ms=2.56-2.80; SDs=1.21-1.26). The most common motivations were to gain insight into the transplant experience (T1 69%; T2-T4 50%-54%) and to compare one's own transplant with others' (T1 6%; T2-T4 22%-33%). Many participants did not want to access written peer support to avoid negative information and its emotional consequences (T1 35%, T2-T4 26%-29%) and because it was perceived as irrelevant (T1 18%, T2-T4 24%-28%). Few demographic, medical, or psychosocial factors reliably predicted needs and motivations. **Discussion:** Real-time assessments documented meaningful changes in need for and motivations to access written peer support, but few correlates, suggesting that need for and motivation to access written peer support were highly individualized and possibly challenging to predict.



## Social support and hindrance for completing a behavioral pain intervention: Implications for intervention outcomes

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<sup>2</sup>Duke University Medical Center, United States

**Background:** Pain coping skills training (PCST) is one of the predominant behavioral intervention for persistent pain. However, the impact of interpersonal factors on patients' ability to complete and benefit from PCST is unknown. This study assessed social support and hindrance among osteoarthritis patients completing web-based PCST.

**Methods:** Participants with hip or knee osteoarthritis and associated pain completed an 8-session web-based PCST program (N=58). Pre-intervention, they completed a measure of expected social support and hindrance from a significant other, focusing on support and hindrance for completing intervention tasks. Post-intervention, they reported on received support and hindrance. Partnered participants (n=37) reported on their partner. Unpartnered participants (n=21) reported on a main confidant. Sample descriptive statistics, correlational analyses, and t-tests were conducted.

**Findings:** Among partnered participants, those who expected greater support for completing the intervention received greater support ( $p<.05$ ) and had increased self-efficacy for managing pain ( $p<.05$ ); those who expected greater hindrance received greater hindrance ( $p<.01$ ); those who received greater support had increased self-efficacy ( $p<.01$ ); those who received greater hindrance had decreased self-efficacy ( $p<.05$ ) and less regular skill use ( $p<.05$ ). Among unpartnered participants, those who expected greater support for completing the intervention received greater support ( $p<.05$ ).

**Discussion.** Findings suggest the importance of the social and interpersonal context in which people complete PCST. Support and hindrance may impact self-efficacy and skill use among those who are partnered, suggesting a need for methods to improve significant others' support and reduce their hindrance to boost engagement and outcomes in behavioral pain interventions.

## Intra-individual received support for leisure-time physical activity in workers: An ambulatory assessment, observational N-of-1 study

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Physical activity (PA) protects from various diseases and is an important target for behavioural interventions. Behaviour change interventions that include individuals' social context as an active ingredient have produced heterogeneous results. In contrast to usual within-person study designs that give insight into intra-individual differences across individuals, N-of-1 studies allow us to investigate separate person-specific within-person processes. In this study, we explored the relationship between received social support and PA using an N-of-1 study design.

In a 68-day daily diary study, four participants from sedentary work contexts (2 women, 2 men, age 23–57) wore accelerometers and reported on their daily received social support, affect, and contextual factors. Leisure-time light-to-vigorous PA was predicted applying dynamic regression modelling. Participants (individuals denoted "P") discussed their experiences in data-driven interviews.

Participants provided valid data on 54-66 days (observations: 62-95%). They reported PA-specific received social support from colleagues/supervisor on 3-34 days and from family/friends on 10-50 days. Received support (family/friends) was positively related to light-to-vigorous PA for P3. In contrast, no such links, nor such involving received support from colleagues/supervisor, were found for P1/P2/P4.

Findings indicate varying levels of received social support and differential links to daily leisure-time PA. With the N-of-1 design, we were able to identify individual relationships between predictors and PA. We discuss how this personalized approach can be used in future intervention (e.g. just-in-time adaptive interventions) studies and, with the addition of a dyad partner, how the repertoire of traditional social exchange research designs could be broadened by dyadic N-of-1 studies.

## Supporting the dyadic partner to make plans: Randomized control trial explaining physical activity in dyads

A. Luszczynska<sup>1</sup>, E. Kulis<sup>1</sup>, Z. Szczuka<sup>1</sup>, A. Banik<sup>1</sup>, M. Boberska<sup>1</sup>, N. Knoll<sup>2</sup>, J. Keller<sup>2</sup>, T. Radtke<sup>3</sup>, U. Scholz<sup>4</sup>, R. Rhodes<sup>5</sup>

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<sup>3</sup>University of Wuppertal, Germany

<sup>4</sup>University of Zurich, Switzerland

<sup>5</sup>University of Victoria, Canada

**Background:** This study was designed to investigate the effects of individual, collaborative, and dyadic, planning on moderate-to-vigorous physical activity (MVPA) in target person–partner dyads. Individual planning reflects an “I-for-me” planning of one person’s behavior. Collaborative (“We-for-us”) planning refers to a condition where the target person and the partner support each other when planning joint future behavior. Finally, dyadic (“We-for-me”) planning refers to a condition where the partner supports the target person to form plans of a change in the target person’s behavior.

**Methods:** N = 320 dyads of target persons (M age: 43.86 years old) and their partners (M age: 42.32 years old) participated in a randomized controlled trial (registration no. NCT03011385) with three experimental planning conditions compared to an active control condition (physical activity, sedentary behavior, and nutrition education). Target persons did not meet international MVPA guidelines or were recommended to increase their MVPA due to cardiovascular disease or type-2 diabetes. MVPA was measured with accelerometers at baseline, 1-week follow-up, and 36-week follow-up.

**Findings:** At 1-week follow-up, there were no significant Time x Condition interaction effects among target persons and partners. At 36-week follow-up, target persons and partners in the dyadic planning conditions increased their MVPA, compared to the control condition.

**Discussion:** Individuals with insufficient physical activity or with a cardiovascular disease/type II diabetes and their partners may benefit from dyadic planning, in which the partner supports the target person to form exercise plans.

# Cardiovascular and psychosocial antecedents and consequences of health

9:30 - 11:00

Paris

Jo Hart

## Systematic review of behaviour change and cardiovascular disease self-management interventions on cardiovascular stress reactivity

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<sup>2</sup>University of Derby, United Kingdom

**Background:** Psychological stress reactivity of the sympatho-adrenal medullary (SAM) system is directly associated with long-term health and disease outcomes. Understanding the effects of health behaviour change and self-management interventions on cardiovascular stress reactivity (CVR) responses is key to developing psychological approaches to improve future health and disease outcomes.

**Methods:** Our systematic review included peer review English language studies assessing laboratory stress reactivity (e.g. cognitive, social or physical stressor tests) and reporting both pre and post intervention cardiovascular stress reactivity measurements (e.g. blood pressure, heart rate, heart rate variability) following participation in health behaviour change and cardiovascular health management interventions.

**Results:** 34 papers including 2027 participants (range 4–247) met our criteria. Behaviour change interventions ranged between 1 and 274 days in duration and targeted exercise and physical activity (n = 17), smoking cessation (n = 7), weight management (n = 3) and cardiovascular disease self-management (n = 7). Overall, 23/27 (85%) behaviour change interventions reported significant effects of attenuated CVR reactivity responses at follow up for intervention participants. In cardiovascular long term conditions management interventions, all 7 studies reported significant changes in CVR. 4 out of six studies reported faster recovery responses to stress following the interventions.

**Discussion:** This review provides evidence for the effectiveness of behaviour change and cardiovascular health self-management interventions as a means of targeting dysregulated stress responses and recovery. Such interventions have the potential to improve cardiovascular health and quality of life, as well as reducing the risk of future adverse cardiovascular events.

## Vagal nerve activity moderates relationships between life events and cancer onset: Making things less vague

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<sup>2</sup>Rambam Healthcare Campus, Israel

<sup>3</sup>University of Haifa, Israel

**Background:** Cancer is a potentially fatal chronic disease caused by interactions between environmental, genetic and host causes. Research has inconsistently shown relations between life events and risk of developing cancer. Such relationships may be affected by other neurophysiological factors. One such candidate which predicts cancer prognosis is vagal nerve activity. This prospective study tested whether major life threatening events (LTE) predicted cancer development, and if this was moderated by vagal activity.

**Methods:** We reanalyzed the longitudinal Dutch Lifelines cohort data in 82,768 people initially without cancer, followed for 5 years. Their mean age was 43.80 years and 59.2% were women. Vagal nerve activity was indexed by participants' heart-rate variability (HRV) obtained from 10-sec ECGs. We adjusted for effects of multiple confounders (e.g., age, BMI).

**Findings:** In our sample, 1011 people (1.2%) developed cancer during the follow-up. Univariately, we found that LTE significantly predicted cancer-onset (RR = 1.082; 95% CI: 1.035-1.132) as did HRV inversely (R.R = .506; 95%CI: .413-.620). Importantly, when adjusting for effects of confounders, we found that LTE predicted risk of cancer (R.R = 1.056; 95%CI: 1.007-1.108) only in people with low HRV, but not in people with higher HRV (R.R = 1.014; 95%CI: 0.916-1.122).

**Discussion:** This is the first study to show in a large cohort that LTE predicted an increased risk for developing cancer, but that this relationship did not occur in people with higher vagal nerve activity. These results reveal the cancer-protective role of the vagal nerve and have important implications for public health.

## Cardiac interoception in everyday life: The novel Graz ambulatory interoception task (GRAIT)

C. Rominger<sup>1</sup>, A. Schwerdtfeger<sup>1</sup>

<sup>1</sup>University of Graz, Austria

**Background:** Interoceptive accuracy (IA) is an important health relevant skill, which is considered a stable between-person trait that can reliably be assessed in controlled laboratory settings (e.g., heartbeat tracking). However, there are situations when we perceive organismic cues better or worse, thus calling for a within-person perspective.

**Methods:** In this study, we present a novel psychophysiological ambulatory method to assess between- and within-person variation of interoceptive accuracy (metacognition, and sensitivity). This method is based on the well-known heartbeat tracking task, which asks participants to count their perceived heartbeats within a predefined time-period. The correspondence between perceived heartbeats and recorded heartbeats serves as the measure of IA. A sample of 46 participants answered up to 12 prompts per day, for three days in total.

**Findings:** The reliability analyses based on generalizability theory showed excellent between-person ( $R_kR=.99$ ) and sufficient within-person reliability ( $RC=.57$ ). Furthermore, we found evidence for validity of the novel GRAIT. First, IA was positively associated with perceived stimulus intensity at between-person level. Second, this finding was mirrored at the within-person level with subjectively rated performance outcome (i.e., interoceptive sensitivity) being significantly associated with IA. Additionally, IA at each prompt was positively predicted differently by positive deactivating affect and negatively by positive activating affect.

**Discussion:** This pattern of findings indicates that IA can be reliably and validly assessed via ambulatory assessment, which would allow to study the when, where, and why, we are better to perceive bodily cues in everyday life.

## Predictors of resilience of university students to stressors during the Covid-19 pandemic: a longitudinal study

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### Background:

The Covid-19 pandemic has caused disruption in educational systems worldwide, and alarming effects of this crisis on university students' mental health have been reported. Therefore, students need resilience to adapt to new challenges. This study aimed to identify which factors from more stable times before the crisis might be related to the demonstration of resilience when dealing with academic demands during the pandemic.

### Methods:

A sample of 443 university students participated in a longitudinal survey study at a large university in Germany. Resilience, which is the level of adaptation to a stressor, was operationalized by regressing emotional exhaustion on academic demands and using the residuals as a measure of resilience demonstration. Then, multiple regression analyses were performed to analyze how potential facilitating and hindering factors were related to three different forms of resilience demonstration (workload, work complexity and change in time spent studying). Ethical approval was received.

### Findings:

Self-efficacy was positively and competition negatively related to different forms of resilience demonstration ( $p < .05$ ). Performance pressure was negatively related to only one form of resilience ( $p < .05$ ). No evidence for social support being positively related to the demonstration of resilience could be found.

### Discussion:



The study confirms to some extent previous findings in regard to relevant resilience factors (self-efficacy), reveals unexpected aspects (social support), and indicates new constructs in resilience research in a university setting (competition, performance pressure). Practical implications can be drawn from this research that can benefit resilience promotion among students in preparation for challenging times.

# Food and diet

9:30 - 11:00

Berlin

Julia Allan

## Descriptive versus evaluative nutrition labelling on food choices from an online supermarket

E. Kemps<sup>1</sup>, N. Bruyns<sup>1</sup>, I. Prichard<sup>1</sup>

<sup>1</sup>Flinders University, Australia

**Background:** Emerging evidence suggests that front-of-pack nutrition labelling could promote healthier choices from online supermarket platforms. The present study compared the effects of a descriptive (Daily Intake Guide) versus evaluative (Health Star Rating) labelling system on food choices in an experimental online supermarket task.

**Methods:** Participants (n=365; 17-55 years; 83% female; MBMI=24.12 kg/m<sup>2</sup>) were randomly allocated to one of three nutrition label conditions: descriptive, evaluative or no-label control. They were presented with a range of food products in separate categories (e.g., fruit and vegetables, dairy, snacks) and asked to select groceries they would need for a typical week. In the descriptive and evaluative conditions, the products were accompanied by nutritional information about their energy content and other nutrients (fat, salt, sugar) or a rating ranging from 0.5 to 5, respectively. Participants also completed measures of dietary restraint and nutrition knowledge.

**Findings:** Contrary to prediction, control participants made more healthy choices than those in the experimental conditions, and neither nutrition label was superior. In addition, control participants chose products with lower sodium content than those in the experimental conditions, and the descriptive label produced significantly higher sodium choices relative to the no-label. Neither dietary restraint nor nutrition knowledge moderated the effect of nutrition labelling on overall food choices; however, nutrition knowledge did do so for specifically fruit and vegetable choices.

**Discussion:** Findings contribute to inconsistent results in research to date, and provide important insight into the use of front-of-pack nutrition labelling for nudging healthier food choices in online supermarket platforms.

# The use of item placement techniques to nudge healthy food choices from extended online menus

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<sup>1</sup>Flinders University, Australia

## Background

To date, explicit techniques have been largely unsuccessful at encouraging healthy eating. Therefore, we investigated the item placement technique (an implicit strategy based on nudging principles) to promote healthy food choices from online menus.

## Methods

Two experimental studies compared presentation of healthy dishes in the top, middle, and bottom sections of restaurant-style menus offering mains, sides and desserts. Study 1 (n= 186) compared these presentations in a mixed-cuisine menu consisting of dishes commonly offered in Western restaurants. Study 2 (n = 184) used a Chinese menu, to extend our findings to a more specific, specialty context. In each study, menus consisted of 8 unhealthy and 4 healthy mains, sides and desserts, arranged in one column of 12 across three pages. Participants selected one dish from each menu category from one of the three experimental menus.

## Findings

In Study 1, healthy items were most popular when presented in the top and bottom sections of the menu, compared to the middle section. In Study 2, item placement condition did not predict food choice. This could be due to participants' general lack of familiarity with Chinese foods.

## Discussion

In line with nudging principles, results suggest that the item placement technique may be a potentially powerful tool in promoting healthy choices from online menus, when participants are familiar with menu items. This is important, as consistent healthier choices could result in general health benefits at a population level. Future research could test item placement techniques in extended specialty menus offering more familiar dishes.

## Process evaluation of a Mediterranean diet and exercise intervention among an older at-risk UK-based population

S.T. Jong<sup>1</sup>, A. Jennings<sup>1</sup>, O.M. Shannon<sup>2</sup>, R. Gillings<sup>1</sup>, S. Hanson<sup>1</sup>, V.Y. Lee<sup>3, 4</sup>, W. Hardeman<sup>1</sup>, A. Minihane<sup>1</sup>

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<sup>4</sup>University of Birmingham, United Kingdom

**Background:** To explore participant experiences of a Mediterranean diet and exercise intervention informed by the COM-B model, delivered using a website, group sessions, and supermarket vouchers (MedEx-UK).

**Methods:** Fourteen semi-structured focus groups (54 participants at elevated dementia risk, aged 55-74 years, three UK urban/rural areas) and four individual interviews. Codebook thematic analysis was informed by MRC process evaluation guidance.

**Findings:** Initial findings indicate high acceptability for the group sessions and supermarket vouchers, and mixed views about the website. Participants wanted more group sessions. They mentioned that they had implemented recommended changes in Mediterranean diet and physical activity to a high degree, although this varied across participants. Reported psycho-social facilitators included partner and family support, the social element of group sessions, and being motivated. Practical facilitators varied across participants; these included having Mediterranean foods in a convenient place, e.g., kitchen table, bulk purchasing and cooking, and swapping foods for Mediterranean diet friendly foods, e.g., swapping red meat for fish. Reported facilitators for exercise change included apps and technology, and goal setting. Reported barriers included negative perceptions of food such as olive oil, having to cook for others, injury, illness, and the weather. Some reported challenges in consuming the amount of oil (50 ml/d) and vegetables (400g/d) recommended.

**Discussion:** Motivation, social and physical opportunity were key perceived enablers of behaviour change. Participants' reflections support the use of group-based interventions targeting diet and exercise. Future interventions need to target the wide range of influences on eating a Mediterranean diet and increasing exercise.

## Developing a complex intervention to engage adolescents in eating better and moving more: EACH-B Programme

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<sup>8</sup>School of Health Sciences, University of Southampton, United Kingdom

**Background:** Adolescence represents an opportunity for triple benefit to health: adolescent health now, health in adulthood, and the health of the next generation. Involving adolescents and stakeholders in the design process maximizes acceptability and therefore effectiveness of complex health interventions. This study describes the development of a complex intervention to motivate adolescents to eat better and move more.

**Methods:** The study used an innovative Person-Based Approach to design format and content of the intervention. We conducted group interviews, active 'go-along' interviews, and creative workshops with adolescents 12-15 years old (n=450), engaged with stakeholders and conducted systematic reviews to explore ways to effectively support adolescent health behaviours. Qualitative data were analysed thematically. Evidence from this body of work were collated and synthesised to identify guiding principles for intervention design.

**Findings:** From these analyses, three design objectives were distilled which mapped onto the basic psychological needs described by self-determination theory: (1) make healthy eating and physical activity a positive experience with positive outcomes (autonomy); (2) enhance self-efficacy for healthy eating and physical activity (competence); (3) enable adolescents to seek support from their social network (relatedness).

**Discussion:** Our integrated approach to developing an evidence- and health psychology theory-based complex intervention for adolescents has yielded insights into how to enhance acceptability and implementation. This rigorous process ensured that intervention materials are engaging, fun, easy-to-use, facilitate connections with peers and support informed choices. We hypothesise that fulfilling basic psychological needs will enhance the effectiveness of interventions to support adolescents to eat better and move more.



## Instagram priming: nudging beverage choices from vending machines

E. Kay<sup>1</sup>, E. Kemps<sup>1</sup>, I. Prichard<sup>1</sup>, M. Tiggemann<sup>1</sup>

<sup>1</sup>Flinders University, Australia

**Background:** Pictorial primes can be easily incorporated into popular image-based social-media platforms, like Instagram, to subtly encourage healthier consumption behaviours. Considering the negative health consequences associated with sugar-sweetened-beverage consumption, two experiments tested the effect of three sets of Instagram-based priming images for nudging drink choices from a vending machine display.

**Method:** Participants (18-25 years) were randomly assigned to view a series of Instagram-style advertising images subtly incorporating water glasses (water prime), cola (soft drink prime), or no beverages (control). They were then asked to select an item from a vending machine display containing drinks and snack foods. In Experiment 1 (n = 493) beverages were very subtly incorporated into priming images; in Experiment 2 (n = 433) beverages were made more prominent.

**Findings:** Condition did not predict vending machine choice in Experiment 1 but did in Experiment 2, where beverages were more prominent in priming images. Specifically, in Experiment 2, over 90% of participants in the soft drink prime condition reported noticing beverages and participants were significantly more likely to select a drink (versus a food) compared to the control condition. In the water prime condition, fewer participants (67.6%) noticed beverages in the images, and the prime did not predict choice. Condition did not predict the healthiness of food choices.

**Discussion:** It appears that increasing the visibility of beverages in Instagram-style priming images was more effective for nudging choices. However, a less subtle approach may be needed to effectively nudge healthier beverage choices from a vending machine environment.



# Trust and equality in blood donation across different populations: an international perspective

9:30 - 11:00

Vienna

Elisabeth Vesnaver

## How public trust and healthcare quality shape blood donation behavior: Comparative evidence

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<sup>2</sup>Vrije Universiteit Amsterdam, Netherlands

<sup>3</sup>Indiana University Lilly Family School of Philanthropy, United States

**Background:** Blood donors are indispensable for enabling a myriad of medical procedures and treatments. Although blood donation takes place in a medical setting within the larger healthcare system, but little is known about how (perceptions of) this healthcare system shape an individual's decision to donate blood. In this study, we examined how public trust in the healthcare system and objective indicators of healthcare quality relate to individuals' likelihood of donating blood across Europe.

**Methods:** We employed large-scale survey data on blood donation behavior from representative samples of 28 European countries (N = 27,868). This dataset was combined with country-level data on public trust in the healthcare system and healthcare quality. We employ multilevel models to examine the effects of individual- and country-level factors on individual-level blood donation behavior.

**Findings:** Our preregistered analyses revealed that public trust was positively associated with donating blood. That is, individuals living in countries where trust in the healthcare system is higher were more likely to have donated blood. However, we found no clear evidence that healthcare quality predicted blood donation. Notably, most countries exhibited a decrease in public trust in the healthcare system while healthcare quality increased over time.

**Discussion:** Our results suggest that subjective perceptions of the healthcare system &#40;i.e., public trust&#41;, rather than the objective state of healthcare, play a role for blood donation behavior. We highlight the implications of our findings for vital blood collection efforts in light of the observed erosion of public trust over time.

## Exploring trust, distrust and socio-political context on donation decisions in ethnic minority communities

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**Background:** We explore the roles of trust, distrust, and the prevailing socio-political context to better understand why people from ethnic minority communities are less likely to be blood donors compared to people from White communities. Recruiting more ethnic minority donors will enhance representativeness, reduce inequality, and help meet the clinical need to increase the proportion of blood with Ro Kell antigen to treat Sickle Cell Disease (SCD).

**Methods:** A 2 (Donor-Status: current vs non-donors) by 4 (Ethnicity: White vs, Asian, vs Mixed Race vs Black people) quasi-experiment (N = 981) was conducted to examine perceptions of trust/distrust and their influence on willingness to donate blood, within the socio-political context of the Windrush scandal and Brexit.

**Findings:** We identified five domains of trust ('National Health Service [NHS] and staff', 'NHS Blood and Transplant', 'outgroups', 'individuals', and 'politics'), and a single domain of conditional distrust domain. Trust across all the domains was lower, and 'conditional distrust' higher for ethnic minorities. Trust in 'individuals' and 'NHSBT' predicted willingness to donate in non-donors from ethnic minorities and White non-donors, respectively. Concerns about the Windrush scandal were related to lower political trust. Viewing Brexit as 'positive for the UK' was related to lower trust across domains and reduced willingness to donate in White non-donors through its influence on reduced trust in NHSBT.

**Discussion:** Distinct domains of trust and distrust are identified, and targeting 'trust in others' through conditional cooperation is recommended as a strategy to increase donor numbers from ethnic minority communities.

## FAIR: how the UK moved to a more individualised blood donation policy

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**Background:** In 2017 the UK government asked NHS Blood and Transplant to scope an individualised blood donation policy as an alternative to a blanket deferral for Men-who-have-Sex-with-Men (MSM). In early 2019, the For the Assessment of Individualised Risk (FAIR) project was established to assess whether people at lower risk of sexually-acquired infection could be identified.

**Methods:** We used mixed-methods to triangulate psychological, behavioural and epidemiological evidence to determine the most appropriate sexual behaviour questions. Data on the epidemiology of hepatitis B, HIV, and syphilis in the UK were collated alongside an anonymous online sexual behaviour survey among blood donors (1311) and the general population (732). Perceived risk, accuracy and acceptability of questions were assessed through surveys of the general population (732) and blood donors (10,754) and interviews/focus groups with MSM (23), transfusion recipients (4), blood service staff (20) and blood donors (6).

**Findings:** In the UK, new HIV infections are in decline, but MSM remain most at risk, with significant increases in syphilis and gonorrhoea. Latent factor modelling of survey results, triangulated with the epidemiology evidence, identified 4 high-risk indicators (bacterial STI diagnosis, chemsex, new partner, multiple partners), as the basis of the new selection policy. These were reliably reported and seen as acceptable. Screening for these indicators would defer approximately 3% of donors.

**Discussion:** FAIR recommendations were accepted by ministers in December 2020. The FAIR review process highlights the importance of triangulating psychological/behavioural evidence alongside epidemiological evidence to inform policy. A similar approach is being taken in post-implementation monitoring.

## Staff challenges to implementing new plasma donation criteria for men who have sex with men

G. Castillo<sup>1</sup>, E. Vesnaver<sup>1,2</sup>, E. Gibson<sup>1</sup>, T. Butler-Foster<sup>3</sup>, M. Goldman<sup>3</sup>, N.E. Hill<sup>4,5</sup>, A. Rosser<sup>5</sup>, D. Lapierre<sup>3</sup>, K.A. Rubini<sup>5</sup>, R. MacDonagh<sup>5</sup>, G. Miguel<sup>5</sup>, A. Palumbo<sup>1</sup>, P. MacPherson<sup>2,6</sup>, T. Randall<sup>5</sup>, W. Osbourne-Sorrell<sup>5</sup>, S.F. O'Brien<sup>3</sup>, W. Bridel<sup>5</sup>, J. Otis<sup>7</sup>, M. Greaves<sup>5</sup>, T.B. Al-Bakri<sup>5</sup>, M. Reid<sup>5</sup>, M. Labrecque<sup>5</sup>, M. Germain<sup>8</sup>, S. Orvis<sup>5</sup>, A.T. Clapperton<sup>5</sup>, D. Devine<sup>3,9</sup>, J. Pesseau<sup>1,2</sup>

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**Background:** New plasma eligibility criteria allows some sexually active gay, bisexual and other men who have sex with men (gbMSM) to donate. We aimed to identify possible barriers and enablers to implementing the new criteria from the perspective of donor centre staff.

**Methods:** We conducted 28 Theoretical Domains Framework (TDF)-informed interviews with staff from two donation centres. Data were analyzed using directed content analysis.

**Findings:** We generated three themes representing nine TDF domains. Valuing inclusive criteria: staff supported moving toward inclusive criteria. However, some participants were concerned the new criteria remained discriminatory. Investing in donor experiences: staff value positive donor experiences. Many expressed worry that 1) gbMSM donors may express anger and disappointment over the new criteria, 2) staff may experience unease over using stigmatizing criteria and may convey nonverbal cues of discomfort, and 3) existing donors may behave inappropriately in response to the new criteria. Enabling education, training, and transparency: staff believed that providing in-person training that explains the criteria rationale, addresses sources of discomfort, and provides opportunities to practice asking screening questions and responding to donor concerns, would improve implementation. Staff also believed corporate communication strategies that inform donors and the public of the new criteria would support implementation.

**Discussion:** We identified key barriers and enablers to staff implementing new criteria that have implications for fostering trust with a new donor group. Findings directly inform which staff supports are likely to improve the implementation of new criteria and may facilitate implementation internationally as blood policies continue to evolve.

## Co-developing theory-informed interventions promoting plasma donation by newly eligible men who have sex with men

E. Vesnaver<sup>1,2</sup>, A. Palumbo<sup>1</sup>, E. Gibson<sup>1</sup>, G. Castillo<sup>1</sup>, T. Butler-Foster<sup>3</sup>, K. Rubini<sup>4,5</sup>, R. MacDonagh<sup>5</sup>, G. Miguel<sup>6</sup>, A. Rosser<sup>5</sup>, M. Reid<sup>6</sup>, P. MacPherson<sup>1</sup>, J. Pesseau<sup>1,2</sup>

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**Background:** Increasing domestic plasma donation is a critical public health issue in Canada but population groups such as men who have sex with men (MSM) including gay, bisexual and queer men have been excluded for decades. More inclusive screening criteria for plasma donation were recently implemented in two Canadian cities. Having used the Theoretical Domains Framework (TDF) to identify donation barriers/enablers among MSM and implementation barriers/enablers among staff, we aimed to co-develop behavioural theory-informed interventions to support newly eligible MSM to donate plasma.

**Methods:** In collaboration with community research partners, we identified feasible modes of delivery for intervention. We then used the Behaviour Change Techniques (BCT) Taxonomy to map TDF-linked barriers/enablers to suitable strategies and collaborated with community partners to operationalize acceptable BCTs delivered across identified modes of delivery.

**Findings:** A website and video were identified as feasible modes of delivery. For the website, we mapped 13 TDF domains to 15 BCTs (e.g., Barrier: not being aware of eligibility [domain: knowledge] addressed by describing new criteria [BCT: instruction on how to perform behaviour]). For the video, we mapped 7 TDF domains to 11 BCTs (e.g., Barrier: concern of not being welcome [domain: Beliefs about consequences] addressed by showing clinic staff interacting positively with donors identifying as MSM [BCT: information about social consequences]).

**Discussion:** We co-developed multimodal interventions to support plasma donation among newly eligible MSM. Our participatory approach, rooted in theory and lived experience, can continue supporting MSM to donate plasma as policies evolve and more become eligible to donate.

# Innovative approaches in informal care research: exploring new determinants, methods, and frameworks

9:30 - 11:00

Warsaw

Val Morrison

## Personal and geographical determinants of willingness to care and caregiver outcomes

E. Bei<sup>1</sup>, G. Ferraris<sup>2</sup>, M. Zarzycki<sup>3</sup>, V. Morrison<sup>3</sup>, N. Vilchinsky<sup>1</sup>

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<sup>2</sup>UMCG, Netherlands

<sup>3</sup>Bangor University, United Kingdom

**Background:** As societal dependence on informal care continues to grow, it is becoming increasingly important to identify determinants of caregiver outcomes. Individual differences among caregivers may relate to underlying personality dispositions, making some caregivers more vulnerable to negative outcomes. In addition, caregivers living in different geographic settings with diverse sociocultural systems or those with varying degrees of geographic proximity to the care recipient, may experience different stressors and unique difficulties in their caring role. To our knowledge, this is the first study to explore the role of personality, attachment orientations and geographic proximities on willingness to care, caregiver burden and well-being, using a multinational online survey. **Methods:** A total of 922 informal caregivers from 9 European countries completed the online survey. **Results:** Multiple hierarchical regressions revealed that caregivers who scored higher on agreeableness and conscientiousness were more willing to care and had higher levels of well-being. In contrast, caregivers who scored higher on neuroticism, attachment avoidance and anxiety were less willing to care and had higher levels of caregiver burden. Distance caregivers who visited their care recipient more often, had higher levels of well-being and lower levels of burden. Finally, distance caregivers who felt that the travel time to visit their loved one had a negative impact on their daily activities were less willing to care. **Discussion:** Findings provide unique insight into the contribution of both personality and geographical factors in the caregiving experience and highlight the need for better integration of these factors in caregiving research, policy and practice.



## The role of perceived responsiveness in a multinational group of caregivers: a moderated mediation model

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**Background:** The interpersonal process model of intimacy proposes associations between communication and relationship closeness through perceived partner responsiveness within couples. However, the underlying mechanisms of these associations are unclear among a broader group of caregivers who provide care to either a spouse, an older parent or a relative/friend with care needs. This study tested the mediating role of perceived responsiveness (the extent to which caregivers perceive that their care recipients care for, validate and understand them) in the association between communication and caregivers' closeness to the care recipient. Moreover, the study's outcomes were expanded to caregivers' burden and communal motivation to care. Further, the moderating role of care recipients' health condition and relationship type (spouses, adult children and others) was investigated. **Methods:** A total of 872 caregivers from 9 different countries completed an online survey assessing care context and interpersonal processes. **Findings:** Perceived responsiveness fully mediated the association between communication and caregivers' closeness (effect = .05; CI95= [0.04, 0.06]), partially mediated the association between communication and caregivers' burden (effect = -.43; CI95= [-0.50, -0.36]), and fully mediated the association between communication and caregivers' communal motivation (effect = .30; CI95= [0.22, 0.37]). The negative relationship between responsiveness and burden was stronger for spouses (b = -0.23, CI95= [-0.26, -0.19]) than for adult children and others. **Discussion:** Caregivers' perceptions of care recipients' responsiveness are important for closeness processes, burden levels and motivation to care. Considering the relationship type in interventions aimed at reducing caregivers' burden may lead to greater wellbeing for caregivers.

## The use of psychological network analysis in informal care: an empirical illustration

P. Gérain<sup>1</sup>, P. Antoine<sup>1</sup>

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**Background.** Most psychological research in informal care seeks to understand the sources of informal caregiver distress. Theoretical models have been developed to comprehend how risk (e.g. recipient's dependency) and protective factors (e.g. social support) interact to cause caregiver's distress. This conception has led to an important reliance on stress-coping which poses several issues, notably by suggesting that most factors linearly lead to individual distress. The development of psychological network analysis provides a rich complement to our current models. Taking its origin from psychopathological research, its goal is to explore how different variables (or nodes) are associated using graph theories.

**Methods.** The present study explored the use of network analysis using data from 125 informal caregivers of their partner with dementia (PwD). The included variables were recipient's dependency, self-efficacy, conflict within the family, dyadic adjustment, and caregiver's distress.

**Results.** The analysis suggests a complex network of interactions between variables. The core variable was not the caregiver's distress but rather their dyadic adjustment with their PwD. Variables were associated with caregiver distress through a large array of direct and indirect pathways and were associated with each other in the form of an asymmetric spider's web.

**Discussion.** This approach provides new elements in our conception of informal caregiving distress. First, it highlights the complexity of interactions between included variables, supporting their interdependence. Second, the network approach to risk models implies the idea of network activation, which reflects how individuals may face vicious and self-sustaining circles, redefining the notion of balance in well-being.

## Using Photovoice and Interpretative Phenomenological Analysis to explore caregiving motivations

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<sup>1</sup>Bangor University, United Kingdom

<sup>2</sup>Bar-Ilan University, Israel

**Background:** The adoption of a family caregiving role in the context of illness within the family is often taken for granted. This study explores informal caregivers' motivations to provide care in the context of their personal values and any perceived challenges or gains. **Methods:** Eight semi-structured interviews were conducted with caregivers providing care to stroke/brain injury patients. Photographs taken by caregivers to exemplify their caregiving experiences and motivations were used to promote discussion. This photo-elicitation method enabled greater insight into caregivers' perspectives and complemented the use of Interpretative Phenomenological Analysis (IPA) when applied to verbatim transcripts. **Findings:** Superordinate themes included: (1) significance of family, (2) caregiving obligations, (3) caring relationship, (4) challenges/gains and caregiving motivations, (5) caregiver's life story. The analysis revealed a broad range of psychological and social caregiving motivations and showed that caregiving motivations can be influenced by responses to specific caregiving challenges and gains. **Discussion:** Caregiving motivations map to a varying extent onto different spectrums of existing theoretical frameworks, although intrinsic and extrinsic motivations appear less distinct in caregivers' lived experiences than previously suggested. In line with the phenomenological method of analysis applied in this study, we use Frankl's existential theory to better understand the coexistence of different motivations and the nature of single complex motivations, which sometimes seem to be contradictory, mutually exclusive or ambiguous.

# Mental health, social support and health-enhancing behaviours

9:30 - 11:00

Bratislava

Hannah Durand

## Individual Differences in Spontaneous Self-Affirmation and Mental Health

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We test whether the tendency to report spontaneously self-affirming in response to threat is associated with better mental health and coping and the role that self-esteem and dispositional optimism play in these relationships. In two online studies we measured mental distress (depression and anxiety) and wellbeing. Study 1 (N = 110) was cross-sectional. In study 2 (N = 192) we collected the mental health measures one month after the individual difference and coping measures. Consistent with pre-registered hypotheses, spontaneous self-affirmation (measured by the Spontaneous Self-Affirmation Measure, Harris et al., 2019) predicted less anxiety, depression and avoidant coping, and greater wellbeing and non-avoidant coping. However, relationships involving self-esteem and optimism varied with the reported source of self-affirmation. A focus on personal strengths had positive relationships with mental health that were typically eliminated when controlling for self-esteem and optimism. A focus on valued social relations had positive relationships with wellbeing (but not distress), but only after controlling for self-esteem and optimism. A focus on values predicted neither distress nor wellbeing. In tests of mediation, the most robust finding involved strengths predicting less distress and greater wellbeing via less avoidant coping. Overall, the findings extend our understanding of spontaneous self-affirmation in health, coping and wellbeing and the role that self-esteem and optimism play in the relationships between spontaneous self-affirmation and mental health.

## The effect of discrimination on mental health: A meta-analysis of the causal evidence

C. Emmer<sup>1</sup>, J. Dorn<sup>1</sup>, J. Mata<sup>1</sup>

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In recent years, there has been considerable meta-analytic research on the correlational relationship between perceived discrimination and mental health, but no current extensive synthesis of the causal evidence. This work provides an overview and exploration of potential factors influencing the effect of discrimination on mental health. We analyzed data from a systematic literature search (36 studies; 3,698 participants; 76 effect sizes) for randomized controlled trials with manipulation of discrimination as predictor and mental health as outcome with a three-level random-effects model. Manipulation type (single event vs. pervasive), gender, and age were examined as potential moderators. Experimentally manipulated discrimination led to lower mental health ( $g = -0.24$ ). This overall effect remained significant when controlling for publication year, region, and methodological quality. There was substantial heterogeneity in effect sizes within studies ( $I^2 = 71\%$ ); nevertheless, all moderator hypotheses had to be rejected. Subgroup analyses showed a variation in effect sizes by discrimination type: sexism ( $g = -0.18$ ), racism ( $g = -0.29$ ), other forms of discrimination ( $g = -0.27$ ); and by mental health outcome: Self-directed (e.g., self-esteem;  $g = -.11$ ) and positive outcomes (e.g., positive affect;  $g = -0.12$ ) were less affected than negative outcomes (e.g., negative affect;  $g = -0.44$ ). Our results indicate that experimentally manipulated discrimination negatively impacts mental health. Future research should focus on explaining the heterogeneity of findings and investigate more diverse samples and forms of discrimination. Further, underlying mechanisms of discrimination perceptions and resilience and coping factors should be investigated.

## The role of self-compassion in palatable eating motives and choices

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**Background:** Making healthy food choices are key for reducing the risk of obesity and promoting good health. Theory and research suggest that self-compassion is a quality that can promote self-regulation of health-related behaviours, via a healthy affective balance. The current research investigated whether self-compassion is also associated with being less tempted to eat for hedonic reasons (i.e., palatable eating motives; PEM), and whether affective states may contribute to this association.

**Methods:** Data from the general population were collected online in a cross-sectional (N = 401), 2-week prospective (N = 289), and quasi-experimental study (N = 359). Participants in each study completed measures of self-compassion and PEM. Additional measures of positive and negative affect, and a palatable food choice task were completed in Study 3. Correlation and indirect effects analyses were conducted with and without covariates (sex, BMI) to assess the role of self-compassion in PEM.

**Findings:** In all three samples self-compassion was negatively associated with PEM ( $r$ 's from  $-.124$  to  $-.174$ ), and choosing palatable foods in Sample 3 ( $r = -.151$ ). Consistent with theory, higher levels of positive affect ( $b = .03$ ) and lower levels of negative affect ( $b = -.049$ ) partly explained the contribution of self-compassion to lower PEM scores, but not palatable food choices, in Sample 3.

**Discussion:** The current findings indicate that self-compassion is linked to weaker motivations to eat for hedonic reasons via a healthy affective balance. Cultivating self-compassion may be one way to help people manage food temptations and make healthier eating choices.

## Coping with primary dysmenorrhea: A qualitative analysis of period pain management among students who menstruate

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**Background:** Dysmenorrhea, or period pain, affects up to 95% of menstruating individuals and is the primary cause of educational absenteeism among students who menstruate worldwide. Cross-cultural evidence suggests that students may lack sufficient knowledge about their menstrual health, resulting in monthly self-management difficulties. The aim of the current study was to gather first-hand accounts of dysmenorrhea to understand common coping strategies used by students in Ireland with painful periods and to identify their unaddressed needs across physical, psychological, educational, and social domains.

**Methods:** This study used a qualitative design to collect and interpret individual accounts of dysmenorrhea from third-level students in Ireland. Data from 21 students were collected using semi-structured online interviews and analysed using reflexive thematic analysis.

**Findings:** Analysis resulted in the construction of six themes: (i) Pain management is self-directed trial-and-error, (ii) Home as safe haven, (iii) Prioritising productivity over pain, (iv) We're missing an option between 'normalise' and 'medicalise', (v) Cycle of censorship and concealment, and (vi) Bubbles of Solidarity in University. Overall, limited formal education on dysmenorrhea and prevailing negative attitudes towards menstruation create an unsupportive environment for students to learn adequate coping skills. Beyond education, menstrual stigma may also restrict the availability of clear management guidance in domestic and medical spheres.

**Discussion:** This study indicates that students in Ireland are inadequately prepared to cope with primary dysmenorrhea. The current findings have substantial implications for evaluating and reforming current menstrual education standards, in addition to clarifying the negative effects of social stigma on menstrual health literacy.



## The role of social support in a couple-based weight loss intervention for improving fertility

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**Background:** Social support is related to health behaviour change and health outcomes. Weight loss interventions help women and men reduce weight and, in women, increase chances of conception. We examined relationship processes in infertile women seeking pregnancy and their partners in a mixed-methods study of weight loss.

**Methods:** Couples (n=23) were randomised to one of three groups: both partners attended a weight loss programme together, the woman attended alone, or a waitlist control group. Due to COVID-related disruptions of programme delivery, participants in all groups received a similar experience i.e., reporting weekly weight and activity data to the weight loss provider and/or the research team over 6 months. Participants completed questionnaires and interviews to understand support processes.

**Findings:** Participants with higher weight at baseline reported higher diet support from their partners (women:  $r=0.20$ , partners:  $r=0.49$ ). Women and their partners changed their weight in each group (Women: attending together -3.45kg, attending alone -4.18kg, control -4.95kg, Partners: attending together -1.65kg, attending alone -1.02kg, control -1.04kg, group differences not significant). Across all groups, higher support for eating at baseline was associated with greater reductions in weight for women, -0.47kg, 95% CI (-1.07, 0.13) and partners, -0.42kg, 95% CI (-0.94, 0.09). Interview data suggests couples struggle to support their partner effectively during a weight loss attempt.

**Discussion:** The findings highlight the potential importance of social support for weight reduction in a couple-based weight loss programme. Future studies could benefit from the inclusion of an intervention component where couples learn ways to support each other.

## Preventing loneliness: Exploring students' desire for social distance from autistic peers of both genders

K. Žardeckaitė-Matulaitienė<sup>1</sup>, I. Muraškaitė<sup>1</sup>

<sup>1</sup>Vytautas Magnus University, Lithuania

**Background.** Autistic students report feeling lonely, rejected by peers which is associated with poorer mental and physical health. This study aims to evaluate the effect of gender and diagnosis disclosure on students' desire for social distance from autistic students and factors that could contribute to social distancing.

**Methods.** In this quasi-experimental study, each participant (N=303; 72.3% women; mean age - 22.37 years) was assigned to one of six vignettes describing neurotypical and autistic students of both genders. Social distance was evaluated by Social distance scale (Gillespie-Lynch et al., 2021). Contact type and quality was assessed by two items adapted from Gillespie Lynch et al., 2020 study. Knowledge about autism was measured by Participatory Autism Knowledge Measure (Gillespie et al., 2021). Social desirability was measured by The Balanced Inventory of Desirable Responding (Paulhus, 1991).

**Findings.** Results controlling for the social desirability and gender indicate that students wanted more social distance from autistic males compared to autistic females. Also, students expressed more social distance in autism non-disclosure conditions than in autism disclosure conditions. Greater knowledge about autism was significantly related to less desire for social distance from autistic students in both non-disclosure and disclosure conditions. Finally, higher quality of contact was associated with less desire for social distance from autistic students with disclosed diagnosis. Type of contact was not significantly related to expressed social distance.

**Discussion.** Findings suggests that diagnosis disclosure, greater knowledge about autism and pleasant contact with autistic people could contribute to students' willingness to engage with autistic peers.

# Interventions to improve self-management and treatment adherence

9:30 - 11:00

Kiev

Imogen Skene

## A Cochrane review of interventions for improving medication adherence in solid organ transplant recipients

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### Background

Non-adherence to immunosuppressant therapy is a significant concern following a solid organ transplant, given its association with graft failure. Adherence to immunosuppressant therapy is a modifiable patient behaviour, and different multicomponent approaches to improving adherence have emerged.

This review aimed to examine the effectiveness of interventions for improving adherence to immunosuppressant therapies in solid organ transplant recipients

### Methods

We searched the Cochrane Kidney and Transplant Register of Studies up to 11 October 2021.

All randomised controlled trials (RCTs), examining interventions to improve adherence following a solid organ transplant were included.

Risk of bias was assessed using the Cochrane tool. The ABC taxonomy for measuring medication adherence provided the analysis framework, and the primary outcomes were immunosuppressant medication initiation, implementation (taking adherence; dosing adherence; timing adherence; drug holidays) and persistence. Secondary outcomes were surrogate clinical markers of adherence.

### Main results

Forty studies involving 3841 participants were included. The majority of studies (80%) were conducted with kidney transplant recipients. There was evidence of improved taking adherence in the intervention group (RR 1.11, 95% CI 1.03 to 1.20) and improved dosing adherence in the intervention group (RR 1.20, 95% CI 1.04 to 1.37. .

### Conclusions

Interventions to improve taking and dosing adherence to immunosuppressant therapy may be effective, however our findings suggest that current evidence in support of interventions to improve adherence to immunosuppressant therapy is overall of low methodological quality, attributable to small sample sizes, and heterogeneity identified for the types of interventions.

## Developing a theory-driven, evidence-based, complex intervention to improve treatment adherence in tuberculosis: the IMPACT study

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**Background.** Despite being a curable disease, tuberculosis (TB) remains a public health concern. This relates in part to poor treatment completion, and thus methods that improve adherence are central to global TB control. The development of effective adherence interventions requires an understanding of how context influences patient and provider behaviour. A theory- and evidence- based approach therefore enables pragmatic and relevant adherence support to be developed. We describe this for an intervention to support adherence to anti-TB treatment in the United Kingdom (UK) – the IMPACT study.

**Methods.** Formative research included conducting scoping reviews, interviews with patients, carers, and healthcare providers, and clinic observations. Evidence was then mapped to and used to operationalise the Perceptions and Practicalities Approach (PaPa) to design relevant intervention components and content. An Intervention Development Group (IDG), including relevant stakeholders, were also consulted to adapt the intervention to local clinical settings.

**Findings.** Theory and evidence informed the design of pragmatic, deliverable, and manualised intervention components, including: (1) an enhanced, structured, risk assessment to more comprehensively and systematically identify risk factors for non-adherence, plus locally-adapted accompanying guidance to mitigate these; (2) animated educational videos; and (3) an interactive patient booklet.

**Discussion.** We report the development of a multi-component, pragmatic, manualised intervention to improve adherence to treatment within UK TB services. We demonstrate a process whereby behavioural medicine theory, evidence, and stakeholder input are utilised to produce a relevant and implementable intervention. The IMPACT intervention is currently being tested in a pilot, feasibility trial.

## Effectiveness of an mHealth intervention targeting treatment adherence in breast cancer: a randomized controlled trial

L. Hughes<sup>1</sup>, M. Zuchowski<sup>1</sup>, R. Moss-Morris<sup>1</sup>, M. Hunter<sup>1</sup>, S. Norton<sup>1</sup>, Z. Moon<sup>1</sup>

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### Background

Hormone therapy (HT) significantly reduces mortality in oestrogen-receptor positive breast cancer survivors, but non-adherence stands at ~50%. myHT is an evidence-based mHealth intervention using cognitive-behavioural and behaviour change techniques to target intentional and unintentional non-adherence. This study tested the effectiveness of myHT to improve HT adherence at 12-months.

### Methods

Women >18 years, self-reporting low HT adherence were eligible. A two-armed, parallel group, multi-centre randomised control trial with 254 women was completed. Participants were randomly assigned to either the myHT intervention or waitlist control. Assessments took place at 6-weeks, 6-months, and 12-months post-randomisation. The primary outcome was self-reported adherence measured at 12 months using the Medication Adherence Rating Scale. Intention to treat analysis was used.

### Findings

The intervention group reported significantly better adherence at all post-randomisation assessments with medium effects ( $g=0.51-0.53$ ,  $p<0.001$ ) at 6-weeks and 6-months and small effects ( $g=0.27$ ,  $p=0.016$ ) at 12-months. The treatment group were 3.03 (1.38-6.66) times more likely to report high intentional adherence at 12-months and 2.04 (1.07-3.89) times more likely to report not forgetting at 6-months than the control group. There was a moderate-large significant effect at all time points for satisfaction with information about treatment ( $g=0.42-0.48$ ,  $p<0.001$ ).

### Discussion

The myHT app is a theory-based 6-week self-administered mHealth intervention that significantly improves adherence to hormone therapy for up to 12 months. Access, acceptability and satisfaction was high and resulted in improved quality of life and symptom management. myHT is an effective intervention with low clinical burden with potential for transdiagnostic application.

## Sustaining self-management behaviours after attending type 2 diabetes self-management support intervention: A qualitative evidence synthesis

M. Carvalho<sup>1</sup>, P. Dunne<sup>2</sup>, D. Kwasnicka<sup>3,4</sup>, M. Byrne<sup>1</sup>, J. Mc Sharry<sup>1</sup>

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<sup>2</sup>School of Agriculture and Food Science, University College Dublin, Ireland

<sup>3</sup>Faculty of Psychology, SWPS University of Social Sciences and Humanities, Aleksandra Ostrowskiego, Wrocław, Poland

<sup>4</sup>NHMRC CRE in Digital Technology to Transform Chronic Disease Outcomes, Melbourne School of Population and Global Health, University of Melbourne, Melbourne, Australia

**Background:** Although attendance at self-management support interventions is associated with improved health outcomes in people with type 2 diabetes, participants often struggle to sustain positive changes to self-management behaviours after the intervention. This qualitative evidence synthesis aimed to identify and synthesise qualitative research on barriers and enablers to sustaining self-management behaviours after attending a type 2 diabetes self-management support intervention.

**Methods:** A systematic search was conducted in eight electronic databases to September 2021. Using the 'best-fit' framework synthesis approach, barriers and enablers were coded to the five Kwasnicka's behaviour change maintenance-relevant theoretical themes - self-regulation, resources, maintenance motives, habit, and environmental and social influences - and categorised into the Capability-Opportunity-Motivation-Behaviour (COM-B) model. Inductive coding was used to develop sub-themes within each pre-defined theoretical theme to capture the barriers and enablers identified.

**Findings:** Ten qualitative studies were included. The five Kwasnicka's behaviour change maintenance-relevant theoretical themes provided a good fit for the data. Nineteen sub-themes were developed within the five theoretical themes. The most frequently cited barriers were coded to the theoretical themes: resources (e.g., concurrent health problems) and environmental and social influences (e.g., social support). Frequently cited enablers were coded to the themes: self-regulation (e.g., coping with behavioural barriers), habit (e.g., habit formation) and maintenance motives (e.g., satisfaction with behaviour change outcomes).

**Discussion:** People with type 2 diabetes experience multiple barriers and enablers to sustain changes made to self-management behaviours. Findings from this synthesis can inform the development and refinement of interventions to better support sustained engagement in self-management behaviours.

## Exploring attitudes towards financial incentives to design a medication adherence intervention for children with asthma

J. Hine<sup>1</sup>, C. Pearce<sup>2</sup>, G. Judah<sup>1</sup>, L. Fleming<sup>1</sup>, A. DeSimoni<sup>3</sup>, A. Bush<sup>1</sup>, C. Griffiths<sup>3</sup>

<sup>1</sup>Imperial College London, United Kingdom

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**Background:** Medication adherence in children with asthma is poor. Many interventions see short-term adherence improvements, but these often decline. There is growing evidence for the effectiveness of financial incentives to promote medication adherence but research in children is limited. The aim of this study was to explore attitudes towards financial incentives and, if they are acceptable, how they could best be used in an adherence intervention for children with asthma.

**Methods:** Focus groups were conducted with adolescents with asthma (previously enrolled in a feasibility study using financial incentives, n=10), their parents, and healthcare professionals working with children with asthma. Healthcare professionals were not involved in the feasibility study. A semi-structured topic guide was used, and inductive thematic analysis conducted. Focus group findings were complemented by feasibility study exit interviews with adolescents, and discussions with a patient and public involvement (PPI) group of children with asthma.

**Findings:** Three focus groups were conducted; 1 with adolescents (n=2, ages 15, 17), 1 with parents (n=3, mothers) and 1 with healthcare professionals (n=12). Incentives were felt to be acceptable. Four themes were identified: 1) designing an incentives intervention, 2) delivering an incentives intervention 3) individual interactions with incentives, and 4) mechanisms of change. Practical implementation was informed by the PPI feedback and exit interviews.

**Discussion:** Findings provided practical recommendations to design an effective financial incentives intervention to improve adherence in children with asthma. Recommendations covered: type and value of financial incentive, use of gain-framed incentives, regular delivery of incentives and visualising progress through technology.



## A systematic review of Emergency Department interventions to improve long-term management of asthma

I. Skene<sup>1,2</sup>, E. Kinley<sup>2,3</sup>, K. Pike<sup>4</sup>, C. Griffiths<sup>1,2</sup>, P. Pfeffer<sup>1</sup>, L. Steed<sup>1,2</sup>

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<sup>3</sup>University of Edinburgh, United Kingdom

<sup>4</sup>Bristol Royal Hospital for Children, United Kingdom

**Background:** Emergency Departments (ED) provide essential care for patients having an acute asthma attack but also provide an opportunity to improve patients' long-term management. Further they have the potential to reach a hard-to-access population and provide a 'reachable, in addition to 'teachable', moment' to improve asthma control.

This review aimed to evaluate the effectiveness of ED, long-term management interventions on asthma outcomes, identify the characteristics and content of the interventions and explore the barriers and facilitators to the implementation of the interventions.

**Methods:** The integrative review protocol was registered on PROSPERO. We systematically searched seven electronic databases, research registers, reference lists of included studies and reviews according to inclusion criteria of adolescents/adults receiving intervention solely in the ED. Methodological quality was assessed using the Mixed Methods Appraisal Tool, and informed study interpretation. Interventions were coded using the theoretical domains framework and findings were summarised narratively.

**Findings:** The search identified 3527 records which following double screening yielded 12 papers meeting the inclusion criteria reporting on 10 interventions (6 randomised controlled trials and 4 non-randomised studies). Six interventions reported statistically significant improvements in one or more outcome measures, including unscheduled healthcare, asthma control, asthma knowledge or quality of life. We identified limited use of theory in the intervention design and content typically only addressing knowledge or resource provision. Brief and low intensity interventions were more implementable.

**Discussion:** ED Interventions may be capable of improving long-term asthma management outcomes, however would benefit from utilizing more behaviour change theory and must consider implementation issues.

# Health psychology methods: measurement and validity

11:30 - 13:00

London

Thomas Webb

## What we Measure Matters: Core Outcome Sets and Health Psychology

K. Matvienko-Sikar<sup>1</sup>

<sup>1</sup>School of Public Health, University College Cork, Ireland

**Background:** Core Outcome Sets (COS) are standardised sets of outcomes, agreed upon by stakeholders, that should be the minimum outcomes measured and reported in all trials in particular health areas. To date, COS have received little attention in health psychology. This is despite benefits including improved evidence syntheses and evaluation of intervention effectiveness, which are central to health psychology research.

**Methods:** This presentation outlines what COS are and why they are important for health psychology. It will do so by drawing on examples from recent and on-going research, including a recently developed COS for infant feeding interventions to prevent childhood obesity. Synergies between COS and health psychology will also be presented, including a review current state-of-the-art and a new project using the Behaviour Change Wheel to identify and prioritise strategies for enhancing COS uptake in health research. This project uses existing literature to identify intervention functions and behaviour change techniques to enhance COS use, that are then prioritised by stakeholders in a consensus meeting.

**Findings:** COS use can improve evidence syntheses and evaluation of effectiveness of health psychology interventions. COS can also reduce research waste, selective outcome reporting and outcome heterogeneity in health psychology research, because COS are the minimum outcomes that should be measured and reported. Similarly, COS can enhance open science conduct in health psychology research. Health psychology can also inform COS use, via behaviour change strategies and approaches to enhance COS uptake.

**Discussion:** COS have potential to enhance health psychology research, including how we conduct evidence syntheses, determine what interventions are effective (or not), and engage Open Science practices. Health psychology can also contribute to the development and uptake of COS and can therefore inform and be informed by COS use, with important impact and benefits for both.

## Can we trust in self-reported average daily fruit and vegetable intake? Sometimes!

V. Egele<sup>1</sup>, E. Klopp<sup>1</sup>, R. Stark<sup>1</sup>

<sup>1</sup>Saarland University, Germany

**Background:** Retrospective self-reports are commonly used to assess dietary intake. As it is unclear whether the underlying assumptions for valid self-reports are met, their use is criticized: subjects have to recall their behavior of all days in the retention interval, consider the behavior of all days in the retention interval in their responses, and weigh the behavior of all days in the retention interval equally. This study examines whether the assumptions for retrospective self-reports are met and whether differences in self-report performance are relevant regarding the assumptions of retrospective self-reports.

**Methods:** 92 participants aged 18-61 participated in seven sequential 24-hour recalls and thereafter a retrospective 7-day recall concerning their intake of fruit and vegetables. A multiple linear regression approach was used to examine the relation between the daily reported dietary intake and the 7-day recall.

**Findings:** In the overall sample, the requirements for retrospective self-reports are not tenable. Distinguishing good and poor self-reporters based on an objective criterion shows that the requirements are significantly more likely to be met for good self-reporters than for poor self-reporters, but also indicate a need for further differentiation for the food categories covered.

**Discussion:** Good self-reporters consider the behavior of almost all days of the retention interval whereas poor self-reporters base their retrospective self-reports mostly on recency effects. The underlying requirements for retrospective self-reports appear to be met in two-thirds of the sample, supporting the use of retrospective self-reports to capture dietary behavior. Future research should investigate criteria separating good from poor self-reporters.

## A systematic review of how existing ontologies characterise behaviour

H. Baird<sup>1</sup>, P. Norman<sup>1</sup>, T. Webb<sup>1</sup>, V. Huddy<sup>1</sup>, A. Scott<sup>2</sup>, R. Rowe<sup>1</sup>, F.S. Maikore<sup>1</sup>, S. Mazumdar<sup>1</sup>, V. Lanfranchi<sup>1</sup>, F. Ciravegna<sup>1</sup>

<sup>1</sup>University of Sheffield, United Kingdom

<sup>2</sup>Keele University, United Kingdom

**Background:** Behaviour is key to understanding and providing solutions to many health challenges. However, the lack of a framework for organising and conceptualising behaviour has been cited as a significant barrier to scientific advancement. Ontologies can provide a powerful and dynamic method for describing and differentiating behaviours, but it is currently unclear how behaviour has been characterised in existing ontologies.

**Methods:** A search of four online repositories (e.g., Bioportal) was conducted, identifying 1,073 unique ontologies. Each ontology was screened to identify those that may be relevant to understanding behaviour. We then coded each ontology according to the different types of behaviours (and behavioural domains) that were examined, and coded constructs that could be used to describe different behaviours (e.g., how a behaviour was measured).

**Findings:** The search identified 70 ontologies that were relevant to understanding behaviour and over half of the ontologies (54%) considered health behaviours, with physical activity (29%), substance use (23%), adherence (10%), and food consumption (10%) appearing most frequently. Ontologies also differed in their breadth and level of specificity. For example, while one ontology might consider “eating” as a behaviour, another might look at the consumption of specific food groups.

**Discussion:** While some behavioural domains (e.g., health) were well represented in existing ontologies, the review did not find an existing ontology that encompassed the full range of human behaviour. The review also highlighted a lack of interoperability between existing ontologies. These findings suggest that there is a need to develop an ontology for human behaviour.

# Preventive health behaviours

11:30 - 13:00

Rome

Ben Gardner

## Experimental evidence of gender differences regarding the unintended effects of treatability information on cancer prevention

Y. Wu<sup>1</sup>, A. Dijkstra<sup>1</sup>, S. Dalley<sup>1</sup>

<sup>1</sup>University of Groningen, Netherlands

The treatability information (TI) on some type of cancer influences the individuals' intention to engage in the corresponding prevention behavior (i.e., congruent effects). Moreover, TI may be also influential on the individuals' motivation to protect from other types of cancer (i.e., crossover effects). Thus, we conducted an online experiment in the Dutch population to see if the treatability information of skin cancer and stomach cancer has not only the congruent effects but also the crossover effects on their prevention behaviors. We also explored gender differences in such effects. A 2 (Low TI versus High TI) × 2 (stomach cancer versus skin cancer) design with a hanging control group was employed in this experiment. Participants (N = 520) were randomly assigned to one of the five conditions. Regarding both skin cancer and stomach cancer, fear, intention to engage in cancer prevention, and website choice were assessed as six dependent variables. Analyses indicated that the congruent effects and crossover effects of TI were only present in males: The TI concerning skin cancer (stomach cancer) influenced both their skin cancer prevention and stomach prevention. The findings in this study suggest that we should be cautious with the unintended effects of TI in communication, and different communication strategies should be applied to men and women.

## **SOFTPEERS: Peer-to-peer prevention program of binge-drinking in adolescents. A pilot experimental study**

F. Cousson-Gélie<sup>1,2</sup>, O. Iareyre<sup>1</sup>, S. Ricupero<sup>1</sup>, E. Charton<sup>3</sup>, m. carayol<sup>4</sup>, A. Anota<sup>3</sup>, M. Gourlan<sup>2</sup>

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<sup>3</sup>Centre Leon Berard, France

<sup>4</sup>Université Toulon, France

**Background:** In 2017, almost half of French 17-year-old adolescents reported a binge drinking episode ( $\geq 5$  glasses of alcohol on a single occasion) in the past month. The SOFTPEERS program is a trans-contextual and peer-based intervention aiming at decreasing binge-drinking episodes in high school students.

**Methods:** The design was a randomized controlled study comparing an intervention group and a control group with high schools taken as cluster units. A total of 9 high schools (4 in the intervention group and 5 in the control group) and 2021 students participated in the study. The average age of the students was 15.6 years (SD = 0.7) and 54.5% were girls.

**Findings:** The results show a significant interaction effect between time and group on the proportion of students who reported a binge drinking episode in the last 30 days ( $p < 0.001$ ). In the control group, 33.6% of the students reported a binge drinking in the last 30 days before the intervention and 42.8% after the intervention, whereas in the intervention group, 28% of the students reported a binge drinking in the last 30 days before the program and 29.30% made this same declaration after the program.

**Discussion:** The results suggest that Softpeers prevents an increase in the incidence of binge drinking among the targeted youths, which will need to be confirmed by a larger research study. In addition, psychosocial mechanisms will need to be investigated by analysing the variables in the transcontextual model collected in this study to better understand how the program works.



## Understanding the impact of motivational interviewing-supported behaviour change on caries prevention in high-risk children

M. Edwards<sup>1</sup>, P. Adair<sup>1</sup>, C. Pine<sup>2</sup>, G. Burnside<sup>3</sup>

<sup>1</sup>Queen's University Belfast, United Kingdom

<sup>2</sup>Queen Mary University of London, United Kingdom

<sup>3</sup>University of Liverpool, United Kingdom

**Background:** Understanding why and how behavioural interventions work is crucial to identifying mechanisms of change to explain treatment efficacy. This study analyses change processes from a successful randomised controlled trial (Dental RECUR) including: parental attitudes and beliefs surrounding toothbrushing and dietary behaviour; and, behaviour change techniques identified to support the achievement of goals in the prevention of future caries.

**Methods:** Participants were parents of 5-7-year-old children due to have teeth extracted because of dental caries recruited at twelve centres across the U.K. Participants took part in a 30-minute therapeutic conversation guided by a dental nurse. Twenty-two interviews were transcribed and thematically analysed to explore parental approach to changing familial toothbrushing and dietary behaviour.

**Findings:** Four themes were identified relating to toothbrushing (decisions dictated by path of least resistance, parental views of responsibility, lack of understanding of existing knowledge, extraction experience eliciting motivation for change) and dietary behaviour (parents' perception and knowledge of effects of sugar on oral health, challenges of dietary control, changing eating behaviours and parental control, parents view of oral health and extraction process).

**Discussion:** Analysing processes of behaviour change within RCTs can help identify what leads to successful outcomes and guide future interventions. The findings suggest that knowledge alone is insufficient to change behaviour, and that temptation, self-efficacy, and decisional balance are important constructs in predicting successful behaviour change.

## Nasal sprays for respiratory tract infection prevention; intervention development using the Person-Based Approach

L. Dennison<sup>1</sup>, S. Williamson<sup>1</sup>, K. Greenwell<sup>1</sup>, J. Denison-Day<sup>1</sup>, F. Mowbray<sup>2</sup>, S. Richards-Hall<sup>3</sup>, D. Smith<sup>4</sup>, K. Bradbury<sup>1</sup>, B. Ainsworth<sup>5</sup>, P. Little<sup>1</sup>, A. Geraghty<sup>1</sup>, L. Yardley<sup>1,6</sup>

<sup>1</sup>University of Southampton, United Kingdom

<sup>2</sup>Kings College London, United Kingdom

<sup>3</sup>None: PPI panel member, United Kingdom

<sup>4</sup>None- PPI panel member, United Kingdom

<sup>5</sup>University of Bath, United Kingdom

<sup>6</sup>University of Bristol, United Kingdom

### BACKGROUND

Respiratory tract infections (RTIs) such as colds and flu lead to social and occupational disruption. For patients with certain health conditions they can cause disease exacerbations and hospitalisation. An emerging prevention approach is the use of nasal sprays. We used the person-based approach (PBA) to develop an intervention to encourage and support nasal spray use. Within our intervention development work we conducted two qualitative studies exploring perceptions of nasal sprays for prevention.

### METHODS

In Study 1 we identified 407 online consumer reviews of a RTI prevention nasal spray and used thematic analysis to identify barriers and facilitators to use. In Study 2, 13 patients who experience recurrent infections and/or risk factors for severe infections were interviewed about their reactions to and experiences of an early version of our sprays intervention. A rapid analysis approach guided the refinement of the intervention. We subsequently re-analysed the interviews using inductive thematic analysis.

### RESULTS

Both studies identified important influences on nasal spray uptake and continued use including: high motivation to avoid RTIs, particularly during the COVID-19 pandemic; fatalistic views about RTIs; beliefs about alternative prevention methods; perceived complexity and familiarity of sprays; personal experiences of apparent spray success or failure; tolerating or avoiding side-effects; medication concerns; and the unpleasantness of the nose.

### DISCUSSION

People who suffer regular or severe RTIs are interested in nasal sprays for prevention. They also have doubts, concerns and may encounter problems using sprays. Many of these may be reduced or eliminated through behavioural interventions which target these issues.

## The Challenges for Preventing Childhood Obesity in Vulnerable Population during the COVID-19 Pandemic in Korea

J. Park<sup>1</sup>, S. Won<sup>1</sup>

<sup>1</sup>Inje University, South Korea

**Background:** The COVID-19 outbreak and associated social distancing and lockdowns at schools and public facilities have led to dramatic increase of screen time and dependency on high-calorie foods of children. A number of studies have pointed out the negative impact of prolonged the COVID-19 pandemic on health disparities among childhood obesity. In this presentation, we introduce the development process of obesity prevention program for vulnerable children considering the COVID-19 pandemic in Korea.

**Methods:** The program is developed applying Intervention Mapping (IM) six steps, which starts with a need assessment, uses theory and empirical research to develop a detailed intervention plan, and anticipates program implementation and evaluation.

**Results:** The program consisted of five sessions of the 'interactive live virtual educational class' to improve children's healthy eating and physical activity. Participants watched the story, and then a real-time discussion based on their experiences was conducted using Zoom technology. In the story, two virtual school-aged characters, called a "healthy YouTuber" appeared and they shared the success experiences of losing weight in their daily life. All synopsis in the story were developed based on the circumstances that children from vulnerable families could often experience in Korea. Theoretical methods including role modeling, persuasive communication and consciousness raising were applied.

**Discussion:** IM provides framework for developing systematic and effective program based on theories and evidence. The 'interactive virtual educational class' is one of the optimal options to reach at-risk population and ultimately to control their weight during the COVID-19 pandemic.

# Mind the digital divide: How to reduce social inequalities in digital health promotion?

11:30 - 13:00

Paris

Laura König and Max Western

## Mind the digital divide: How to reduce social inequalities in digital health promotion?

L. König<sup>1</sup>, M. Western<sup>2</sup>, E. Smit<sup>3</sup>, E. Neter<sup>4</sup>, F. Sniehotta<sup>5</sup>

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<sup>4</sup>Ruppin Academic Center, Israel

<sup>5</sup>University of Heidelberg, Germany

**Purpose:** Deprived populations and minorities may benefit less from digital interventions than people with higher socioeconomic status. What can health psychologists and public health researchers do to understand and tackle this digital divide?

**Objectives:** This roundtable seeks to (1) present the current evidence on social inequality in digital health promotion, (2) identify reasons for this digital divide, including potential psychological mechanisms, and (3) discuss how to move forward to solve this issue, both in terms of a research agenda and practical solutions. Ultimately, this roundtable aims to raise awareness of social inequality in digital health promotion and stimulate further research and practical action.

**Rationale:** In the last decade, there has been an acceleration towards digital solutions and respective policy for health promotion and healthcare, and an exponential rise in digital intervention research. This development has been further promoted by the COVID-19 pandemic, which required healthcare providers to seek digital solutions for continued care. Technology is often presented as a solution to overcome geographical barriers and improve access to healthcare to underserved communities. However, evidence supporting these claims is sparse; in fact, research suggests that digital interventions may be less frequently used by and less effective in deprived populations.

**Summary:** Convenors Laura König and Max Western will open the session with a brief introduction. Afterwards, two presentations regarding the effectiveness of digital interventions for physical activity promotion (Max Western) and the uptake of, engagement with, and effectiveness of mobile interventions for weight-related behaviours (Eline Smit) will set the scene on current research. We will then hear from Efrat Neter, who will talk about their work on digital health literacy (the 'second digital divide') as a potential intervention target, and Falko Sniehotta, who will present a case study. The presentations will be followed by a panel discussion exploring the underlying mechanisms of the digital divide. Building on this, the second part of this session will focus on small group discussions in which the attendees will discuss avenues for future research and action-oriented solutions for research and practice with the panelists. We aim to summarize the results of this exercise in a white paper to stimulate further discussion, research, and the development and implementation of the solutions in practice in the broader health psychology and public health community.

# Novel psycho-technological solutions for alleviating caregivers' distress: The good, the bad, and the robot...

11:30 - 13:00

Berlin

Noa Vilchinsky

## AnhörigCoach: Role of culture in persuasive design of e-coaching application in the Swedish context

S. Premanandan<sup>1</sup>, P. Ågerfalk<sup>1</sup>

<sup>1</sup>Uppsala University, Sweden

A rising aging population worldwide has significantly strained existing formal care structures and there has been a shift towards home-based care or informal care leading to tremendous burden on informal caregivers. The recent pandemic has added additional difficulties to informal caregivers and caregiver organizations have faced significant hurdles to provide support to caregivers. Numerous support activities moved online and IT was being used in a significant way. Hence, this research recognizes the need for an e-coaching application to support caregivers for easy access to information and support services along with helping caregivers in self-care. An e-coaching system is a technology-based solution to motivate people to change their attitude and behavior. Owing to caregivers' low levels of digital skills and anxieties about using computer-based support, IT solutions have been resisted by caregivers and therefore, this study plans to use persuasive design framework to design engaging and usable e-coaching applications for informal caregivers in the Swedish context. Persuasive designing has been known to include design elements like self-tracking, dialogue support and feedback elements that encourage or motivate users to achieve a goal. Since Sweden has a growing immigrant population owing to immigration, the research plans to explore the role of culture in designing this e-coaching system. For this symposium, we present a theory-informed User Interface (UI) prototype that is designed to the needs of Swedish natives and immigrant caregivers. We use the theory of reasoned action, persuasive system design model and culture theory by Hofstede to inform this prototype.

## Needs and issues towards an eHealth tool to support young adult caregivers: A usability study

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<sup>3</sup>Centre for Socio-Economic Research on Ageing, INRCA IRCCS, National Institute of Health and Science, Italy

<sup>4</sup>University of Groningen, Netherlands

**Background:** Informal caregivers (ICGs) provide care to their family or friends in case of an illness, disability, or frailty. They often do so out of love, but it can also be burdensome. eHealth solutions to support ICGs are being developed and integrated into ICG's lives. However, different ICGs may have different needs and issues as a caregiver, which may result in different design requirements (e.g. content, aesthetics) for eHealth solutions. Therefore, we aim to explore the needs and preferences towards the usability of eHealth tools to support student young adult caregivers (YACs) aged between 18 and 25.

**Method:** We conducted an online usability testing with 13 student YACs in the Netherlands. The study targeted towards the content, navigation and aesthetics, of eHealth tool. For this, we used an already existing eHealth tool, 'MantelzorgBalans'. MantelzorgBalans aims to support ICGs by offering information to balance their care activities. We analyzed the data using the thematic analysis method.

**Findings:** Our findings suggest that YACs preferred to have information regarding the type of professional mental health support available for them. They found the quotes and success stories of other ICGs helpful in understanding the information presented in the tool. Although, they preferred quotes from ICGs in their age group. In terms of aesthetics, YACs preferred more visuals and bright colors instead of just textual information.

**Discussion:** Knowing the needs of specific groups of ICGs can help develop tailored solutions to improve the quality of life of the ICGs and their CR.



## Internet-based interventions for alleviating caregivers' distress: from drafts to interventions

M. Semonella<sup>1</sup>, A. Mauri<sup>2</sup>, G. Pietrabissa<sup>2,3</sup>, R. Dekel<sup>4</sup>, G. Andersson<sup>5,6</sup>, N. Vilchinsky<sup>7</sup>

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The phenomenon of providing informal care – the unpaid care provided to a family member or a friend - is growing, mostly due to the growth in the aging population and the increasing prevalence of chronic illnesses. Taking on the caregiving role may lead to caregiver burden. It is, therefore, necessary to alleviate their burden by developing suitable and feasible interventions. Further to this point, delivering support via using internet-based interventions, may reduce geographical and financial barriers which might prevent caregivers from engaging in such interventions, and thus increase their scalability. Indeed, our study is focusing on alleviating caregiver burden via an internet-based intervention that aims to support informal caregivers in Italy. Nevertheless, many innovations are rejected by stakeholders mostly due to usability problems such as incomplete content, ineffective system design, and lack of ease to use, causing a mismatch between the systems and users' needs and characteristics. Hence, a usability study has been conducted to evaluate the platform, preventing frustration and irritation among participants, and consequently dropout. Thus, during the symposium, we would like to show information regarding the design of the platform, providing knowledge concerning different and available usability tests and tasks (e.g., task analysis methods), usability metrics (e.g., frequency of errors), and usability questionnaires (e.g., System Usability Scale). Moreover, we plan to engage the audience with a short usability test, furnishing them a demo account to enter the platform and being able to navigate between the therapeutic modules of the internet-based intervention, following usability tasks and tests.

## Robots to the rescue: Informal Caregivers Disclose Increasingly More to a Social Robot Over Time

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Informal caregivers often struggle to cope with both the stress and the burdens of the caregiving situation. Digital solutions are often discussed as useful applications to monitor caregivers' health and well-being, by providing early intervention and support. Given the importance of self-disclosure for psychological health, here we investigated the potential of employing a social robot as a tool for delivering ecological momentary intervention (EMI) for eliciting self-disclosure among informal caregivers over time. Social robots, autonomous machines that interact and communicate with humans by following social behaviours and rules relevant to their role, are often discussed as a potential health intervention, and could encourage humans to self-disclose information and emotions due to their embodiment and human-like design. We conducted a longitudinal mediated online experiment across a five-week period (10 sessions in total), measuring participants' disclosure duration (in seconds) and length (in number of words). Our results show a positive trend where informal caregivers speak for a longer time and share more information in their disclosures to a social robot across the five-week period. These results provide useful evidence supporting the deployment of social robots as intervention tools. It is particularly interesting due to the unique life situation of informal caregivers. These individuals are under significant stress and deal with many complex burdens. Accordingly, here we can learn about the value of social robot-led interactions with informal caregivers and other stressed individuals who may not be coping with a mental health diagnosis but are living with considerably difficult life situations.

# The process of investigating a new infections: description, prediction, and intervention to reduce COVID-19 transmission

11:30 - 13:00

Vienna

Marie Johnston

## Using readily available social media data to describe transmission-reducing behavioural sentiments during the Covid pandemic

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**Background:** At the outset of the pandemic, in absence of a Covid-19 medical intervention, transmission reducing behaviours (TRB) were the only way to prevent transmission. The Scottish Government enforced key behavioral measures including mandatory lockdown, 2-meter distancing, and wearing of face-coverings. The aim of this paper is to understand TRB Scottish public sentiments and behaviours in relation to government guidelines during the first year of the COVID-19 pandemic.

**Methods:** A government public health timeline was constructed highlighting key dates/announcements in Scotland. This timeline was superimposed on TRB Google search trends and TRB social media twitter mining for sentiment analysis conducted between 01/03/2020 and 31/03/2021. Population TRB behavioural adherence data was collated from the CHARIS project.

**Results:** The increased Google TRB search results, tweet sentiments, and adherence to TRBs demonstrated a pattern consistent with changing guidelines. Extensions in lockdown lengths were met with negative sentiments witnessed in April 2020, January 2021 and February 2021, in addition to mandatory face coverings in the workplace (October 2020). Positive sentiments were associated with easing of rules, such as phased return to campus learning in July 2020 and August 2020, and the reduction in the self-isolation period in December 2020. Self-report TRB data indicate high adherence to guidelines.

**Conclusions:** While sentiments wavered in polarity, behaviour consistently was adherent even as guidelines changed. Sentiment analysis of social media used in conjunction with self-reported behavioral data plotted against key time frames, can enable a deeper understanding of public perceptions which may assist future public health guideline announcements

## Describing the late response to COVID-19; transmission-reducing behaviours from the CHARIS representative national project

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**Background:** Despite extensive COVID-19 vaccination programmes, COVID-19 still has unprecedented consequences on population health. With rising infection cases, and new infection strains, there remains a need for adherence to transmission-reducing behaviours (TRBs) such as physical distancing, wearing face covering, and getting vaccinated. We describe adherence to eleven TRBs advised by national governments.

**Methods:** Self-reported adherence to TRBs and sociodemographic variables were assessed just before Christmas 2021. Data was collected through a 20-minute telephone survey with a nationally representative random sample of 500 adults in Scotland.

**Findings:** There was high heterogeneity between the different TRBs. Adherence to wearing face covering (98%) and hand hygiene (93%) was highest. Much lower was the adherence to measures associated with prevention of aerosol contact, specifically meeting people outside instead of indoors (37%) and opening the windows when having visitors (50%). Sociodemographic measures were significantly associated with some TRBs, for instance women were more likely to wear face coverings and avoid crowded places, and people aged over 55 were more likely to adhere to physical distancing.

**Discussion:** The CHARIS project continues to describe adherence levels to specific transmission reducing behaviours. Christmas, for many a time of meeting people indoors, presented a unique challenge. Those behaviours not interfering with indoor celebrations were generally well adhered to. Meeting outside or opening windows when having visitors were less well adhered to despite being potentially of particular importance during this time.

## Using three theories to understand adherence to COVID transmission-reducing behaviours

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### Background

Behaviour has played a central role in the control of the pandemic. Beliefs about risk, illness and behaviour all predict behaviour of relevance to the pandemic. Including all three types of belief in the same study means we can determine which beliefs have greatest influence on behaviour. The CHARIS project investigated beliefs about risk (Protection Motivation Theory (PMT)), illness (Common-Sense Self-Regulation Model (CS-SRM)), and behaviours (Reasoned Action Approach (RAA)) to understand behaviour during the pandemic.

### Method

A representative Scottish national sample of 500 people were interviewed, each week, starting one week after lockdown (3rd June-15th July 2020, n=2969) and then fortnightly (16th July-8th Oct 2020, n=3507) by telephone. We assessed, sociodemographic, theory-based beliefs and self-reported adherence to physical distancing, wearing a face covering and hand hygiene behaviours, on a 5-point scale of frequency.

### Results

All three theories predicted all three TRBs. Three beliefs explained each of the three TRBs for all social groups: two beliefs about behaviour (self-efficacy and intention) and causal beliefs about the illness (e.g. Covid is caused by my own behaviour or behaviour of others). Intention and self-efficacy were the strongest predictors of the three behaviours throughout.

### Conclusions

Many public health campaigns have focussed on risk or illness-based messaging. However, CHARIS data indicates that beliefs about behaviour are more consistent and stronger predictors of adherence. This study has identified beliefs associated with adherence, the role of these beliefs in changing adherence would benefit from experimental studies better able to test causal relationships.

## Time to test: Using a messaging intervention to increase self-efficacy for PCR-testing when symptomatic

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**Background:** The CHARIS2 (Covid-19 Health and Adherence Research In Scotland) project shows that self-efficacy is important in adherence to transmission-reducing behaviours (i.e., PCR testing). We assessed PCR-testing when symptomatic, and whether we can increase self-efficacy and intention through a short message.

**Methods:** Data collected December 2021 through telephone surveys with a randomly selected nationally representative sample of adults in Scotland (N = 521). Participants were randomly allocated to vicarious experience and verbal persuasion in a 2 x 2 design. Self-efficacy (4-point scale) and intention for PCR testing if you have symptoms were assessed (5-point scale). PCR-testing was assessed in the past week (yes/no).

**Findings:** People who experienced symptoms were more likely to have PCR-tested compared to people who were asymptomatic (20% vs. 6%,  $\chi^2(1)=18.60$ ,  $p<.001$ ), but 80% (N=63) of people with symptoms were untested. Our messages did not significantly increase self-efficacy; ( $M_{\text{messages}} = 3.59$ ,  $SD = 0.69$ ;  $M_{\text{control}} = 3.61$ ,  $SD = 0.69$ ). As the intervention failed mediation analyses were not performed. Linear regression showed that higher self-efficacy was associated with higher intentions ( $\text{Beta} = 0.34$ ,  $SE = 0.05$ ) but in logistic regression higher intentions did not significantly affect PCR-testing.

**Discussion:** A message previously successful at increasing self-efficacy for physical distancing did not affect self-efficacy for PCR-testing. This might be explained by overall high levels of self-efficacy and low rates of PCR testing. Moreover, these findings show that similar behaviour change methods might not be applicable to all behaviours and testing of interventions is a necessary step before implementing interventions.

# Cultural Contexts of Health

11:30 - 13:00

Warsaw

Irina Todorova



## Lower socioeconomic position and obesity: examining the roles of executive function and health motivation

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**Background:** Lower socioeconomic position (SEP) is associated with increased risk of higher BMI and developing obesity. No research to date has examined whether the social patterning of health-based food choice motives or individual differences in executive function explain why lower SEP is associated with higher BMI.

**Methods:** We analysed observational data from large samples of UK (N=4130) and US (N=1898) adults which included measures of SEP (education level, household income and subjective social status) and self-reported BMI. Participants also completed validated self-report measures on the extent to which their day-to-day food choices were motivated by health and weight control, as well as completing computerized tasks measuring executive function; inhibitory control (Stroop task) and working memory (Digit span task). Mediation analysis was conducted to examine the role that food choice motives and executive function have in explaining the relationship between lower SEP and higher BMI.

**Findings:** Across both UK and US adults, the relationship between indicators of lower SEP and higher BMI were consistently explained by participants from lower SEP backgrounds reporting being less motivated by health when making food choices, which accounted for 18-28% of the association between lower SEP and higher BMI. There was no evidence that measures of executive function explained associations between SEP and BMI or moderated relations between food choice motives and higher BMI.

**Discussion:** The social patterning of health-based food choice motives may play an important role in explaining why lower SEP is associated with an increased risk of higher BMI.

## Awareness, understanding and HIV stigma in response to Undetectable = Untransmittable messages

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**Background:** The scientific consensus 'Undetectable=Untransmittable', or 'U=U', states that people living with HIV who maintain an undetectable viral load cannot sexually transmit HIV to others. Despite growing awareness and acceptability, much is unknown concerning how U=U messages can be phrased optimally to enhance persuasiveness. Using Prospect Theory, the present research aimed to empirically test whether a gain-framed message is more effective at decreasing HIV stigma and increasing perceived accuracy of U=U than a loss-framed message. and to investigate current levels of awareness and understanding of U=U.

**Methods:** A nationally representative sample of United Kingdom adults (N = 707) participated in an online experiment, in a variation of the Solomon four-group design. Participants were randomised to complete either a pre-test and post-test measure of HIV stigma, or to complete a post-test only, via an online questionnaire. Subsequently, participants viewed either a gain-framed message emphasising protective benefits, or a loss-framed message emphasising risk reduction. Structural Equation Models were designed to estimate parameters.

**Findings:** There was no evidence of a statistically significant difference in message groups with respect to post-test HIV stigma scores. Participants who viewed the loss-framed message rated U=U as more accurate than those who viewed the gain-framed message. Higher understanding of U=U was associated with lower HIV stigma following the gain-framed message.

**Discussion:** While loss-framed U=U messages were more persuasive with respect to increasing perceived accuracy, this did not translate into an effect on HIV stigma. The present research highlights the importance of framing in the context of U=U messaging.

## Exploring professional lifestyle YouTubers' health-related videos: Healthism and postfeminism at play

M. del Rio Carral<sup>1</sup>, L. Volpato<sup>1</sup>, C. Michoud<sup>1</sup>

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**Background:** Professional YouTubers have become highly popular in producing video content through self-mediation. This proposal aims to study ways in which lifestyle YouTubers construct health practices in their videos within the YouTube media culture.

**Methods:** We adopted a qualitative approach to conduct narrative and visual analyses across a selection of 15 Lifestyle YouTubers' videos.

**Findings:** YouTubers practices and recommendations for a better life were structured around three themes: eating to live well; exercising to live well; resting to live well, plus an additional cross-cutting theme on self-development. All themes emphasised behaviour change through empowerment and implied self-responsibility. An overall optimistic tone characterised YouTubers health stories, as they exclusively delivered personal experiences of success on becoming healthier, happier, and better persons, while encouraging viewers to act similarly. This logic is coherent with individualistic values characterising contemporary Western societies by overemphasising rationality through individual freedom of choice and individual motivation. This is underlined by YouTubers' visible identities, that is, the physical appearance and surrounding materialities displayed in their videos. Indeed, health practices were enacted by female presenting persons, white and middle/upper class appearing. Health recommendations were namely addressed at female viewers who were encouraged to engage in similar health-trajectories.

**Discussion:** This study constitutes an original contribution to critical health psychology by examining the paradoxes raised by social media influencers like YouTubers regarding health and wellbeing. It suggests that YouTubers are actively contributing to construct unprecedented definitions of health through a specific media culture enhanced by broader societal logics of healthism and postfeminism.

## How youth make meaning of the ways gender and sexuality are portrayed in Internet pornography

S. Healy-Cullen<sup>1,2</sup>, T. Morison<sup>2</sup>, K. Ross<sup>2</sup>, J. Taylor<sup>2</sup>, K. Taylor<sup>3</sup>

<sup>1</sup>NUI Galway, Ireland

<sup>2</sup>Massey University, New Zealand

<sup>3</sup>University of Auckland, New Zealand

Concerns about Internet pornography's (IP) 'effect' on young people have escalated as digital technologies have advanced. These worries stem from the perception of youth as vulnerable and naïve, and more likely to be harmed by IP's inaccurate portrayals of gender and sexuality. However, emerging findings from critical, qualitative research with youth suggests that young people can competently make sense of IP. Adding to these findings, we explore young New Zealanders' talk about IP, focusing on how they make meaning of the representations of gender and sexuality they encounter vis-à-vis their own identities as sexual beings. Using sexual scripting theory, as developed by feminist discursive psychologists, we examine participants' re/negotiation of the broader social meanings of IP and their constructions of personal sexual subjectivities. Our analysis of interview data generated with ten youth (aged 16-18 years) highlights the common scripts drawn on to construct IP as (1) a cultural resource (theme one) and (2) fantastical and fake (theme two). The way these young people talk about portrayals of sexuality and gender in IP—and their ability to discern its artifice—suggests they are savvy consumers who reflexively negotiate the IP landscape. Supporting emerging international evidence, these findings point to complexity, agency, and nuance in participants' understandings of IP. We discuss the implications of these findings for strengths-based sexuality education that supports sexual agency, proposing a justice-orientated approach grounded in the notion of ethical sexual citizenship.

## Experiences of Living Through The COVID-19 Pandemic in Malaysia: A Qualitative Study

J. Suresh<sup>1</sup>, X.N. Sam<sup>1</sup>, D. Fadil Azim<sup>1</sup>, D. Pillai<sup>1</sup>, K. Morgan<sup>1</sup>

<sup>1</sup>Perdana University, Malaysia

The ongoing COVID-19 outbreak has profoundly impacted day-to-day life and living experiences of people globally. This qualitative study investigates these experiences and identifies trends in an effort to seek meaning from patterns. Between April and August 2020, an online survey collected information from participants residing in Malaysia. The three components of the survey were as follows: identifying and countering difficulties, reflecting on lessons learnt under the pandemic, and what participants were looking forward to after it. Thematic analysis of the data was conducted, followed by cross-reliability calculations to maximise consistency. Out of 81 responses submitted, 72 were viable and were analysed further. The mean age was 31.8 years. Majority of respondents were Malay (38.3%), single (50.6%), female (64.2%), employed full-time (40.7%), or students (37%). Fifty-four (66.7%) of the respondents reported significant impact on their financial status due to the pandemic. Feeling trapped under quarantine was the most frequently encountered difficulty. The most reported lesson learnt was that health should be prioritised over all matters. The majority of participants looked forward to living without restrictions again in a post-pandemic world. Across a wide spectrum of ethnicities, ages, backgrounds, systems of belief etc., common themes were identified amongst living experiences during a pandemic, supporting the narrative that shared hopes for the future prevail despite perceived differences.

# Does vaccination elicit risk compensation? Insights from the COVID-19 vaccination campaign in France

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<sup>2</sup>2. UMR ARENES - Equipe de Recherche sur les Services et le Management en Santé (UniR, CNRS 6051, INSERM 1309), 35043 Rennes, France., France

## Background:

Vaccination has played a key role in reducing the health burden of COVID-19, however concern has been raised regarding risk compensation, whereby feelings of security arising from being vaccinated may lead people to reduce their engagement in other protective behaviours. We sought to investigate whether people's being vaccinated led to risk compensation and whether this changed over time.

## Methods:

We conducted a repeated cross-sectional study at seven intervals over the first months (February to September 2021) of the vaccine rollout in France. Participants (N=14,003) completed an online survey which included items measuring vaccination status, vaccination intention and engagement in three preventive behaviours: avoidance of physical contact, hand hygiene, and avoiding social gatherings. Risk compensation was measured indirectly by comparing levels of engagement in protective behaviours according to vaccination status. The behaviour of those unvaccinated but intending to vaccinate served as a baseline. A series of binary logistic analyses was performed to analyse the data.

## Findings:

Risk compensation did not occur systematically. There was only evidence of risk compensation for avoiding social gatherings, during the late stage of the vaccination campaign in July (AOR = .72 (95% CI [.53,.99],  $p < .05$ ) and in September (AOR = .54 (95% CI [.32,.91],  $p < .05$ )). Risk compensation was not observed for reduced hand hygiene or avoidance of physical contact.

## Discussion:

Risk compensation was only found towards the end of the vaccine rollout for one of three protective behaviours, suggesting that it is unlikely to impede the effectiveness of public health campaigns.

# Health behavior change in diverse contexts

11:30 - 13:00

Bratislava

Neil Coulson

## A case study on safe drinking water through evidence-based interventions in the Rohingya refugee camps

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**Background:** Microorganisms and toxic contaminants in drinking water lead to severe illnesses such as cholera. Every year cholera causes up to 143 000 deaths worldwide. In informal settlements, such as the Rohingya refugee camp in Bangladesh, access to safe water is challenged. Chlorination of drinking water is one measure to ensure safe drinking water. To strengthen consumption of chlorinated drinking water, health behaviour change theories like the RANAS model suggest developing interventions based on psycho-social determinants, such as risk beliefs, attitudes, norms, ability beliefs and self-regulation. This study aimed at testing the effectiveness of a behaviour change campaign on chlorination of drinking water.

**Methods:** 107 camp residents were surveyed before and after an intervention using structured interviews. Consumption of chlorinated water and psycho-social determinants were assessed. Interventions were developed based on baseline data and comprised household visits and a public commitment.

**Findings:** T-Tests showed significant changes in consumption of chlorinated drinking water by 36.5% (BL=59.8%, EL=96.3%) and an increased habit of drinking solely chlorinated water by 51.4% (BL=35.5%, EL=86.9%). Concerning the psychosocial determinants of the RANAS model, the intervention was able to change risk perception, the liking of chlorinated water, anxiety towards consumption of chlorinated water and social norms.

**Discussion:** Results imply that campaigns focusing on consumption of chlorinated drinking water which are based on psychological evidence and are tailored to the needs of a target population, are valid approaches to assist vulnerable groups to confront environmental risks, such as unsafe drinking water.



## Improving Hand Hygiene Adherence in Small Animal Hospitals: A Social Marketing Approach

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<sup>1</sup>University of Bern, Switzerland

Good hand hygiene adherence is a key factor in the prevention of hospital acquired infections. The WHO offers guidelines for interventions to improve hand hygiene adherence in human healthcare which can also in part be applied to veterinary medicine. Aim of this study was to adapt and refine existing intervention strategies to improve hand hygiene adherence in the veterinary context.

This study addresses the first three steps of a typical systematic approach in social marketing to foster hand hygiene adherence, which are: (1) identifying target behavior and target groups, (2) determining barriers and benefits driving their behavior, and (3) designing a fitting intervention strategy to one large Swiss small animal clinic.

The identification of the target behavior and target group is based on literature, talks within the research team and daily observations. Barriers and benefits are identified by means of qualitative focus groups. We conducted eight structured in-depth focus group interviews (N=32) in a small animal clinic in Switzerland with four professional groups: Veterinary nurses, students, residents and interns, and senior physicians. Five salient topics have emerged as a result of the analysis: 'Animal welfare as a reason to act', 'It's not about the why, but about the how', 'Clash of Generations', 'Invisible enemy' and 'Habit building'. Based on these findings, an intervention strategy guided by habit formation regarding the theoretical framework and the de-CIDES framework tool regarding the intervention type is derived.

## The effectiveness of nudging healthy food choices across different dimensions of socio-economic status

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<sup>1</sup>Leiden University, Netherlands

<sup>2</sup>Leiden University Medical Center, Netherlands

**Background:** It has been suggested that nudges can be equally or even especially effective among those with a lower socio-economic status. However, research examining this premise of nudging is rather scarce. The goal of the current study is to investigate the effectiveness of a default nudge for stimulating healthy food choices in an online supermarket task across different dimensions of socio-economic status.

**Methods:** 432 participants from the UK were recruited via Prolific. The study used a one factor (Condition: control vs. default) between-subjects design with the proportion of nudged healthy food products chosen as dependent variable. We measured education, subjective social status, resource deprivation, stress, self-rated health, BMI, age, and gender.

**Findings:** The default nudge had a main effect on the proportion of nudged healthy food choices. Participants more frequently chose such options in the default condition ( $M = .27$ ,  $SD = .18$ ) than in control condition ( $M = .22$ ,  $SD = .16$ ),  $t(430) = -3.05$ ,  $p = .001$ ,  $d = .29$ , 95%CI [-inf; -0.02]. This main effect was not moderated by education level, subjective social status, resource deprivation or stress. Yet, most participants had received higher-level education (361), while only 71 had received lower-level education. Participants reported their subjective social status, resource deprivation, and stress around the midpoint of the scale.

**Discussion:** Results suggest that this default nudge is effective across differing levels of SES. An important limitation of this study was that we did not have a representative distribution of socio-economic status in our sample.

## Effects of traffic light labelling and increased healthy range on beverage choices from vending machines

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The overconsumption of soft drinks is a growing public health concern, leading several countries to implement strategies to reduce such consumption through taxation, restricting access, or plain packaging. These strategies rely heavily on government regulation and policy change. The present studies examined whether alternative strategies such as a traffic light system or increased healthy range might prove effective.

Two studies (n = 558, 420) tested whether the provision of traffic light labels (green, amber and red) and an increased range of healthy beverages (from 20% to 50% green options), individually and in combination could increase healthy beverage choices from a digital vending machine display. Participants were instructed to choose one drink from the display.

Featuring traffic light labels on a vending machine did not result in a significant increase in healthy beverage choices (Studies 1 & 2), while increasing the healthy range did (Study 2). The combination of traffic light labels and an increased healthy range (Study 2) resulted in the largest significant increase in healthy beverage choices, and was the only condition where the percentage of healthy (green) choices (33.7%) exceeded that of unhealthy (red) choices (29.8%).

The provision of traffic light labels supplied the necessary nutritional information, and the increased healthy range offered greater opportunity to act in accordance with that information. In so doing, the present findings offer a promising pathway for reducing soft drink consumption and the health concerns associated with overconsumption.

# Self-regulatory approaches to chronic conditions and health behavior

11:30 - 13:00

Kiev

Christel Salewski

## A trans-diagnostic model of psychological adjustment to long-term conditions: Development and applications in clinical practice

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**Background:** Around 30% of people with long-term physical health conditions (LTCs) experience comorbid depression and/or anxiety. For many, comorbid distress is related to the challenges of adjusting to the LTC. To provide a framework for effective assessment, formulation and treatment of illness-related distress, there is a need to understand factors that help and hinder adjustment across conditions. The aim was to develop a new trans-diagnostic theoretical model of adjustment to LTCs (TMA-LTC), demonstrate its application in clinical practice, and highlight the distinguishing features of LTC-related distress compared to primary anxiety/depression.

**Methods:** A systematic review (k=21) was conducted to identify and collate factors related to psychological adjustment to LTCs from pre-existing evidence-based models. These factors were extracted and synthesised into a preliminary TMA-LTC. The model was presented and discussed at two consensus meetings, where expert clinical and academic psychologists rated the relevance and importance of all concepts within the models.

**Findings:** The TMA-LTC proposes that acute critical events and ongoing illness stressors disrupt emotional equilibrium. Psychological adjustment and return to equilibrium depend on a number of cognitive and behavioural factors, as well as interpersonal, intrapersonal, environmental and illness-specific contexts. Using a case study, the clinical application of TMA-LTC in treating illness-related distress was demonstrated, highlighting how its use can help overcome roadblocks that may be encountered when working primarily within traditional mental health paradigms.

**Discussion:** As an empirically and clinically informed model, the TMA-LTC provides a useful guide for assessment, formulation and treatment in the context of psychological adjustment to LTCs.

## Benefits from autonomy support in patient-caregiver dyads facing cancer treatment

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**Background:** Caregivers may reconstruct patient self-determination in disease by supporting their autonomy, and thus reinforce their well-being. We investigated the top-down and bottom-up effects of recipient-reported and provider-reported autonomy support on patient daily biopsychosocial well-being in patient-caregiver dyads following cancer treatment (hematopoietic cell transplantation; HCT).

**Methods:** The sample included 200 patient-caregiver dyads following HCT. Participants completed a daily-diary relating to autonomy support reception (patients) and provision (caregivers), subjective physical health, positive and negative affect, and relationship satisfaction for 28 consecutive evenings after patients' hospital discharge.

**Findings:** The patient's feeling of being supported in their autonomy was associated with their better positive affect and relationship satisfaction, both overall (top-down) and daily (bottom-up effect). Caregiver-reported overall and daily support of patient autonomy did not predict patient daily biopsychosocial well-being.

**Discussion:** These findings extended the evidence that autonomy support reported by patients facing HCT may have both top-down and bottom-up beneficial effects on their psychological and social well-being.

## Relationships between motivational-related factors and healthy eating: A project to prevent childhood obesity

B. Pereira<sup>1</sup>, P. Rosário<sup>1</sup>, P. Magalhães<sup>1</sup>

<sup>1</sup>University of Minho, Portugal

**Background:** Several factors contribute to childhood obesity (CO), with most cases related to eating. Despite the efforts to promote healthy eating, the numbers of CO remain alarming. A possible explanation is that many interventions do not consider the motivational background of children. The main goal of this project is to map motivational-related factors that may contribute to the (un)healthy eating of children and prevent CO, which is aligned with the UN Sustainable Goals three and ten. **Methods:** Three studies were conducted: i) a qualitative study (n=277) to understand perceptions of children about obesity enablers, from the perspective of causal attributions. Data was analyzed through content analysis; ii) a quantitative study (n=295) – mediation model – to understand the role that knowledge and self-regulation play on CO; and iii) a quantitative study (n=242) – path analysis - to understand the relationships between motivational-related factors (e.g., self-efficacy) and children's (un)healthy eating. **Findings:** Most children attributed obesity to internal, unstable, and controllable causes (e.g., food preferences, self-regulation). There was a moderation effect of knowledge on the relationship between income and children's weight, conditioned by self-regulation. Self-regulation mediated the relationship between knowledge, attitudes, and self-efficacy and (un)healthy eating. **Discussion:** Children's attributions may imply openness to change, or lead to feeling guilt, which may explain withdrawal of interventions. Also, the transmission of knowledge does not seem to be sufficient to prevent obesity - it is also necessary to promote self-regulation. Finally, it is relevant to incorporate other variables in the models (e.g., family-related factors).

## Rehabilitation in a Covid-19 Hospital: Beliefs and Challenges perceived by the Multidisciplinary Healthcare Teams

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<sup>2</sup>Clínica Las Condes, Chile

The Covid-19 pandemic has presented numerous challenges for healthcare teams. An exclusive Covid-19 Hospital has been created in Chile. The multidisciplinary healthcare teams (MHT) have had to face a large number of challenges, among which are accompanying patients in a long and unknown rehabilitation process. The aim of this study is to investigate the beliefs of MHT in the Metropolitan Hospital of Chile, about the rehabilitation process of the Covid-19 patients, from the common-health model. Materials and method: A qualitative multicase study was conducted in the Hospital, using the snowball technique, where 22 healthcare workers were recruited. Semi-structured interviews and focal groups were conducted, achieving information saturation. Results. The findings were grouped into two major thematic axes: 1. Barriers in the way of rehabilitation, and 2. The Role of the patient. According to the MHT, rehabilitation due to serious illness from Covid-19 has been an unknown process, due to the difficulties that this disease presents. On the other hand, emotional reactions of the patients such as hopelessness, lack of cooperation with the process or feelings of uselessness, presents an additional challenge to the MHT. Discussion. The perception of MHT, from the common health model, sees rehabilitation for covid-19 as a complex process, in which patients are passive and uncooperative. This is relevant because the MHT constantly interacts with patients, so it can convey this idea. Therefore, it is important to work with MHT to help them transmit a representation of the process with a patient who is protagonist of his rehabilitation.



## Sleep priority as a predictor of sleep behavior

L. Albers<sup>1</sup>, C. Salewski<sup>1</sup>

<sup>1</sup>FernUniversität Hagen, Germany

**Background:** Prioritizing behaviors is a relevant component of self-regulation. In the context of sleep behavior, sleep priority is rarely considered. In this study, we investigated the relationship between sleep priority and sleep behavior. Additionally, we explored associations with dysfunctional attitudes towards sleep.

**Methods:** We translated, adjusted and validated Loft's Sleep Priority Scale. A total of 717 participants (565f) between 18 and 64 years ( $M=30.53$ ;  $SD=9.95$ ) completed the online survey. They filled out the adjusted Sleep Priority Scale, the Self Report Habit Index, measures of bedtime intention, the Sleep Hygiene Index, the Bedtime Procrastination Scale, the Pittsburgh Sleep Quality Index and the Dysfunctional Attitudes towards Sleep Scale. We analyzed relationships using correlations and regressions.

**Findings:** Sleep priority consists of three correlated factors: relative importance of sleep, importance for daily functioning and sleep as a health goal. Persons with high sleep priority have more specific ( $b=1.26$ ) and stronger bedtime intentions ( $b=0.87$ ), intend to sleep longer ( $b=0.60$ ), have better sleep hygiene ( $b=1.67$ ), stronger bedtime habits ( $b=0.66$ ) and engage in less bedtime procrastination ( $b=-0.62$ ). Regarding sleep quality, sleep priority predicts better overall sleep quality ( $b=0.58$ ), better subjective sleep quality ( $b=0.09$ ) and longer sleep duration ( $b=0.33$ ). On the other hand, sleep priority is correlated with dysfunctional attitudes towards sleep ( $r=0.49$ ; all  $p's < 0.05$ ).

**Discussion:** Sleep priority, especially the facet relative importance of sleep, is highly relevant for sleep behavior. However, prioritizing sleep too high may have negative consequences because it is associated with dysfunctional attitudes.

# Illness perception schemas and psychosocial dimensions are associated with attitudes towards vaccines: a cluster analysis

R. Pisanti<sup>1</sup>

<sup>1</sup>Niccolò Cusano University Rome, Italy

**Background.** Based on the extended Common Sense Model (eCSM), the main aim of the present study was to identify psychosocial profiles that are associated with Covid-19 vaccination willingness and anti-vaccination attitudes.

**Methods.** In a cross-sectional study, 1179 subjects (74% female) between 18 and 77 years filled an online questionnaire measuring the following variables: illness representation dimensions about COVID-19 (IPQ-R for healthy people second section), a brief scale that measured prevention control through vaccination, vaccine conspiracy beliefs (VCBS), trust in science and authorities, vaccine attitudes (VAX), and a measure of vaccination willingness.

**Findings.** Cluster analyses yielded three groups: a) "high control, high trust in science and authorities and low conspiracy beliefs"; b) "high emotional representations, high conspiracy beliefs and low trust in authorities"; c) "low consequences, low timeline chronic and low timeline cyclical". The groups were distinguished by the illness representation variables, conspiracy beliefs, and trust in science and authorities. Moreover, the profiles presented significant differences in vaccination willingness and vaccine attitudes. The "high control, high trust in science and authorities and low conspiracy beliefs" group displayed the most favorable scores on vaccination willingness and vaccine attitudes compared to the other clusters.

**Discussion.** Results suggest that eCSM dimensions, conspiracy beliefs and trust in science and authorities dimensions play a key role in the context of Covid-19 prevention. Thus, this study provides direction for the content of a novel approach to identifying the correlates of vaccine hesitancy, and how Covid-19 representations and concerns about vaccination may be challenged and reversed.

# eHealth feasibility studies and trials

14:00 - 15:30

London

Felix Naughton

## Self-regulation techniques, narrative videos and a chatbot for promoting lifestyles and mental health in adolescents

C. Peuters<sup>1</sup>, L. Maenhout<sup>1</sup>, G. Cardon<sup>1</sup>, A. De Paepe<sup>2</sup>, A. DeSmet<sup>3</sup>, E. Lauwerier<sup>1</sup>, G. Crombez<sup>1</sup>

<sup>1</sup>Ghent University, Belgium

<sup>2</sup>UGent, Belgium

<sup>3</sup>Université libre de Bruxelles, Belgium

#LIFEGOALS is a mobile health behaviour change intervention supported by self-regulation techniques, narrative videos and a support chatbot. This study aimed to evaluate the effects and identify potential working mechanisms of the intervention on adolescents' (12-15y) lifestyle behaviour and mental health.

A cluster-controlled trial with intervention (n=184) and control group (n=95) was followed up by a process evaluation (n=13). Self-report and accelerometer data assessing mental health and lifestyle behaviours from baseline to the end of the 12-week intervention were analysed using multilevel generalized linear models. Semi-structured individual interviews with adolescents that had used the #LIFEGOALS-app for  $\geq 20$  minutes were analysed using thematic analysis.

Non-usage attrition was high (44.1% dropped out in the first week). Overall(A), or in normal sports(S) or education(E) circumstances (i.e., no COVID-related sports/education restrictions in case of moderation), there were positive intervention effects for sleep quality(A) ( $\chi^2=7.97$ ,  $p=.005$ ), physical activity(S) ( $\chi^2=2.17$ ,  $p=.034$ ), sedentary time(S) ( $\chi^2=-126.59$ ,  $p=.015$ ), resilience(S) ( $\chi^2=13.85$ ,  $p<.001$ ), self-perception(E) ( $\chi^2=7.16$ ,  $p=.007$ ), and social support(E) ( $\chi^2=351.16$ ,  $p<.001$ ); and null effects for sleep time(A), breakfast frequency(A), global wellbeing(E), psychological wellbeing(E), moods(E), self-perception(E), and depressive symptoms(A). Users experienced that particularly the self-regulation techniques and rewards accounted for the change they perceived in their lifestyle behaviour, and explained their low engagement with the videos and chatbot.

Findings indicate the importance of tailoring mHealth interventions to the context, and support the inclusion of self-regulation techniques for behaviour change. More investigation is needed to engage users with, and further test the potential of, novel features like narrative videos and support chatbots.

## Online social reference intervention to reduce misinformation sharing behaviour on social media

B. Schüz<sup>1,2</sup>, C.M. Jones<sup>2,3</sup>, D. Diethe<sup>2,3</sup>, T. Jahnel<sup>2,3</sup>, R. Shrestha<sup>3,4</sup>, J. Schöning<sup>4,5</sup>

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<sup>2</sup>Leibniz ScienceCampus Digital Public Health Bremen, Germany

<sup>3</sup>University of Bremen, Germany

<sup>4</sup>Leibniz ScienceCampus Digital Public Health, Germany

<sup>5</sup>University of St. Gallen, Switzerland, Switzerland

**Background:** During the COVID-19 pandemic, social media was (and are) key distribution channels for health-related information and misinformation. Existing mitigation measures include flagging misinformation or providing links to fact-checked information. Because sharing information (and misinformation) on social media is social behaviour, we introduce and test an intervention delivering social reference cues (i.e. feedback on sharing within individuals' personal networks) in real-time social media feeds and examine putative mediating processes.

**Methods:** We conducted 3 online randomised controlled trials in real-world settings with N=817, N=322, and N=278 participants using a custom browser extension to deliver intervention content into participants' individual twitter feeds. Participants were randomised to receive no intervention (passive control), a standard misinformation flag (active control), the social cue only or a combined misinformation\*social cue intervention. Primary outcome was the number of shared misinformation tweets, secondary outcomes (studies 2 and 3) were injunctive norms and social identity. Zero-augmented negative binomial regression models were analysed to estimate intervention effects on count data.

**Findings:** Participants in the combined intervention group shared significantly ( $b=-0.76$ , 95% CI  $[-1.33, -0.17]$ ,  $p=.009$ ) and meaningfully (ca.50%) less misinformation than in the control group (Study 1). Study 2 showed that injunctive norms for sharing misinformation were lowest in the combined group, and that trial-by-trial changes in norms predicted sharing. Study 3 showed no such effects for social identity.

**Discussion:** Behavioural interventions based on social cues into social media interactions change injunctive norms and have the potential to reduce misinformation sharing behaviour. Actual implementation and reference sources need further attention.

## Randomised Controlled Trial of the New Fourteen-day Online Emotion focused training for compassion satisfaction

J. Halamová<sup>1</sup>, N. Ondrejková<sup>1</sup>, K. Kováč<sup>1</sup>

<sup>1</sup>Institute of Applied Psychology, Faculty of Social and Economic Sciences, Comenius University in Bratislava, Slovakia

**Background:** Compassionate helping professionals, in their efforts to be with, empathise, and help a suffering person, might end up suffering as well. This state of care provision is called compassion fatigue, secondary traumatic stress, client related burnout, second victim traumatization or vicarious traumatising, often interchangeably.

Based on the latest findings of Emotion focused therapy, Somatic trauma therapy, and previous research on compassion fatigue, we developed the new fourteen-day online Emotion focused training for compassion satisfaction (EFT-CSA). Our goal was to inspect the efficacy of the EFT-CSA in a population of various helping professionals.

**Methods:** A randomized control trial was conducted with pre- and post-intervention measurements of self-compassion, compassion for others, and compassion from others, self-criticism, and compassion fatigue. Convenience sampling was used to recruit helping professionals as participants through a snowballing technique on social media. A total of 225 participants were randomly allocated to the EFT-CSA intervention or to a control condition. The control group did not complete any tasks. We used independent samples t-tests and Mann Whitney U tests for statistical analysis in SPSS version 27.

**Findings:** Compared to the control group, the intervention group had significantly higher self-compassion, compassion to others, compassion from others, and significantly lower self-criticism and compassion fatigue as reported at post-measurements after completing EFT-CSA.

**Discussion:** These findings are encouraging and suggest that online interventions can be easily delivered to broader and wider populations of helping professionals as a cost-effective method to decrease compassion fatigue and consequently improve patients' and clients' experiences with care provision.

## Does an explicit value clarification method increase a web-based smoking cessation decision aid's effectiveness?

T. Gültzow<sup>1</sup>, E. Smit<sup>2</sup>, R. Crutzen<sup>1</sup>, S. Jolani<sup>1</sup>, C. Hoving<sup>1</sup>, C.D. Dirksen<sup>3</sup>

<sup>1</sup>Maastricht University, Netherlands

<sup>2</sup>University of Amsterdam/ASCoR, Netherlands

<sup>3</sup>Maastricht University Medical Centre, Netherlands

**Background:** Various forms of evidence-based smoking cessation assistance exist, but their use is limited (<20%). The decision to choose one may also induce decisional conflict hampering behavioral implementation. Decision aids including 'explicit value clarification methods' (VCMs) can alleviate this. Therefore, the added value of a VCM was tested.

**Methods:** A two-arm randomized controlled trial was conducted among smokers motivated to quit. The intervention group received a DA with the VCM, the control group received the same DA without the VCM. The primary outcome was 7-day point prevalence abstinence after 6 months. Secondary outcome measures included evidence-based cessation assistance use and decisional conflict. Logistic and linear regression analyses were performed to assess effectiveness. To test robustness of the findings, analyses followed 2 and 3 scenarios: (1) complete cases, (2) worst-case scenario (dropout respondents are considered to smoke, smoking outcomes only), and (3) multiple imputations.

**Findings:** 2375 participants were randomized, 599 completed the DA(s), and 103 completed the last outcome assessment. More participants quit smoking in the intervention group (36.5% compared to 26.9%). Yet, effects in favor of the intervention group on the primary outcome were only observed in the worst-case scenario ( $P = .02$  [crude];  $P = .04$  [adjusted]). Effects on the secondary outcomes were similar. Non-usage attrition was 34.19% higher in the intervention group compared to the control group ( $P < .001$ ).

**Discussion:** We cannot currently confidently recommend the use of explicit VCMs in the context of a web-based smoking cessation DA. Also, they might result in higher non-usage attrition.

# A randomised controlled trial of a just-in-time adaptive smoking cessation app (Quit Sense)

F. Naughton<sup>1</sup>, A. Hope<sup>2</sup>, C. Siegele-Brown<sup>3</sup>, K. Grant<sup>1</sup>, C. Notley<sup>1</sup>, C. Mascolo<sup>3</sup>, T. Coleman<sup>4</sup>, L. Shepstone<sup>1</sup>, S. Sutton<sup>3</sup>, T. Prevost<sup>5</sup>, D. Crane<sup>6</sup>, G. Barton<sup>1</sup>, F. Greaves<sup>7</sup>, J. High<sup>1</sup>

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## Background

Quit Sense is a theory-guided Just-In-Time Adaptive Intervention (JITAI) smartphone app which provides smokers with in-the-moment support to manage cue-induced cravings. The app uses location sensing to tailor the timing and content of support messages to high-risk locations. This study aimed to estimate key parameters to inform a definitive evaluation and to estimate efficacy.

## Methods

A two-arm RCT allocating smokers (N=209) recruited via advertisements on Google search and Facebook to a 'usual care' arm (NHS SmokeFree website) or a 'usual care' plus Quit Sense arm. Recruitment, enrolment, randomisation and most data collection were fully automated via the study website. Outcomes were collected at 6-weeks and 6-months post-enrolment and included outcome completion rates, recruitment costs, app installation and engagement rates, biochemically-verified abstinence at 6 months and hypothesised mechanisms of action. The protocol and statistical analysis plan were pre-specified and published.

## Findings

Follow up rates were 71% and 77% at 6-weeks and 6-months respectively. In the Quit Sense arm, 75% (95% CI 67-83%) installed the app, and of these, 100% set a quit date within the app and 51% engaged with it for more than one week. At final follow up, the rate of 6-month biochemically-verified sustained abstinence was 11.5% (12/104) in the Quit Sense arm and 2.9% (3/105) in the usual care arm (adjusted odds ratio = 4.57, 95% CIs 1.23, 16.94; p=0.02).

## Discussion

This first ever trial evaluation of a proactive smoking cessation JITAI provides key information to inform a definitive trial and evidence of potential efficacy.



## Interdisciplinary consensus on describing behaviour change features of medication adherence technologies: a European Delphi consultation

A. Dima<sup>1</sup>, C. Goetzinger<sup>2,3</sup>, J. Ribaut<sup>4,5</sup>, P. Barnestein-Fonseca<sup>6,7</sup>, F. Hauptenthal<sup>8</sup>, M.T. Herdeiro<sup>9</sup>, S. Grant<sup>10</sup>, C. Jácome<sup>11</sup>, F. Roque<sup>12</sup>, D. Smits<sup>13</sup>, I. Tadic<sup>14</sup>, U. Nabergoj Makovec<sup>15</sup>

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<sup>8</sup>Medical University of Vienna, Austria

<sup>9</sup>University of Aveiro, Portugal

<sup>10</sup>Indiana University Richard M. Fairbanks School of Public Health, United States

<sup>11</sup>University of Porto, Portugal

<sup>12</sup>Polytechnic of Guarda, Portugal

<sup>13</sup>Riga Stradins University, Latvia

<sup>14</sup>University of Belgrade, Serbia

<sup>15</sup>University of Ljubljana, Slovenia

### Background:

Consensus on behaviour change terms facilitates evidence synthesis in Health Psychology, yet limited evidence exists on their reception in interdisciplinary settings. Within the European COST Action ENABLE on medication adherence technologies (MATech), we used diverse terminologies and classifications, including the Behaviour Change Intervention Ontology (BCIO), to select descriptors for an online MATech repository for use by diverse stakeholders. We investigated stakeholders' agreement on the relevance, clarity and completeness of these descriptors.

### Methods:

The proposed repository structure describes a MATech product and provider, how it helps manage medication adherence, and evidence on evaluation and implementation. The BCIO informed description of target behaviours and determinants, intervention techniques, delivery modes, providers, and settings. Stakeholders (research, practice, policy, patient representation and technology development) from 39 countries participated in a real-time online Delphi study. They evaluated the terms quantitatively (9-point Likert) and commented in written. We analyzed ratings of BCIO terms and suggestions for improvement.

### Findings:

Of 250 stakeholders invited between October 2021 and January 2022, 117 started and 83 completed the survey. BCIO-informed descriptors were considered of moderate-to-high relevance (median 6.01-6.49), and moderately clear (median 4.67-6.17). All quantitative ratings reached agreement. Comments highlighted difficulties to understand the professional language and to apply to concrete MATech examples.

#### Discussion:

Behaviour change terms are considered relevant for describing MATech by stakeholders. Clarity needs to be improved by providing examples of practical applications in a more lay language. This work will inform repository improvements and user training for informed decision-making.

# Which research designs to use when optimising behavioural interventions? Examples, challenges and a way forward

14:00 - 15:30

Rome

Angela Pfammatter

## Building expert-consulted guidance for the selection of research designs for optimising behavioural interventions

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<sup>2</sup>Northwestern University Feinberg School of Medicine, United States

<sup>3</sup>Penn State University, United States

**Background:** To optimize behavioural interventions, the research design that is chosen, e.g. factorial or SMART, needs to be matched appropriately to the research question(s) and intervention type (fixed vs adaptive). The selection of the research design can be challenging as interventionists need to understand the methodological considerations for each design, its similarities, differences and steps. The aim of this study is to develop expert-agreed guidance for the selection of the most appropriate research design to be implemented in the optimisation phase of MOST.

**Methods:** The guidance is developed in an iterative process consisting of: i. Listing optimisation research designs that can be used for various types of research questions, drawn from the MOST literature, ii. conducting expert consultation obtained through an online survey using a modified Delphi approach, and iii. building a decision tree to guide the process of selecting the research design. Participants are experts recruited from the MOST networks, with demonstrated experience in applying each research design.

**Findings:** Six research designs are listed in a table containing a brief description of the design, the type of research questions they answer, and type of intervention to optimize. A total of 24 experts take part in the expert consultation (4 per research design).

**Discussion:** This will constitute the first guidance to support interventionists choosing and applying the appropriate research design to conduct an optimisation behavioural trial. This work has the potential to improve the methodological quality of optimisation trials, and therefore contribute to evidence synthesis.

## Refining and Optimizing a behavioural intervention to Support Endocrine Therapy Adherence using a factorial trial

S. Smith<sup>1</sup>, S. Green<sup>1</sup>, R. Ellison<sup>1</sup>, R. Foy<sup>1</sup>, C. Graham<sup>2</sup>, E. Mason<sup>1</sup>, D. French<sup>3</sup>, L. Hall<sup>1</sup>, R. Walwyn<sup>1</sup>, E. Raine<sup>1</sup>, H. Wilkes<sup>1</sup>, D. Howdon<sup>1</sup>, J. Clark<sup>4</sup>, N. Rousseau<sup>1</sup>, J. Waller<sup>5</sup>, J. Buxton<sup>6</sup>, S. Moore<sup>6</sup>, C. Parbutt<sup>4</sup>, G. Velikova<sup>1</sup>, A. Farrin<sup>1</sup>, M. Collinson<sup>1</sup>

<sup>1</sup>University of Leeds, United Kingdom

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<sup>6</sup>Independent, United Kingdom

**Background:** Non-adherence to adjuvant endocrine therapy (AET) increases mortality in women with breast cancer. Guided by the Multiphase Optimisation Strategy (MOST) we developed four intervention components targeting adherence barriers: SMS reminders; information leaflet; acceptance and commitment therapy (ACT)-based guided self-help; website. We aim to undertake a pilot trial to answer uncertainties about the feasibility of conducting an optimisation trial, including i) eligibility, recruitment, retention and follow-up rates; ii) intervention component adherence; iii) availability and feasibility of collecting data; iv) estimates of variability in outcome measures; v) estimates of intervention component costs. If feasible, we aim to undertake a larger optimisation trial to build an optimised intervention package.

**Methods:** The pilot trial (ISRCTN: 10487576) will randomize 80 women with early stage breast cancer to one of 8 conditions within a 24-1 fractional factorial design with a nested process evaluation. Women will receive usual care, plus a combination of four components. Medication adherence will be assessed using pharmacy data. Progression to the optimisation phase will consider consent rates, component adherence, and availability of data. If feasible, we will undertake a 24 factorial design to build the optimised intervention package.

**Findings:** The pilot trial received ethical approval (21/WA/0322) on 26.10.2021. The decision on proceeding to the optimisation trial will be made in 2023.

**Discussion:** The ROSETA programme will build an optimised intervention package to support medication adherence in women with breast cancer. The trial is funded by the National Institute of Health Research (NIHR300588).

## Sequential Multiple Assignment Randomized Trials to Answer Questions about How to Adapt Behavioral Treatments

A. Pfammatter<sup>1</sup>, I. Nahum-Shani<sup>2</sup>, B. Spring<sup>1</sup>

<sup>1</sup>Northwestern University Feinberg School of Medicine, United States

<sup>2</sup>University of Michigan, United States

**Background:** Classical randomized controlled trials can answer whether a treatment works or not, yet clinical practice necessitates flexibility in adapting during a course of treatment. Building an evidence base to inform treatment adaptation decisions has been lacking due to limitations in research designs.

**Methods:** The SMART weight loss trial aimed to test the non-inferiority of using a smartphone app alone (APP) compared to app plus coaching (APP+C). The trial further asked whether a modest or vigorous step up in treatment was more effective in response to inadequate weight loss. The trial enrolled 400 participants with overweight or obesity and randomized them to receive APP or APP+C. Participants were monitored for non-response (<0.5 pounds weight loss per week). When a participant was deemed non-responsive to treatment, they were re-randomized to receive either a modest step up to include an mHealth component or a vigorous step up to include an mHealth and traditional weight loss treatment component.

**Findings:** By setting up randomization to occur twice, we are able to ascertain the difference between alternative first-line treatments and also to identify a reasonable treatment augmentation to support individuals who are not succeeding in response to the first line treatment, much like what happens in clinical care.

**Discussion:** The Multiphase Optimization Strategy (MOST) is a principled translational research framework that can guide building such an evidence base. Specifically, the Sequential Multiple Assignment Randomized Trial (SMART) offers a research design that can specifically test the effectiveness of decisions in a treatment course.

## Optimizing a Just-in-Time Adaptive Intervention using a Micro-Randomized Trial design: The Sense2Stop trial

S. Battalio<sup>1</sup>, S. Kumar<sup>2</sup>, B. Spring<sup>1</sup>

<sup>1</sup>Northwestern University Feinberg School of Medicine, United States

<sup>2</sup>University of Memphis, United States

**Background:** With novel mobile technologies, we have the ability to sense and understand someone's real time state and context, and we can now use this information to inform intervention. As an example, contextual information can be used in just-in-time adaptive interventions (JITAI), a class of mHealth intervention that is delivered in the moment, prompted by and tailored to context. JITAI can be developed and optimized using the micro-randomized trial (MRT)—an experimental design that allows researchers to answer questions that inform the decision rules of JITAI delivery.

**Methods:** The Sense2Stop trial leveraged an MRT design to optimize a JITAI for stress management and smoking relapse prevention. The study aimed to evaluate whether delivery of a prompt to perform stress management behavior vs. no prompt reduced stress and smoking risk in the moment, and whether intervening during periods of stress vs. no stress was optimal.

**Findings:** The Sense2Stop study illustrates the use of real-time micro-randomization, triggered by current state and context, enabling answers to questions about the optimal context for momentary intervention, thereby informing decision rules for JITAI supporting smoking relapse prevention.

**Discussion:** The MRT is a research design, originating from the Multiphase Optimization Strategy (MOST) research framework, that can be used to develop and optimize JITAI. MRTs can answer questions about the best way to use newly accessible information about a person's context (e.g., place, risk, internal state), to intervene when someone is most in need and receptive.

# How can we close the gender and diversity data gap in health psychology?

14:00 - 15:30

Paris

Gertraud (Turu) Stadler



## How can we close the gender and diversity data gap in health psychology?

G.(. Stadler<sup>1</sup>, E. Neter<sup>2</sup>, J. Inauen<sup>3</sup>, M. Hagedoorn<sup>4</sup>, M. Johnston<sup>5</sup>

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<sup>4</sup>University of Groningen, Netherlands

<sup>5</sup>University of Aberdeen, United Kingdom

**Purpose:** In health psychology, we strive to provide evidence to benefit all, but there continues to be a considerable gender and diversity data gap in the field. Addressing this lack of evidence promises a better understanding of heterogeneity in health psychology and is also the basis for delivering personalised care. Despite the importance of establishing a gender- and diversity-sensitive approach, there is currently no consensus how to prioritise and choose research questions, theories, methods, measures, and analyses. In addition, research reports reflect this lack of consensus as evidenced by the varying quality of sample descriptions and results, limiting what moderators can be taken into account in meta-analyses.

**Objectives:** This roundtable aims to be a starting point for a debate how health psychologists can contribute to closing the gender and diversity data gap in the health sciences while making their research more innovative and relevant. We aim to discuss theoretical and methodological approaches as well as research reporting.

**Rationale:** Many funders, including the European Union, have published ambitious goals for integrating gender and diversity into the content and structures of funded projects.

**Summary:** Efrat Neter (Israel) starts the roundtable with an introduction to research on gender and diversity, taking an intersectional approach considering gender together with ethnicity/race and SES in health and exemplary epidemiological evidence for differences in morbidity, healthy life years, and life expectancy. Gertraud (Turu) Stadler (Germany) compares different international approaches to assessing gender and diversity and will present an example for a brief yet comprehensive assessment approach. Jennifer Inauen (Switzerland) focuses on gender and diversity in global health, and will show how the sustainable development goals can be utilised to close the gender and diversity gap. Lisa Wu (Denmark, USA) contributes experiences from clinical work with diverse populations and different academic cultures. Mariet Hagedoorn (Netherlands) presents approaches for understanding heterogeneity by differentiating what people have in common and where they differ. Marie Johnston sets out ideas for an ontology for describing research populations in health behaviour change and for improved research reporting.

# Novel perspectives on distress, well-being and self-management in psychocardiology research

14:00 - 15:30

Berlin

Jonathan Journiac

## Mental health and adherence of adults under 45 years old facing a cardiac illness

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<sup>3</sup>Université de Paris, Laboratoire de Psychopathologie et Processus de Santé, F-92100 Boulogne-Billancourt, France

**Background:** Research on adults under 45 years old facing a cardiac illness is scarce. However, literature shows these patients could have difficulties coping with their disease, which could impact therapeutic adherence. The aim of this study was to investigate how psychosocial factors impacted patients' mental health and adherence.

**Methods:** Participants took part in a structured interview and completed self-reported questionnaires measuring adherence (medication, salt intake), anxiety, depression (HADS), PTSD (IES-R, MINI), coping (Brief-COPE), and illness perceptions (Brief-IPQ).

**Results:** 136 patients (64% males, 43,7 years old) were included. They were facing: arrhythmia (50%), coronary disease (14,7%), myocarditis/pericarditis (12,5%), heart failure (11,8%), and valve disease (11%). Results showed there were few significant differences between myocarditis/pericarditis, heart failure and the other illnesses.

One fifth expressed depressive symptoms, more than half anxious symptoms and almost one third PTSD symptoms. Only anxiety scores were significantly higher for women ( $p < .01$ ). Among the variables linked to mental health, avoidant coping was linked to depression ( $p < .05$ ), anxiety ( $p < .05$ ) and PTSD ( $p < .001$ ) symptoms.

Problems with adherence were observed for half of the patients and salt consumption seemed very high for almost one third.

**Discussion:** Adults under 45 years old facing different illnesses have almost the same illness perceptions and coping strategies. These results also suggest mental health is poorer than for older and younger patients. Interventions to enhance mental health should target avoidant coping and pay specific attention to women and young adults. Adherence issues could be addressed with systemic interventions.

## Depression and anxiety among patients with and without Spontaneous Coronary Artery Dissection attending cardiac rehabilitation

H. Tulloch<sup>1</sup>, K. Bouchard<sup>1</sup>, T. Coutinho<sup>1</sup>

<sup>1</sup>University of Ottawa Heart Institute, Canada

**Background:** Psychological triggers are prominent precursors and appear prevalent post-Spontaneous Coronary Artery Dissection (SCAD). Patients with atherosclerotic-related myocardial infarction (MI) gain mental health benefits from cardiac rehabilitation (CR), but it is unclear if this is the case for SCAD patients. No study has compared the mental health of MI patients with or without SCAD in CR. The purpose of this case-matched controlled study was to determine if patients with SCAD have higher levels of depression and anxiety at CR program intake and completion, and if they benefit CR to the same magnitude as their non-SCAD counterparts. **Method:** MI patients with and without SCAD (N=48; M age=58 years; 83% female) were matched on age, sex, and CR adherence and completed The Hospital Anxiety and Depression Scale at CR intake and discharge. One-way Analysis of Variance (ANOVA) assessed group differences; Repeated measures ANOVA determined whether scores improved overtime and if a groupXtime interaction was present. **Findings:** SCAD patients had higher scores ( $p=0.048$ ) on anxiety at program entry and, clinically, but not statistically higher scores at completion ( $p=0.073$ ). CR did not produce significant changes in anxiety,  $F(1,46) = .431$ ,  $p=.515$ . Group differences in depression scores were not detected at program entry ( $p=0.65$ ) or completion ( $p=0.30$ ). Improvements in depression were observed with CR participation,  $F(1,46) = 8.70$ ,  $p<.01$ ; the interaction, however, was not significant ( $p=.39$ ). **Discussion:** CR may be recommended to SCAD patients for mood benefits, but more targeted anxiety interventions may be warranted to enhance the mental health of these patients.

## Understanding cardiac distress: A study of prevalence, severity and risk factors

B. Murphy<sup>1,2</sup>

<sup>1</sup>Australian Centre for Heart Health, Australia

<sup>2</sup>Faculty of Health, Deakin University, Geelong, Australia

**Background.** While much research has focussed on post-cardiac event anxiety and depression, relatively little has addressed the broader concept of cardiac distress. This is the first study to comprehensively investigate cardiac distress across a broad range of domains, including physical, affective, cognitive, behavioural, perceptual and social symptoms.

**Methods.** A sample of 194 patients who had a cardiac event in the past 12 months was recruited from two Australian hospitals. Data were collected at patients' outpatient clinic appointment, typically 8-10 weeks after hospital discharge. Using a questionnaire developed through a protocol-driven 3-step process, participants reported on whether they had experienced each of 74 issues and concerns in the past 4 weeks, and the associated level of distress. Regression analyses was used to identify risk factors for elevated distress.

**Findings.** The most commonly endorsed items were within the domains of physical symptoms, fear of the future, negative affect, and social isolation. Common experiences were 'being physically restricted', 'lacking energy', 'shortness of breath', 'thinking I will never be the same again', and 'not sleeping well'. While less prevalent, 'not having access to the health care I need', 'being concerned about my capacity for sexual activity' and 'being unsupported by family and friends' were highly distressing. Having a mental health history and current financial strain were key risk factors for elevated distress.

**Discussion.** Specific experiences of distress are highly prevalent in cardiac patients. By understanding these specific fears, worries and stressors, health professionals can better support cardiac patients in their mental and physical recovery.

## Psychological functioning in couples after left ventricular assist device implantation

T. Zimmermann<sup>1</sup>

<sup>1</sup>Hannover Medical School, Germany

**Background:** Left ventricular assist device (LVAD) is a common treatment option for patients with heart failure waiting for a donor heart. Patients often depend on the support of their spouses. This can put a strain on both the spouse and the partnership. In couples, communication proves to be an important form of emotional support. Besides verbal aspects of communication, the extent of emotional arousal (f0) that is vocally encoded plays an essential role as a non-verbal aspect of communication. The study aims to examine the psychological impact of LVAD on couples and to analyze differences in depression, anxiety, fear of progression (FoP), and emotional arousal between patients and partners, as well as intrapersonal and interpersonal correlations.

**Methods:** Male LVAD patients and their female partners (N = 21 couples) responded to self-report questionnaires on depression, anxiety, and FoP. Emotional arousal (f0) was evaluated during social support interactions between both spouses.

**Findings:** Female partners experienced more anxiety than male patients. No differences occurred in depression and FoP. Intra- and interpersonal correlations appeared between anxiety, depression and FoP. Patient's and partner's f0 were interrelated. Patient's f0 was positively related with his own and his partner's psychological distress. Partner's f0 showed associations to her own depression and FoP.

**Discussion:** Findings indicate that women of LVAD patients are burdened similarly or even to a greater extent than men themselves. Women's psychological distress has an impact on patients' psychological distress and vice versa. Early interventions for both patient and partner represent a necessary intervention target.

# Methods and interventions

14:00 - 15:30

Vienna

Dominika Kwasnicka

## Systematic review and meta-analysis of Ecological Momentary Assessment studies of five public health behaviours

D. Kwasnicka<sup>1,2</sup>, J. Keller<sup>3</sup>, D. Kale<sup>4</sup>, B. Asare<sup>5</sup>, V. Schneider<sup>4</sup>, D. Powell<sup>6</sup>, F. Naughton<sup>7</sup>, G. ten Hoor<sup>8</sup>, P. Verboon<sup>9</sup>, O. Perski<sup>4</sup>

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<sup>9</sup>Open University, Netherlands

**Background:** We aimed to present the state of knowledge in Ecological Momentary Assessment (EMA) research focused on five key public health behaviours (physical activity, dietary behaviour, alcohol consumption, tobacco smoking, sexual health behaviour), summarising study characteristics, psychological and contextual predictors, and EMA adherence.

**Methods:** We searched Ovid MEDLINE, Embase, PsycINFO and Web of Science. Studies were included if they focused on one of the five health behaviours in adult, non-clinical populations; assessed at least one psychological/contextual predictor and reported a predictor-behaviour association. A narrative synthesis and a random-effects meta-analysis of adherence rates were conducted.

**Results:** We included 633 studies (348 in the meta-analysis). The median study duration was 14 days. The most frequently assessed predictor categories were 'negative feeling states' (21%) and 'motivation and goals' (16.5%). The pooled percentage EMA adherence was high at 82.9% (95% CI = 81.4%, 84.3%) and adherence levels were comparable across five health-behaviours. Greater EMA adherence was observed in studies with student (versus general) population samples, mobile phone/smartphone (vs. handheld device) EMA delivery, and event contingent (versus fixed) sampling. Reduced adherence was observed in studies with random (versus fixed) sampling and when participants used their own (versus study-provided) device (e.g., their own smartphone).

**Conclusions:** We showcase how the EMA method has been applied in health psychology research since its inception and find high EMA adherence rates underscoring the suitability of this approach to investigate key public health behaviours. Present results on correlates of EMA adherence can help to inform future EMA studies.



## A systematic review of physical activity ontologies: Content and Quality

M. Braun<sup>1</sup>, S. Carlier<sup>1,2</sup>, M. Van De Velde<sup>1</sup>, A. De Paepe<sup>1</sup>, F. De Backere<sup>1,2</sup>, M. Marques<sup>3</sup>, D. Van Dyck<sup>1</sup>, F. De Turck<sup>1</sup>, G. Crombez<sup>1</sup>

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<sup>2</sup>imec, Belgium

<sup>3</sup>Nova Medical School, Portugal

**Background:** Organizing existing knowledge in a way that is unambiguous and facilitates re-use has the potential to advance knowledge. Ontologies are classification systems that can be used for this, but are currently rarely used in physical activity literature. The current systematic review aims to (1) identify ontologies on physical activity, (2) assess their content and (3) assess the quality of identified ontologies.

**Methods:** A systematic review of literature identified 7491 sources. Ontologies were included if they directly described physical activity or sedentary behaviour and were available in English language.

**Findings:** The inclusion criteria were met by 28 ontologies. For content, all ontologies covered the activity domain and 19 included profile information. Context domains were covered by 17 ontologies, with physical, temporal and social context being covered by 12, 14 and 5 domains respectively. On average, ontologies met 4,3 out of the 12 quality criteria, with no ontology meeting all criteria.

**Discussion:** This review did not identify a single comprehensive ontology of physical activity that allowed for reuse. However, multiple good ontologies were identified that focus on specific domains of physical activity. Throughout the quality assessment, we identified multiple best practices for ontology development and maintenance. Firstly, developers should consider following existing methodologies and protocols. Secondly, developers need to consider transparency and reusability. Lastly, maintaining the ontology needs to be considered a priority.

## Evaluating the effects of symptom monitoring on menopausal health outcomes: a randomised controlled trial

R. Andrews<sup>1,2</sup>, B. John<sup>1</sup>, D. Lancaster<sup>1</sup>

<sup>1</sup>University of South Wales, United Kingdom

<sup>2</sup>Health & Her, United Kingdom

**Background:** A recent systematic review suggested that symptom monitoring can result in reductions in menopausal symptoms and improvements in health-related behaviour (Andrews et al., 2021). To date, no studies have experimentally investigated whether symptom monitoring could be beneficial as an intervention for menopausal women.

**Methods:** One hundred menopausal women were randomised into either a Monitoring-intervention or Control group. A mixed between/ within design was employed, with group membership (i.e., Monitoring-intervention or Control) as the between-subjects component, and time (i.e., baseline and 2-weeks follow-up) as the within-subjects component. Key dependent variables included symptom reduction and emotional reactions. Secondary outcomes included help-seeking, communication, medical decision-making, health awareness, self-efficacy, and health anxiety. Moderator variables included monitoring-blunting coping-style, trait neuroticism, single occupancy (i.e., living alone or with others), relationship status, employment status, and medical comorbidities.

**Findings:** The Monitoring-intervention group reported significantly greater reductions in menopausal symptoms and negative emotions at follow-up, in comparison to the Control group. These effects remained significant after controlling for moderator variables. However, variances in other health outcomes were non-significant.

**Discussion:** Findings demonstrated that symptom monitoring can be useful for reducing menopausal symptoms and negative emotions, and these outcomes endured after controlling for key moderators. However, symptom monitoring was not related to improvements in health-related behavioural outcomes, which contrasts with previous findings. Future research should further investigate these outcomes alongside a placebo-control group. Symptom monitoring may be useful within healthcare settings by providing menopausal women with a simple and accessible means of symptom alleviation, whilst they await treatment or medical consultation.

## Social Antecedents of Depressive Symptoms: Early Findings of Swiss Federal Survey of Young Adults (CHX-YASS)

A. Mehrpour<sup>1, 2</sup>, E. Widmer<sup>2, 3</sup>, C. Staerklé<sup>1, 2</sup>

<sup>1</sup>Université de Lausanne, Switzerland

<sup>2</sup>Centre Lives: Swiss Center of Expertise in Life Course Research, Switzerland

<sup>3</sup>Université de Genève, Switzerland

In studying social determinants of health, most researchers adopted unidisciplinary approaches, where the interrelations between subjective and objective manifestations of social relationships are overlooked. The social cure model and social network approach to depression have concentrated on subjective versus structural dimensions of social relationships. We compared social identification and relational dimensions of social networks as predictors of depressive symptoms to elucidate the predictive power of each dimension. Next, our paper integrates the two approaches in determine the depressive outcomes. We analyzed a cross-sectional survey of young adults in the process of recruitment in the Swiss Army (n=9999; 14.7% female and 85% male) using Swiss Federal Survey of young adults (CHX-YASS 2020), in the context of transition to adulthood. In a personal network design, network indices including indegree and outdegree centrality, as well as network size and density were calculated using NetworkX package in Python. Social identification scores were calculated using the questions regarding identification with social groups (compatriots, gender, religion, family, and friends). Also, depressive symptoms were assessed using Center for Epidemiological Studies-Depression scale (CES-D-short form). We hypothesize a bidirectional relationship between social network indices and social identification in determining depressive symptoms. Social network indices and social identity measures showed relatively equal predictive power. Different network conditions result in changes in social identification. Conversely, strong versus weak identifications may result in the network configurations that provoke or ameliorate depressive symptoms. Accordingly, we tested alternative models that lead to examining the associations between relational network indices and social identification.

# Towards a Better Understanding of Antibiotics Expectations and Use

14:00 - 15:30

Warsaw

Miroslav Sirota

## Respiratory Tract Infection Incidences, Health-Seeking Behaviours & Antibiotic Use Across England: A Comparison to Pre-Lockdown

B. Read<sup>1</sup>, C. McNulty<sup>1</sup>, N. Moss<sup>2</sup>, M. McLeod<sup>3</sup>, S. Tonkin-Crine<sup>4</sup>, I. Roope<sup>4</sup>, s. Wordsworth<sup>4</sup>, D. Lecky<sup>1</sup>

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**Background:** COVID-19 exerted significant strain on national healthcare services across England, e.g., increasing remote consultations for general practitioners (GPs). To explore changes in public health-seeking behaviours for respiratory tract infections (RTIs), and knowledge of, and attitudes towards antibiotics, a national survey was conducted in March 2021 with findings compared to a baseline survey before UK lockdown restrictions in March 2020.

**Methods:** Comparing responses to a telephone survey of 1,676 adults (2021) and a face-to-face survey of 2,022 adults (2020) across England. Key demographics were representative of the population. 2021 captured additional COVID-19 questions.

**Findings:** Compared to 2020, fewer respondents self-reported RTIs in the last 12-months (51% vs. 70%;  $p < 0.05$ ), however, there was no change in reported consultation with GPs (25% vs. 23%; ns). Expectation for antibiotics increased in 2021 (56% vs. 38%,  $p < 0.05$ ), but no change in self-reported antibiotic prescriptions were similar (54% vs. 52%; ns). Respondents reported more proactive symptom management, with greater reports of seeking over-the-counter remedies (55% vs. 35%;  $p < 0.05$ ), alongside continuation of usual activities (56% vs. 30%;  $p < 0.05$ ).

In 2021, 71% of respondents understood antibiotics are not effective against COVID-19 and did not differ according to their COVID-19 infection status. Compared to 2020, there was increased belief (62% vs. 57%,  $p < 0.05$ ) that individuals can personally help reduce antibiotic resistance.

**Interpretation:** Public health bodies should consider how changes brought about by the pandemic may have facilitated increased self-care, and how to support continued self-care post-pandemic. Conjunctively, campaigns should capitalise on increased public empowerment to tackle antimicrobial resistance.

## Patients' views of point-of-care tests when consulting for respiratory infections in European primary care

S. Tonkin-Crine<sup>1</sup>, M. Wanat<sup>1</sup>, M. Hoste<sup>2</sup>, S. Anthierens<sup>2</sup>

<sup>1</sup>University of Oxford, United Kingdom

<sup>2</sup>University of Antwerp, Belgium

**Background:** Prudent use of antibiotics is necessary to tackle antimicrobial resistance. Training programmes in use of point-of-care tests (POCTs) are complex interventions which have been shown to support clinicians to reduce antibiotic prescribing for respiratory infections. A European randomised controlled trial called PRUDENCE is underway to assess the effectiveness of POCTs in reducing antibiotic use. Assessing patient experiences of these tests is important to understand how POCTs influence their views of (the need for) antibiotics and future health seeking behaviour.

**Methods:** A qualitative sub-study within the PRUDENCE trial is being carried out, in 6 countries, (Belgium, Ireland, Georgia, Germany, Greece, UK) with patients presenting to primary care with respiratory infections. We are purposively inviting participants to semi-structured interviews based on age, sex, POCT received and antibiotic prescription. Data are being analysed using thematic analysis.

**Findings:** Initial findings indicate that patients consult for reassurance from a clinician and vary in their expectations for antibiotics. Patients are happy to have POCTs carried out and are reassured by clinicians' explanations of test results, even when antibiotics are not indicated. Patients explain their understanding of the value of POCTs and discuss the pros and cons of tests which give different types of results. Patients discuss how their experience of POCTs would influence future management of respiratory infections.

**Discussion:** The use of POCTs in primary care has the potential to change patient expectations for antibiotics and empower patients to self-care for future infections however POCTs need to be supported with detailed explanations from clinicians.

## How to reframe antimicrobial resistance: Pronounceability of health terminology predicts public's memory and risk perception

E. Krockow<sup>1</sup>, K. Cheng<sup>2</sup>, M. John<sup>1</sup>, E. McElroy<sup>3</sup>

<sup>1</sup>University of Leicester, United Kingdom

<sup>2</sup>UCL, United Kingdom

<sup>3</sup>Ulster University, United Kingdom

**Background:** Effective public health risk communication is essential for behaviour change in antibiotics use, but previous information campaigns have lacked success. One reason may be existing AMR-related health terminology, which has been criticised as too abstract and difficult to pronounce. This study tests the effectiveness of different AMR-related health terms.

**Methods.** We conducted online surveys of 268 US and 960 UK participants. Participants rated the six most common AMR-related health terms ("Antimicrobial Resistance", "AMR", "Antibiotic Resistance", "Bacterial Resistance", "Drug-Resistant Infections" and "Superbugs") and 34 other health terms (e.g. "Diabetes" and "Tuberculosis") on different linguistic dimensions including concreteness, familiarity, (processing) fluency, pronounceability and risk association. Afterwards, they completed memory tests and a verbal intelligence questionnaire.

**Findings.** Comparing AMR-related to other health terms showed that most AMR-related terms consistently scored within the lowest third on key measures. Ratings were lowest for concreteness and familiarity, suggesting that the existing terms are too abstract and unfamiliar for lay populations to extract meaning. The risk associated with the AMR-related health terms varied, but only "Drug-resistant infections" scored towards the higher end of the risk perception continuum. Participants' active memory of AMR-related health terms was low and multiple regression analyses identified pronounceability as a significant predictor of memorability.

**Discussions.** Our findings support previous claims that AMR-related health terms—particularly "Antimicrobial resistance" and "AMR"—are unsuitable for public health communication. The term "Drug-resistant infections" appears to have some advantages due to significantly higher risk perceptions associated with it, but its limited pronounceability may present challenges.

# Social feedback and intergenerational conflicts in the social dilemma of antibiotic intake

R. Böhm<sup>1,2</sup>, A.P. Santana<sup>2</sup>, C. Holtmann-Klenner<sup>3</sup>, L. Korn<sup>3,4</sup>, C. Betsch<sup>3,4</sup>

<sup>1</sup>University of Vienna, Austria

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<sup>4</sup>Bernhard Nocht Institute for Tropical Medicine (BNITM), Hamburg, Germany

**Background:** Understanding individuals' social preferences concerning the use of antibiotics is important to inform interventions to tackle antibiotic resistance. To isolate individuals' social preferences—i.e., their concern for own versus others' welfare—from other influences, we devise a novel behavioural game paradigm to model the social dilemma of antibiotic intake.

**Methods:** In three studies using this novel game, we varied structural and psychological aspects to investigate different factors that may be related to antibiotic overuse: social information about own and others' antibiotic intake (Study 1; laboratory experiment with N = 227 participants), and intra- vs. intergenerational conflicts in the negative consequences of antibiotic overuse (Studies 2 and 3; online experiments with overall N = 1,362 participants).

**Findings:** Study 1 showed that in the absence of social information, antibiotic overuse decreased in the presence (vs. absence) of social information. Particularly, social information decreased trust and increased the motivation of maximising mutual gains. Study 2 revealed that antibiotic overuse was higher when the negative consequences were affecting the future generation (versus the participants' own generation) but decreased when eliciting empathy towards the future generation. Study 3 further showed that scarcity of antibiotics due to overuse in the previous generation decreased overuse in the following generation.

**Discussion:** Selfish antibiotic overuse can be reduced by providing social information and increasing empathy for those who may suffer from the negative consequences. More generally, modelling antibiotic intake with a behavioural game provides a flexible toolbox to test determinants of prudent antibiotic intake.



## The intuitive desire for antibiotics: Wanting what we (don't) know we should not want?

M. Sirota<sup>1</sup>, M. Juanchich<sup>1</sup>

<sup>1</sup>University of Essex, United Kingdom

**Background:** We need to better understand how patients form expectations of antibiotics because these expectations increase overprescribing. Using a dual-process theory approach, we studied people's intuitive, deliberate and final judgments of their desire for antibiotics after their family physician had advised against clinically unnecessary antibiotics for their illness.

**Methods:** In four experiments, participants provided intuitive, deliberative and final judgments of their desire for antibiotics for a hypothetical upper respiratory infection. In a control condition, the participants' perceived need for antibiotics did not conflict with their clinical need; in an experimental condition, perceived need conflicted with clinical need. Participants were sampled from the general adult population of the United Kingdom (overall  $N = 3,178$ ), using convenient samples (Exp. 1–3) and a nationally representative sample (Exp. 4).

**Findings:** Overall, some participants still wanted antibiotics despite the doctor's recommendation in their final decision (25.0%); they did so more intuitively (36.1%) than after deliberation (22.2%). More often in the experimental (vs control) condition, people failed to rationally identify wrong intuitions (meta-analytical  $OR = 5.8$ ,  $p < .001$ ) and failed to overcome such wrong intuitions even though they rationally recognised that antibiotics were not needed (meta-analytical  $OR = 4.7$ ,  $p < .001$ ).

**Discussion:** People's intuitions drive their expectations for antibiotics. When told that antibiotics were not needed, people wanted them because they did not recognise they should not want them and, sometimes, despite recognising they should not want them. Further research and interventions should target people's intuitions of the need for antibiotics.

# Child Health and Wellbeing

14:00 - 15:30

Bratislava

Maartje van Stralen

## Psychosocial determinants of adolescents' sleeping behavior – A longitudinal study

L.R. Delfmann<sup>1</sup>, B. Deforche<sup>1,2</sup>, M. Verloigne<sup>1</sup>, A. Vandendriessche<sup>1</sup>

<sup>1</sup>Ghent University, Belgium

<sup>2</sup>Vrije Universiteit Brussel, Belgium

Although sufficient sleep is important for adolescents' mental and physical health, only 42.3% of 12- to 15-year-olds report sleeping the recommended minimum of eight hours on school days. To develop specific interventions that promote healthy sleeping behavior, the current study aims to investigate which psychosocial determinants (knowledge, attitude, social influence, self-efficacy, barriers and facilitators) predict a one-year change in adolescents' sleep duration. A questionnaire assessing sleep duration on school days and free days (Munich Chronotype Questionnaire for Children) as well as determinants of sleep, was administered twice in 1097 adolescents (Mage = 15.01, SD = 0.65, 46.3 % girls) from 6 schools in Flanders. Multiple linear regression analyses were conducted in SPSS. More positive attitudes towards going to bed early predicted a positive change in sleep duration on school days and free days after one year ( $\beta = .08$ ,  $p = 0.025$ ;  $\beta = .07$ ,  $p = .04$ ). In contrast, external barriers to going to bed early predicted a negative change in sleep duration after one year on school days ( $\beta = -.12$ ,  $p = p < .001$ ). On free days, especially screen-use in bed predicted a negative change in sleeping duration after one year ( $\beta = -.08$ ,  $p = .01$ ). The results of the current study imply that interventions to promote healthy sleep in adolescents might target attitude towards and perceived advantages of going to bed early. Moreover, removing external barriers, as well as minimizing screen-use in bed might be successful strategies.

## Children's anxiety, academic self-efficacy, and intergenerational transmission of worries regarding transition to middle school

C. Mairean<sup>1</sup>, A. Zancu<sup>2</sup>, L. Diaconu-Gherasim<sup>2</sup>

<sup>1</sup>Alexandru Ioan Cuza University, Romania

<sup>2</sup>Alexandru Ioan Cuza University of Iasi, Romania

The first aim of the present study was to assess how children's anxiety and academic self-efficacy, as well as the parents' worries about school transition are related with children worries about transition from primary to middle school. Our second aim was to explore the moderating role of children's academic self-efficacy in the relation of children's anxiety symptoms and children's worries. A sample of 292 fourth grade children (Mage= 10.43; 53.4% girls) completed scales assessing their anxiety, academic self-efficacy and worries about transition to middle school. Parents also filled out the scale assessing the worries about their children's transition from primary to middle school. The results showed that children's anxiety was positively related with their worries about transition to middle school whereas children's academic self-efficacy was negatively related with their worries. Parents' worries regarding their children's school transition were positively related with their children worries regarding the transition. Further, academic self-efficacy significantly moderated the relation between children's anxiety and their worries about school transition. Children with lower levels of anxiety reported lower worries for transition when their academic self-efficacy was higher, whereas children with higher anxiety reported higher worries for school transition at every level of self-efficacy. Our results suggest that in order to decrease children concerns and to increase their chances to make a successful transition, school-based intervention programs should target both children and their parents. Increasing effective communication that allow children and parents to express their worries and to benefit from emotional support would help to reduce worries.

## Stress perception of 5th graders in Germany during the CoViD-19 pandemic

L. Fellbaum<sup>1</sup>, M. Reder<sup>1</sup>, R. Soellner<sup>1</sup>

<sup>1</sup>University of Hildesheim, Germany

### Background.

Different studies show higher stress and loneliness among school students due to the COVID-19 pandemic (Bujard et al., 2021; Giannopoulou et al., 2021). It is assumed that the current situation still affects the stress perception of children and adolescents. We aim to give an overview of the current situation of 5th graders.

### Methods.

Within the Communities that Care (CTC) first panel survey in Germany, 15 questions on school and family related COVID-19 burden were added. The school survey is conducted in grades 5, 6, 8, 10, 11 in three federal states in Germany until April 2022. First descriptive and statistical analyses of 5th grade students are presented.

### Results.

All students (n = 492) were attending school in person at the time of the survey. 12.7% of the students indicated having greater financial worries since the start of the pandemic and 11.9% experienced fear about the future. Whereas students are on average satisfied with family atmosphere and the amount of contact with friends, a more mixed picture emerges when looking at satisfaction with remote schooling and school absence during lockdown .

### Discussion.

The data give an impression of the current stress experience in school students affected by the ongoing pandemic situation. Differences in comparison with other grades and associations with demographic variables and risk and protective factors in the family and school environments are discussed.

## Health-related quality of life in children during hospitalization after burn injuries

M. Santos<sup>1</sup>, M.G. Pereira<sup>1</sup>

<sup>1</sup>Psychology Research Center, School of Psychology, University of Minho, Portugal

**Background:** Pediatric burn injuries are the third leading cause of death by accident in the world. The risk of death from a burn injury is higher in developing countries. In Portugal, 20% of the victims are under five years old, mostly resulting from domestic accidents. These traumatic injuries negatively impact children's development and health-related quality of life (HRQOL), besides triggering additional family challenges. This study presents preliminary findings regarding the relationships between the child's sociodemographic/clinical characteristics, parents' traumatic stress, psychological morbidity, family functioning, and HRQOL, during the child's hospitalization. Moreover, considering the importance of this worrying public health problem, the purpose of this study was designed to take into consideration the UN Sustainable Goals three and ten. **Methods:** This cross-sectional study is part of larger longitudinal research and presents the data of 41 parents of children hospitalized due to a burn injury. **Findings:** There was a significant positive association between parent's psychological variables and child's HRQOL specifically: parental traumatic symptoms and child behavior problems ( $r=.34$ ,  $p<.05$ ); parental psychological morbidity and child behavior ( $r=.58$ ,  $p<.05$ ) and stomach problems ( $r=.39$ ,  $p<.05$ ); and between family functioning and child communication ( $r=.41$ ,  $p<.05$ ) and motor functioning ( $r=.51$ ,  $p<.05$ ).

**Discussion:** These preliminary findings highlight the need to develop preventive measures to reduce the prevalence of burn injuries and their impact on the child and family. Future interventions should focus on parents to reduce the impact of psychological morbidity and traumatic symptoms in order to promote effective parents' care after hospital discharge and the child's HRQOL.

## Support for siblings of chronically ill children - First results from the project "Strong Siblings!"

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<sup>5</sup>Elternhilfe krebskranker Kinder Leipzig e.V., Germany

**Background:** Children and adolescents whose siblings have a chronic illness not only have to cope with everyday demands and typical developmental tasks, but also with burdens caused by the sibling's illness. The aim of the "Strong Siblings!" project is to implement and evaluate the prevention interventions "Supporting Siblings" and "GeschwisterTREFF".

**Method:** Resources, coping strategies, health-related quality of life (QoL) as well as strengths and difficulties have been assessed in N=59 siblings (10.7  $\pm$  2.2 years, 55% female). N=27 siblings (10  $\pm$  2 years) were able to participate in one of the two interventions; data were collected at baseline (T0) up to 14 days (T1) and 12 weeks post intervention (T2). One parent recorded external assessment of QoL and strengths and difficulties at all three times.

**Results:** Sibling self-report showed an average QoL average values for resources, coping strategies, and a non-conspicuous total score for their strengths and difficulties; external assessment also yielded unremarkable results. Change measurement between T0 and T1 showed no change in the siblings; parents described a reduction in the overall value of strengths and difficulties ( $t=2.54$ ,  $p=.017$ ). Between T0 and T2, the parents reported no changes, siblings described improvements in resources ( $t=0.51$ ,  $p=.005$ ) and a decrease in the total score of strengths and difficulties ( $t=2.41$ ,  $p=.037$ ).

**Discussion:** Growing up with a chronically ill sibling can be challenging and stressful for healthy siblings. Primary preventive interventions can be used well; the project "Strong Siblings!" has so far delivered initial results; these cannot be generalized due to small sample size.

## Experiences and Post Traumatic Growth in siblings of cancer childhood survivors

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Siblings of children with cancer often experience the disease silently and alone. Despite acknowledging the negative impact of that experience, recent studies have included positive consequences and the possibility of post traumatic growth (PTG). Research on PTG in siblings is still scarce.

This study aimed to explore siblings' memories of their experience during the initial phase of the disease and their perception of the influence of that experience on their self-concept; relationship with others; meaning of life; and personal and professional choices.

A semi-structured in-depth interview according to PTG Model (Tedeschi & Calhoun 1995) was used. A total of 19 siblings (age 17y-32y; 62% female) participated.

Results: regarding memories, five themes emerged (related to their brother/sister; to their parents; to changes of family life; to the hospital and other sick children; and to him/herself during the initial phase of the disease). Siblings recognised the influence of some of their experiences on the PTG components. In what regards to self-perception, siblings spoke of autonomy; capacity for problems relativization; capacity to live responsibilities, and in parallel they mentioned introversion; emotional fragility; devaluation of self-emotional feelings and post traumatic symptoms. Most siblings mentioned to be more able to understand the suffering of others but more exigent in their social e emotional relations. Their learned perception of the ephemerality of life brought the need not to waste time and at the same time greater insecurity in relation to possible unexpected losses.

These results highlight the late effects of sibling experiences of children with cancer.



# Coping with Cancer

14:00 - 15:30

Kiev

Evangelos Karademas

## The relation of changes in self-efficacy to cope with breast cancer across time to well-being

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**Background:** Self-efficacy to cope with cancer refers to the ability to perform the behaviors that are important for successfully coping with illness-related challenges and is a strong predictor of psychological adaptation to cancer. Here, we examined whether coping self-efficacy changes over time and also if changes are similar across patients and are related to patient well-being.

**Methods:** Data from BOUNCE (<https://www.bounce-project.eu/>), an international prospective study in women diagnosed with non-metastatic breast cancer (N=404; M age=54.50), were used. The potential change of coping self-efficacy over one year, as well as its inter- and intra-personal relation to mental health and overall quality of life over a period of 18 months, was examined.

**Findings:** A small decline was found in the levels of coping self-efficacy over time (partial  $\eta^2=.042$ ). A latent class analysis revealed that this decline was notable in approximately 15% of participants. After controlling for several sociodemographic and medical variables, the decline in coping self-efficacy was strongly associated with worse mental health and overall quality of life over time ( $p<.001$ ). Also, a repeated measures correlation analysis showed that, at an intrapersonal level, coping self-efficacy was moderately related to mental health symptoms and quality of life (RM correlation =  $-.48$  and  $.28$ , respectively,  $p<.001$ ).

**Discussion:** Changes in perceived self-efficacy to cope with cancer is significantly associated with mental health and quality of life in women with breast cancer. In this regard, it may serve as a useful indicator of their long-term psychological adaptation to cancer.

## Coping with medication-related side effects: a daily diary study in women surviving breast cancer

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<sup>1</sup>University of Zurich, Switzerland

<sup>2</sup>Breast-Center Zurich, Switzerland

**Background:** In 2020, female breast cancer surpassed lung cancer as the most commonly diagnosed cancer globally. Thus, increasing numbers of women are being prescribed adjuvant endocrine therapy (AET). Taken for up to 10 years, AET can reduce the risk of cancer recurrence; however, side effects in AET are prevalent, with considerable impact on women's quality of life. How women cope with adverse treatment effects plays a significant role in their emotional adjustment.

**Methods** This intensive-longitudinal study observed n=217 women in AET. Women received daily evening surveys on ten consecutive days ( $M=9.67\pm1.08$ ,  $n=2099$  [96.7%]). Experienced medication-related side effects, coping strategies (Brief-COPE), and depressive symptoms (PHQ-4) were measured daily. Applying multilevel models, we tested the differential effects of coping strategies to buffer the adverse effects of side effects on depressive symptoms.

**Results:** Women who experienced overall more side effects and applied dysfunctional coping strategies, such as denial, showed more depressive symptoms. Emotion-focused coping (i.e., positive reframing) was negatively related to depressive symptoms at the between-person level. On a daily level, a higher-than-usual burden from side effects and dysfunctional coping were positively associated with depressive symptoms. However, interactions on the daily level showed that emotion-focused coping buffered the positive association of side effects on depressive symptoms, whereas the application of dysfunctional strategies amplified this association.

**Discussion:** Published literature suggests that AET side effects are one of the main reasons women state discontinuing treatment. The current study shows that the way women cope with adverse side effects can alter emotional adjustment.

# Acceptance and Commitment Therapy processes, distress and physical symptoms in women with breast cancer

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<sup>2</sup>NIHR Maudsley Biomedical Research Centre, United Kingdom

<sup>3</sup>University College London, United Kingdom

## Background

Distress and physical symptoms are ongoing issues for women with hormone receptor positive (HR+) breast cancer. Acceptance and Commitment Therapy (ACT) is one psychological intervention that has shown small effects for reducing distress and increasing quality of life in cancer. To develop and improve interventions, the modifiable processes associated with distress and symptoms need to be identified and researched.

## Method

Using a longitudinal observational design, 287 women with stage I-III HR+ breast cancer prescribed hormone therapy in the last 2 years and living in the UK, completed online questionnaires at baseline and 6 months (retention rate 89%). Measures included distress, anxiety, depression, symptom burden and ACT processes including self-compassion.

## Findings

Distress and ACT processes were stable over six months, however symptom burden significantly increased. Greater scores on inflexible processes (experiential avoidance and cognitive fusion) were significantly correlated with increased distress and symptom burden ( $r = 0.27$  to  $0.68$ ) whilst higher scores on flexible processes (mindfulness and committed action) were associated with decreased distress and symptom burden ( $r = -0.32$  to  $-0.52$ ). After controlling for age, cancer stage and baseline distress in hierarchical linear regression, experiential avoidance and cognitive fusion significantly predicted increased anxiety at 6m ( $B = 0.062$ ,  $B = 0.097$ ;  $R^2_{adj} = 50\%$ ) and experiential avoidance predicted depression at 6m ( $B = 0.069$ ,  $R^2_{adj} = 52\%$ ).

## Discussion

The findings provide support for the process-based ACT model being associated with distress in cancer. Therefore, targeting inflexible processes such as experiential avoidance and cognitive fusion in interventions, may be beneficial.

## Does the paradigm of being physically active resonate with cancer patients' attitudes?

A. Haussmann<sup>1,2</sup>, N. Ungar<sup>2,3</sup>, A. Tsiouris<sup>4,5</sup>, L. Schmidt<sup>2</sup>, J. Wiskemann<sup>4</sup>, K. Steindorf<sup>6</sup>, M. Sieverding<sup>2</sup>

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**Background:** Evidence on the benefits of physical activity (PA) during cancer has caused a paradigm shift: Instead of advising people with cancer to conserve energy (rest-paradigm), guidelines recommend that they engage in regular PA (activity-paradigm). This study examined how the rest and the activity-paradigm are represented among people with cancer. Associations with patient characteristics and variables of the Theory of Planned Behavior (TPB) were investigated.

**Methods:** A cross-sectional survey was conducted among N = 1,244 individuals with breast, colorectal and prostate cancer (58% women; M = 59.95 years). An online and a paper-pencil version were distributed, including a previously developed 15-item questionnaire assessing rest and activity-attitudes and TPB variables. To explain the intention to engage in PA, hierarchical regression analyses were calculated.

**Findings:** The two-dimensional structure of attitudes (rest and activity) was confirmed. The agreement with the activity-paradigm (M = 4.11; SD = 0.78) was higher compared to the rest-paradigm (M = 2.56; SD = 0.78,  $p < .001$ ). A higher number of indicated comorbidities and side effects was correlated with a higher agreement with the rest-paradigm. The TPB proved to be an appropriate model to explain the intention to engage in PA ( $R^2 = .59$ ). Within the model, the activity-paradigm, but not the rest-paradigm, was significantly associated with participants' intention for PA.

**Discussion:** The results of our study indicate that the paradigm shift has successfully reached people with cancer. Interventions focusing on the benefits of PA rather than addressing rest cognitions promise higher effectiveness in affecting PA levels.

## The looming cancer: A qualitative study on living with Chronic Lymphocytic Leukemia (CLL) without treatment

D. Kyrou<sup>1</sup>, K. Stavrogianni<sup>1</sup>, N. Vrontaras<sup>1</sup>, C. Karamanidou<sup>1</sup>, K. Stamatopoulos<sup>1</sup>

<sup>1</sup>Institute of Applied Biosciences, Centre for Research and Technology Hellas, Greece

### Background:

Research has shown that CLL patients in “watch and wait” show similar levels of anxiety, depression and QoL to those in the active treatment phase, despite experiencing minimal physical discomfort and no treatment side-effects. This study aimed to explore the experience, challenges and ways of coping with living with CLL before the initiation of treatment.

### Methods:

Semi-structured interviews were conducted with 30 CLL patients, of whom 8 (4 males, 4 females) had never received any cancer treatment and were selected for subsequent analysis to study the psychological impact of diagnosis, irrespective of treatment or adverse events. Time since diagnosis ranged from several months to 9 years. Interpretative Phenomenological Analysis was utilized.

### Findings:

Three themes were developed: 1) “Still waters run deep” highlights the sharp contrast between living with minimal symptoms while experiencing high anxiety for the future, 2) “Surviving Uncertainty” portrays participants’ supportive networks (hematologist, close ones), communication challenges and internal efforts to cope with the threatening overtones of CLL (e.g., downward comparisons, suppressing CLL thoughts), 3) “Turning over a new leaf” delineates participants’ realization of life’s finiteness and the way this acts as a nudge for psychological growth.

### Discussion:

CLL patients in active monitoring could benefit from psychosocial interventions that focus on assisting them in managing uncertainty and utilizing interpersonal support resources, addressing their existential concerns, as well as capitalizing on post-traumatic growth processes. Physicians’ awareness and responsiveness to their patients’ emotional challenges is pivotal in making appropriate referrals and promoting the timely utilization of psychosocial services.

# Prehabilitation to improve physical fitness and recovery from cancer surgery: Experiences of patients and clinicians

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<sup>4</sup>Salford Community Leisure, United Kingdom

<sup>5</sup>Manchester University NHS Foundation Trust, United Kingdom

## Background:

Prehabilitation aims to increase individuals' physical fitness and to support psychological wellbeing before and during cancer treatment to optimise recovery. This study aimed to understand views regarding prehabilitation and its acceptability in people undergoing cancer surgery and clinicians involved in referring patients.

## Methods:

The Greater Manchester Cancer Prehab4Cancer and Recovery Programme provides supported physical activity including gym membership and an individualised exercise prescription. Qualitative, semi-structured interviews informed by the Theoretical Framework of Acceptability were conducted with 18 individuals offered this programme (16 'engagers' participated in prehabilitation; 2 'non-engagers' did not). Clinicians involved in referring patients to prehabilitation completed an online survey (n=24). An inductive, thematic analysis was conducted, structured using the Framework approach.

## Findings:

Prehabilitation was highly valued by engagers and clinicians. Optimising recovery was a motivating factor for many engagers, and many felt that participating enhanced their recovery. Engagers valued the programme being tailored to individual ability and appeared to feel safe and supported. Prehabilitation seemed to increase confidence in ability to cope with treatment. Some felt it provided a welcome positive focus, and having increased personal support throughout the cancer journey seemed highly valued. Engagers typically had few commitments impacting their ability to attend and access to a car or a gym close to home. Within clinician and non-engager responses there was suggestion that commitments and transport issues could be barriers to engagement.

## Discussion:

Prehabilitation was generally well received, but potential barriers to engagement were identified. Including virtual approaches in delivering prehabilitation may support wider engagement.

# Family Health and Wellbeing

15:30 - 17:00

Ronja Runge



# The quality of the parent-child relationship and social functioning in deaf or hard-of-hearing children

S. Yuen<sup>1</sup>, Y. Tsou<sup>1</sup>, B. Li<sup>1</sup>, L. Stockmann<sup>1</sup>, L. Wang<sup>2</sup>, W. Liang<sup>2</sup>, C. Rieffe<sup>1,3</sup>

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<sup>3</sup>Twente University, Netherlands

## Background

The parent-child relationship is an essential social environment that provides children with opportunities to learn social behaviours. However, deaf or hard-of-hearing (DHH) children and their parents can face challenges within their interactions, such as feeling frustrated or misunderstood initially post-diagnosis, and parents may struggle with parenting. Thus, this study aimed to examine the extent to which the quality of the parent-child relationship is similar or different in children with and without hearing loss, and the relation of the quality in parent-child relationships with children's social functioning.

## Methods

103 DHH and 138 TH preschoolers (M=57.81 months) participated in this cross-sectional study. Parents completed the Child-Parent Relationship Scale, and both parents and teachers completed the Strengths and Difficulties Questionnaire. Analyses were conducted via independent t-tests and hierarchical regression models.

## Findings

Parents of DHH children reported fewer positive interactions with their child than parents of TH children ( $t(239)=3.36$ ,  $p<.001$ ), whilst similar levels of conflict and dependency were recorded for the two groups. For all children, no relation was found between parent-child positive interactions and social functioning. Yet more parent-child dependency related to lower social competence ( $b=-.06$ ,  $p=.010$ ), and more parent-child conflict ( $b=.11$ ,  $p<.001$ ) and dependency ( $b=.08$ ,  $p<.001$ ) related to more externalizing behaviours.

## Discussion

The quality of parent-child relationships was largely similar in DHH and TH children, and related to children's social functioning to a similar extent in both groups. This study reiterates the effectiveness of early intervention programs whilst suggesting the vital need to include more leisure activities for the parent-child dyads.

## German adolescents' mental health, family cohesion and family conflict before and during the SARS-CoV2 pandemic

R. Runge<sup>1</sup>, H. Schlüter<sup>1</sup>, M. Kollek<sup>1</sup>, R. Soellner<sup>2</sup>

<sup>1</sup>University of Hildesheim, Germany

<sup>2</sup>University of Hildesheim, Germany

### Background:

The SARS-CoV-2 pandemic has changed the lives of children and adolescents worldwide. School closures and distance learning were widespread in the first year and the possibility to meet peers was limited. Studies have already reported a negative impact on the mental health of children and youth. Trend analyses that focus on the same age group before and during the pandemic can provide information about the extent of mental health deterioration.

### Methods:

We explore trajectories of indicators of mental health (satisfaction with life, depressive symptoms), family conflict and family cohesion in children and adolescents from 2013 to 2022 (5 waves). Data stem from the Communities that Care Youth Survey in Lower Saxony, Germany (a regular online survey of 6th to 11th grade pupils). We analyse trajectories by age group, gender and socio-economic status. Logistic regression is used to analyse for significant changes.

### Expected results:

We expect lower life satisfaction and an increase in depressive symptoms in 2022 compared to the previous years, especially in youth with low socio-economic status. We expect family conflict to increase when socio-economic status is low.

### Current stage of work:

Data collection was finished in February 2022.

### Discussion:

Results will provide an insight into the psychosocial well-being of youth during the pandemic in Germany. This information is crucial for intervention and prevention planning in families.

## Adolescent exposure to coronavirus disease (COVID-19): associations with mental health and family relationships

A. Alexandrova-Karamanova<sup>1</sup>, E. Paunova-Markova<sup>1</sup>, T. Yordanova<sup>1</sup>, E. Dimitrova<sup>1</sup>, T. Kotzeva<sup>1,2</sup>, K. Mineva<sup>2</sup>, E. Bogdanova<sup>1</sup>

<sup>1</sup>Institute for Population and Human Studies - Bulgarian Academy of Sciences, Bulgaria

<sup>2</sup>Burgas Free University, Bulgaria

**Background:** The COVID-19 pandemic has been proved to significantly impact adolescent health and well-being, with exposure to the coronavirus disease being a crucial factor. The study aims to explore the associations between adolescent or family members exposure to COVID-19 (including severe disease, hospitalization, and death) and adolescent mental health (negative emotions, sleeping difficulties) and family relationships (quality of family relationships, family support).

**Methods:** A school-based national representative survey of about 4500 early to middle Bulgarian adolescents (11-15 years of age) is being conducted. Methods comprise the Family Subscale of the Multidimensional Scale of Perceived Social Support, measures constructed by the authors and by the Health Behaviour in School-aged Children (HBSC) research network. Data will be analyzed through descriptive statistics and multiple hierarchical regressions including factors such as gender, age, place of residence, socioeconomic status, and parental employment.

**Expected results:** It is expected that exposure to coronavirus disease will be associated with worse adolescent mental health and with higher levels of family cohesion and family support, with the effects being stronger at greater severity of the disease and its consequences. Significant impact of the sociodemographic factors is expected.

**Current stage of work:** Preparation for data collection.

**Discussion:** The study will contribute to understanding the associations between adolescent exposure to COVID-19, their mental health, and family processes and relationships. It will provide information on adolescents' needs for psychosocial support in the context of ongoing health threat (only 30% of Bulgarian population presently vaccinated, very high COVID-19 mortality rate).

## Effects of an online health promotion program using indoor nature therapy for unmarried mothers

K. Bang<sup>1</sup>, S. Kim<sup>1</sup>, S. Choi<sup>1</sup>, G. Lee<sup>1</sup>, M. Kim<sup>1</sup>, D. Shin<sup>1</sup>

<sup>1</sup>Seoul National University, College of Nursing, South Korea

**Background:** The Coronavirus-19 is threatening people's lives, especially marginalized populations such as unmarried mothers (UMs) who struggle with physical and psychological distress, making them more vulnerable to maintaining a healthy life. We organized a health promotion program to improve their physical/mental health, depression, anxiety, self-esteem, and parenting stress based on the literature review. This study aimed to implement an online health promotion program using indoor nature therapy for UMs and to verify its effects.

**Methods:** A quasi-experimental control group pretest-posttest design was used. Participants were UMs who had children under the age of 6; A total of 37 UMs (18 in the experimental group and 19 in the control group) participated in this study. For the experimental group, an online health promotion program using indoor nature therapy was provided for eight weeks, with one 90 minute-session per week in a small group of four to six mothers, from August to November 2021. Data were collected before and after the program using self-questionnaires and were analyzed using paired t-test, and Wilcoxon signed-rank test.

**Findings:** After the online health promotion program using indoor nature therapy, significant differences between pre-post comparisons were found on mental health ( $t=-2.19$ ,  $p=0.042$ ), depression ( $t=2.63$ ,  $p=0.017$ ), and self-esteem ( $t=-2.08$ ,  $p=0.057$ ) in the experimental group. No significant differences were found in a pre-posttest in the control group.

**Discussion:** This finding suggests that this online intervention is effective in improving the psychological health of UMs who raise young children, and who are socially and psychologically marginalized.

# Quality of life, mental health and wellbeing

15:30 - 17:00

Dominika Ochnik

## Determining work addiction of adult children: the effect of addicted parents and work motivation

M. Morkevičiūtė<sup>1</sup>, A. Endriulaitienė<sup>1</sup>

<sup>1</sup>Vytautas Magnus University, Lithuania

**Background.** Authors pointed out that family experiences might lead to work addiction. However, only a few studies have looked into the mechanisms whereby work-addicted parents predict the same health-damaging behavioral tendencies in their children. Therefore, the aim of the study was to examine the mediating role that work motivation played in the relationship between adult children's levels of work addiction and their parents' levels of work addiction.

**Methods.** The convenience sample was comprised of 964 Lithuanian employees. Data were collected by means of online self-administered questionnaires. Work addiction was assessed by the Bergen Work Addiction Scale (Andreassen et al., 2012). The Work Extrinsic and Intrinsic Motivation Scale (Tremblay et al., 2009) was used to measure work motivation.

**Findings.** Perceived work addiction of both mother and father was found to be related to higher levels of work addiction of their children. The results indicated that extrinsic motivation partially mediated the relationship between perceived work addiction of a father and that of his adult child. The indirect relationship between work addiction in parents and their adult children (via intrinsic motivation) was not significant.

**Discussion.** The study suggests that parents' attitudes towards work may directly influence their children's working behaviors and that this direct impact does not depend on the gender of the parent. However, work motivation of addicted children is increased only by the addicted father. It means that some factors other than motivational ones might be more appropriate to explaining the influence of a work addicted mother on her children's addiction.

## Sense of coherence, coping strategies and life satisfaction among parents of children with heart defects

P. Stawiarska<sup>1</sup>

<sup>1</sup>University of Social Sciences and Humanities, Poland

The aim of the research was to determine a relationship between the sense of coherence, perceived stress, coping strategies and life satisfaction among parents of children with congenital heart diseases. The group of respondents included 61 parents who were examined by questionnaire methods: The SOC-29 Life Orientation Questionnaire, COPE Multidimensional Coping Inventory, Perceived Stress Scale (PSS-10) The Satisfaction with Life Scale (SWLS). The results showed a relationship between the sense of coherence, perceived stress, coping strategies, and perceived life satisfaction. The results provided information indicating that: the higher level of coherence was associated with lower level of perceived stress and higher level of satisfaction with life. At the same time, the use of stress coping mechanisms, i.e. Active Coping, Positive Re-evaluation, Refraining from Action and Acceptance were associated with higher level of coherence. Negative relationships were noticed between the sense of coherence and the Turn to Religion and Cessation of Action. The higher level of perceived parent's stress was associated with lower level of satisfaction with life. The higher level of satisfaction with life was associated with Active coping, Positive Re-evaluation and Acceptance. These results can be considered to be inspiring for further research. The obtained results have important practical implications for health promotion and prevention programs for parents of children with chronic diseases.

## A prospective study of parents' experiences with prenatal genomic testing after an abnormal ultrasound (PreGen)

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<sup>5</sup>GenIMPACT: Centre for Economic Impacts of Genomic Medicine, Macquarie Business School, Macquarie University, Australia

**Background:** Fetal structural abnormalities occur in 2-5% of pregnancies, yet account for 20-33% of infant deaths. Whole exome and whole genome sequencing (WES/WGS) can diagnose abnormalities, but since WES/WGS is not yet standard of care, many questions regarding familial experiences and best practice remain unanswered. In PreGen, WES/WGS is offered to parents after an abnormal ultrasound. Using questionnaires, we aim to assess inter-relationships between parents' satisfaction with genetic counselling, hopes/expectations of WES/WGS, decisional regret to undergo WES/WGS, psychological distress, and socioeconomic status (SES).

**Methods:** Parents enrolled in PreGen will be eligible to complete questionnaires <4 weeks after prenatal WES/WGS [T1] and 6 months after birth [T2]. Questionnaires include the Edinburgh Postnatal Depression Scale; Decisional Regret Scale; Satisfaction with Genetic Counselling; Hopes/Expectations for Genomic Testing. We will use Structural Equation Modelling (SEM) in Mplus to determine whether SES, hopes/expectations [T1], distress [T1 and T2], and test results [T2] predict satisfaction and decisional regret [T2]. PreGen will provide WES/WGS to N=400 families; assuming 20% opt-out of the questionnaires (based on previous research), our sample will be N=320 families. This is sufficient according to a pwrSEM\_v0.1.2 power analysis.

**Expected results:** We expect satisfaction, hopes/expectations, decisional regret, and distress to all be inter-related.

**Current stage:** Ten parents have completed the T1 questionnaire.

**Discussion:** Little is known about parents' experiences and satisfaction with prenatal WES/WGS. Determining factors related to satisfaction and regret have important implications for genetic counsellors and can help to better determine areas for improvement to emotional support and information during genetic consultations.



## Risk Perception, Mental Health Problems and Sleep Disturbances in University students during the COVID-19 pandemic

M. Younas<sup>1</sup>, O. Tariq<sup>1</sup>

<sup>1</sup>University of the Punjab, Pakistan

**Background:** COVID-19, a contagious virus, may influence young adults' physical and psychological health. Amongst the most prevailing symptoms reported in the literature were anxiety and depression. The current study aimed to explore the relationship among risk perception, mental health problems and sleep disturbances of university students living in Lahore, Pakistan.

**Method:** A cross-sectional correlational research design was used. The sample consisted of (N=283, 149 males and 134 females) university students, with an average age of 21 years, recruited online from three public universities in Lahore, Pakistan via a Google survey using a non-probability sampling technique. The assessment measures consisted of Risk Perception Index, Coronavirus Anxiety Scale, Generalized Anxiety Scale-7, Patient Health Questionnaire-9 and Insomnia Severity Index. Pearson Product Moment Correlation, Multiple Linear Regression Analysis, and independent t-test were used to examine study variables.

**Results:** It was found that risk perception and mental health problems (coronavirus anxiety, generalized anxiety, and depression) significantly correlate with sleep disturbance (insomnia) in university students. Risk perception, coronavirus anxiety, generalized anxiety, and depression were positive predictors of sleep disturbance (insomnia). Generalized anxiety and depression were observed as the strongest predictor of sleep disturbances. Gender differences were found in coronavirus anxiety; males had higher coronavirus anxiety levels than females.

**Conclusion:** Sleep disturbances are common in students due to high-risk perceptions and psychological problems. This study can be helpful for students' health promotion, and educational programs should emphasize the relevance of risk perception, mental health and sleep disturbances during pandemics.

## Mental health condition of first-year college students during the COVID-19 pandemic in Japan

E. Nishigaki<sup>1</sup>

<sup>1</sup>Kansai Medical University, Japan

The COVID-19 pandemic in 2020 greatly affected the lives of university student's world over. There are studies from both within and outside Japan suggesting that medical students are usually more stressed than students in other streams. Thus, this study examined the mental health condition of 127 first-year college students during the COVID-19 pandemic. Results suggested that there is no big difference in stress response on University Personality Inventory (UPI) or Stress Response Scale (SRS-18). However, 17 percent of the students reported they felt languid and many claimed that they felt anxiety. Further, students with neuroticism, and students with sleeping disorders tended to be strongly affected by the stress due to the pandemic. The impact of COVID-19 is expected to continue. Therefore, it is necessary to support the students so that they can adopt suitable measures to cope with the stress.

## Relationship between vulnerability and suicidal ideation among Japanese university students

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Suicide is a serious global problem, with the highest suicide mortality rates at 26.9% in South Korea; Japan's rate of 16.1% is the seventh highest (WHO, 2021). One of the concepts that expresses the will to commit suicide and "want to die" is suicidal ideation (Beck, 1999), which may be related to life events stress and broken heart. This emotional hurt is expressed as vulnerability (Hayashi, 2002). Since vulnerability are associated with depressive symptoms (Yamaguchi et al., 2018), it may increase suicidal ideation. However, the relationship between vulnerability and suicidal ideation has not been determined. Therefore, this study examined the relationship between vulnerability and suicidal ideation among Japanese university students.

The participants were 159 Japanese university students. The questionnaire contained demographic questions, the Vulnerability Scale, and the Short Version Suicidal Ideation Scale. Data analysis included calculating the descriptive statistics, correlation coefficients of each scale and Mann–Whitney U test.

A positive correlation between vulnerability and suicidal ideation ( $r = .23$ ,  $p = .01$ ). The Mann–Whitney U test showed that high vulnerability has higher suicidal ideation scored than those who were low vulnerability ( $Z = 2.13$ ,  $U = 2595.000$ ,  $p = .05$ ). We focused on vulnerability and suicidal ideation. Vulnerable individuals have lower self-esteem and are at risk of maladaptive symptoms such as withdrawal and depression (Hiramatsu, 2003). Therefore, future study will expect to contribute to the prevention of mental health problems and suicide by predicting the degree of suicidal ideation and how much people who are vulnerable will want to die.

## Mental health and well-being education in schools across Europe: The role of psychology teachers

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The mental health of children and young people is acknowledged by many organizations worldwide (e.g., World Health Organisation, European Federation of Psychology Teachers' Associations, British Psychological Society and others) as a global challenge for both public health and educational systems. Children and adolescents are vulnerable groups; however, they often do not have adequate access to appropriate prevention and intervention. Educational systems, including psychology courses in schools, can be a key means of providing children and adolescents with relevant knowledge, skills and values to increase their understanding of mental health, help them to take care of their mental health, keep them informed about the availability of support services, and destigmatize attitudes to mental health in general. A joint project of the European Federation of Psychology Teachers' Associations (EFPTA) and European Federation of Psychologists' Associations (EFPA) Board of Educational Affairs aims to discover and map the provision of mental health topics and skills in the school curriculum in different European countries, to identify how mental health topics are implemented in psychology courses and other areas of the curriculum in upper secondary school education, and to identify some examples of good practice in this area. Representatives of national psychologists' and psychology teachers' associations in 38 European countries were approached with an online questionnaire with closed and open questions. Preliminary results from 10 countries illustrate the diversity of the provision of mental health education across Europe.

## The appreciation of body functionality affects life satisfaction through body trust: a mediated pathway

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**BACKGROUND:** Several dimensions of positive body image (BI) -such as body appreciation- have been positively related to life satisfaction. However, the effect of other dimensions of positive BI on life satisfaction, such as appreciation of body functionality (ABF) and trusting in one's body signals, is still unknown. Given the negative consequences of the deficits in body trust in several mental disorders, we hypothesized that body trust may constitute a crucial mediational variable in the effect of ABF on life satisfaction. The aim was to analyze whether the relationship between ABF and life satisfaction was mediated by body trust.

**METHODS:** The sample was composed of 130 Spanish participants (68.5% women, 34.23 ± 14.60 years old), who filled out self-reported measurements of ABF, body trust, and life satisfaction.

**FINDINGS:** A mediation analysis showed that there was not a significant direct effect of ABF on life satisfaction,  $b = .12$ ,  $SE = .17$ , 95% CI  $[-.22, .45]$ . However, there was a significant indirect effect of ABF on life satisfaction through body trust,  $b = .20$ ,  $SE = .05$ , 95% CI  $[.01, .22]$ . The present model explained 8.79% of the variance in life satisfaction.

**DISCUSSION:** Our results highlight that the ABF leads to greater life satisfaction through its effect on trusting one's body. Hence, the extent to which one experiences one's body as safe and trustworthy is crucial in increasing life satisfaction. Findings emphasize the importance of considering positive BI dimensions as therapeutical targets in interventions to promote psychological well-being.

## Longitudinal Assessment of Posttraumatic Growth during a pandemic: COVID-19's inheritance

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**Background:** Adverse situations such as COVID-19 can lead not only to negative outcomes but positive changes like posttraumatic growth (PTG). We aimed to (1) assess the prevalence of PTG as a result of COVID-19, (2) test if PTG could be an illusory change, and (3) identify potential predictors of PTG.

**Method:** We used a longitudinal prospective design with four temporal measures: March 2020 (N=3055), July 2020 (N=855), November 2020 (N=592), and November 2021 (N=404). Adults living in Spain were recruited following a snowball approach. PTG, psychological impact, resilience, sense of belonging, and social support were measured. We performed Pearson and Spearman correlations, ANOVAs for repeated measures, and mediational analyses.

**Findings:** In November 2021, 16.6% of participants showed at least a moderate degree of PTG. There were no statistically significant differences in PTG between temporal moments,  $F(2,81)=1.18$ ,  $p=.31$ . Psychological impact significantly decreased over time,  $F(2.56, 1043.29)=61.22$ ,  $p<.001$ . Psychological impact, social support, and sense of belonging showed a significant and positive correlation with PTG. Also, a double mediational effect was found between resilience and PTG through psychological impact (indirect effect  $-.07$ , CI  $[-.11; -.04]$ ) and social support (indirect effect  $.02$ , CI  $[-.01; .05]$ ).

**Discussion:** A significant proportion of the sample experienced PTG as a consequence of the COVID-19 pandemic. PTG levels remained stable over time suggesting that it is not an illusory change. Resilience, psychological impact, and social support partially explained PTG development.

## Predicting Situational and Global Meaning through Meaning-Making Processes following Bereavement

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**Background:** The aim of this study is to determine the relative contribution of meaning-making process variables in terms of restoring situational and global meaning systems following loss of a loved one.

**Methods:** Using correlational design, data were collected from 329 participants with a mean age of 26.5 (275 females, 52 males, 2 other), who have lost their loved ones during the last two years. They were administered sociodemographic and loss-related information form, and measures of global meaning, situational meaning, and processing variables (deliberate and intrusive cognitive processing, emotional processing, and emotional expression).

**Findings:** Two hierarchical regression analyses were conducted to predict global and situational meaning. Results showed that after controlling for age, psychiatric diagnosis, age of the deceased, and relationship with the deceased; processing variables significantly improved the prediction of situational meaning,  $R^2$  change = .17,  $F(4, 314) = 21.52$ ,  $p < .001$ . Deliberate rumination ( $\beta = -.29$ ,  $p < .001$ ), intrusive rumination ( $\beta = -.26$ ,  $p < .001$ ), and emotional processing ( $\beta = .17$ ,  $p < .01$ ) significantly predicted situational meaning. For global meaning, after controlling for age, psychiatric diagnosis, religious beliefs, and relationship with the deceased; the second step significantly increased the prediction,  $R^2$  change = .05,  $F(4, 320) = 5.06$ ,  $p = .001$ ; yet only emotional [removed]  $\beta = .15$ ,  $p < .05$ ) significantly predicted this outcome variable.

**Discussion:** These results suggested that meaning-making processes may be different for situational and global meaning. Overall, four potential pathways were identified to restore meaning-making systems following bereavement.

## The experience of loneliness, hardiness and psychological well-being of adults in a changing life situation

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**Background:** Changes and self-changes that occur in a person's life (moving, pandemic, etc.) suppose an active position of the subject himself. The rapidly changing conditions of human existence place high demands on its hardiness, flexibility, and ability to adapt to them.

**Purpose:** to study the characteristics of relationship between the components of self-change potential and experience of loneliness, hardiness, and psychological well-being in a situation of change.

**Methods:** Participants were 139 people (119 female; 20 male), mean age – 25,75.

**Methods used:** Multidimensional Inventory of Loneliness Experience (Leont'ev, Osin); Hardiness Survey by Maddi (adapted by Leont'ev); Psychological Well-being Scale by C. Ryff; Satisfaction With Life Scale by Diener; Self-Change Potential questionnaire (Manukyan et al.); survey.

**Findings:** differences in the experience of loneliness among respondents with different levels of hardiness were revealed. Hardiness was negatively associated with the overall experience of loneliness ( $r=-0.524$ ;  $p=0.000$ ). The need for self-change formed a negative relationship with general experience of loneliness ( $r=-0.660$ ;  $p=0.000$ ) and dependence on communication ( $r=-0.539$ ;  $p=0.000$ ), as well as a positive relationship with positive loneliness ( $r= 0.428$ ;  $p=0.001$ ) and with psychological well-being ( $r= 0.448$ ;  $p=0.013$ ).

**Discussion:** Thus, hardiness allowed a person to more effectively cope with loneliness in a changing life situation. The ability to consciously work on oneself, directed self-change, the ability to systematically implement what was planned were closely related to competence in mastering the environment, the ability to choose or create an appropriate context for the realization of personal needs and values.



# Mental Health in Young Adults from Four Countries during the COVID-19 Pandemic: A Longitudinal Study

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The aim of this cross-national longitudinal study was to reveal the change in mental health indicators: PTSD, Perceived stress, Exposure to Coronavirus Pandemic, Perceived negative impact of Coronavirus (PNIC), Fear of COVID-19 (FCV-19), and Fear of vaccination (FoVac). The first measurement (T1) was in February 2021, the second (T2) was in May-June 2021. The final sample consisted of 1,723 participants across Germany, Israel, Poland, and Slovenia between the age of 20-40 ( $M = 30.74$ ,  $SD = 5.74$ ).

The paired-samples Student's t-test was used for testing differences between T1 and T2. A repeated measures two-way ANOVA was performed to examine changes over time (T) and across the countries (C).

A significant decrease at T2 was found in PTSD, perceived stress, PNIC, FCV-19, and FoVac. The effect size was small, except for the large effect size in FCV-19 and FoVac. A significant main effect was found for Time (T), Country (C), and interaction Tx C in all variables, except interaction effect for PTSD and perceived stress.

Our study showed the strongest general decrease in fear of COVID-19 and vaccination (particularly in Israel), yet the strongest differences between countries revealed Slovenia in the highest negative impact on socioeconomic status.

There is a significant improvement in mental health across the four countries; however, there are differences due to country. Therefore, the cross-national context should be taken into consideration when analyzing the effects of the COVID-19 pandemic on mental health.

# Issues in Child & Adolescent Health and wellbeing

15:30 - 17:00

Matthias Aulbach

## Autonomy in children with chronic diseases: a systematic literature review of the conceptualization and evaluation

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**Background :** Autonomy has been shown to affect mental and physical health in the context of adults and adolescents with chronic diseases (CD) by promoting and maintaining health behaviors such as treatment adherence. The role of autonomy has, however, been more rarely studied in children with CD.

We conducted a systematic review in order to provide a narrative synthesis of studies that examined the concept of autonomy in children with CD.

**Methods:** Four databases were considered (Pubmed, Embase, Scopus and PsycInfo). Criteria for selection were involving children having CD and including a definition of autonomy. From 3586 articles retrieved, 28 studies met the inclusion criteria, according to the guidelines provided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols (PRISMA-P).

**Findings:** Autonomy in children with CD made reference to two theoretical models. The first one is based on self-determination theory and defines autonomy as a process of choice. The second one focuses on relational dimension of autonomy by positioning the child in a process of separation from his parents. These two models show differences, but they also have common components such as decision-making and self-regulation of behavior.

**Discussion:** The findings highlight a large diversity in the conceptualization of autonomy in the context of pediatrics. This project aims to establish a common vision of autonomy among caregivers teams and parents to reinforce therapeutic support for children with CD.

## Empathy, Sympathy, and Self-Esteem: The link with Preadolescents' Attitudes towards Children with Disabilities

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The attitudes towards disability define the cognitive, emotional, and behavioral processes that further shape favorable or prejudicial judgments and reactions towards several aspects related to disability. A negative attitude toward disability is one of the potential barriers for children with disability to achieve social equality. Although several studies previously investigated the attitudes toward disability, only a few explored the personal factors related to sympathy and self-esteem in preadolescents and the potential mediating role of cognitive empathy on the relationship between self-esteem and the attitudes towards children with disabilities. The present cross-sectional aimed to address this gap. Our sample consisted of 100 preadolescents aged 9 to 11 ( $M=10.21$ ,  $SD=.53$ ) enrolled in four Romanian public schools from the north-eastern part of the country. We measured participants' affective and cognitive empathy, in addition to sympathy and self-esteem. Our results suggested that participants' affective, cognitive, and behavioral dimensions related to their attitudes towards children with disabilities significantly correlated only with their cognitive empathy. Furthermore, cognitive empathy fully mediated the relationship between self-esteem and the affective and cognitive dimensions (but not the behavioral one) of the attitudes towards children with disability. Results are discussed concerning the practical implications for healthcare programs and practices, using the social cognition theoretical models related to health behavior attitudes.

## Resilience and depression in adolescents with adverse childhood experiences

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**Background:** Studies exploring resilience has been initiated with a number of psychosocial investigations bringing evidence that has shown that children exposed to child abuse and neglect can cope and adapt with these adverse experiences. The aim of the study was to investigate the association between resiliency and depression in adolescence with adverse childhood experiences in the frame of the ecological model for understanding violence.

**Method:** Cross-sectional study including representative two stage quota sample at first- and second-year university 622 students from the 12 faculties at university "Ss Cyril and Methodius, Skopje", North Macedonia in the academic year 2016/2017. The WHO International Adverse Childhood Experiences Questionnaire was used for collecting information on: abuse and neglect and other adverse life experiences in childhood, while resilience was measured with The Child and Youth Resilience Measure-Youth version and Depression scale.

**Findings:** Results showed statistically significant association between the resiliency and depression in adolescents. Adolescents with higher resiliency had lower levels of depression. Additional analysis revealed that the depression was more prevalent among the group of students with higher levels of adverse childhood experiences and lower resilience, while in the group of students that were not exposed to adverse experiences the prevalence of depression was at lower levels.

**Discussion:** Abuse, neglect and other adverse childhood experiences are serious public health problem globally and in North Macedonia. Preventive actions and evidence based interventions that will focus on building resilience in adolescents will contribute to elevate health and well-being and reduce adverse childhood experiences.

## Impact of having a sibling with celiac disease on life dimensions: A systematic review

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**Background:** Celiac disease is an autoimmune lifelong disorder with many life complications. Little is known about the impact of celiac disease on siblings, a particularly vulnerable group, who share a common genetic and within-family environment. This systematic review aims to do an overview of studies about the impact that having a sibling with celiac disease on the various life dimensions have on children and adolescents (from 0 to 19 years-old). This study is aligned with the UN Sustainable Goals three and ten. **Methods:** A systematic search was carried out in four official bibliographic databases were selected: Web of science, PsycArticles, ERIC, and Scopus. Only standard research papers, peer-reviewed published on indexed journals written in English, Spanish and Portuguese were included. There was no limit on the year of publication. **Findings:** A total of 5136 publications were extracted and added to Rayyan@platform. After two independent researchers screening, a new total of 15 publications was analyzed: nine quantitative studies, four qualitative, and two mix-methods. Results were organized according to different life dimensions: psychological, familiar, social, and scholar. In general, the studies reported that healthy siblings are physically and psychosocially affected, and that there is low parental awareness about the impact of having a sibling with a specific disease. **Discussion:** This up-to-date systematic review raises awareness to this topic providing in-depth knowledge that reinforces the need and relevance of developing specific assessments and interventions for this population, as well as the sensitization of adult caregivers.

## Risk factors during development in children with intellectual disability in institutional care

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**Background.** The aim of study is to analyze the relationship between social and health risk factors in children with ID in institutional care, who are more often exposed to negative circumstances in development. Intellectual disability (ID) is associated with multicausal risk factors including genetic, environmental, and peripartum causes. Risk factors are differently associated with the severity level of ID.

**Methods.** The sample consisted of 199 children in institutional care, aged 5 to 19 years ( $M = 12.8$ ;  $SD = 2.99$ ), 50% (100) boys. The inclusive criterion was intellect lower than IQ85; 16.5% with borderline intellect, 56.3% mild, 19.5% moderate, 6.5% severe, and 1% with profound level of ID. Evaluated health risk factors were: high-risk pregnancy, using of drugs or alcohol during pregnancy, prematurity, labor complications, neonatal difficulties, and infection. Social risk factors were neglect, abuse, and maltreatment.

**Findings.** A multinomial logistic regression was applied to the model of the relationship between the predictor variables (neonatal difficulties, neglect early health care, labore complications, neonatal infections, premature, FAS) and level of ID. Only neglect of early health care ( $p = .008$ ), neonatal infections ( $p = .025$ ) a FAS ( $p = .020$ ) significantly contribute to the model.

**Discussion.** The peripartum risks in our sample are associated with a more severe ID, on contrary, social risk factors with a milder ID. Many of non-genetic factors of ID are preventable. The outputs can be applied in social prevention, gynecology, and primary pediatrics. Early detection of at-risk mothers and their children would reduce the negative impact.

# Mental Health Problems and Psychiatric Morbidity of Transgender Adolescents

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Gender dysphoria diagnosis (GID) involves a difference between one's experienced /expressed gender and assigned gender, and significant distress or related problems in psychosocial functioning. The gender conflict affects adolescents in different ways including identity issues as well as problems related with social interactions and environment. An important area of research in gender dysphoria involves the frequency and nature of psychopathology and the comorbidity of mental disorders.

The aim of this study is to determine the prevalence of mental health problems and psychiatric morbidity at the beginning of transition process in transgender adolescents.

We used the Personality Assessment Inventory – Adolescent (PAI-A) which was administered to 67 adolescents (51 female to male transgender (FtMs), and 16 male to female transgender (MtFs), ages 13 to 18.

76% of adolescents in the study scored in the clinically significant range on at least one of clinical scales. Among tested individuals 52% have had significantly higher T-scores (70T or above) on clinical Depression scale and 37% on clinical Anxiety Related Disorders scale. Most worryingly, over 64% of adolescents have had significantly higher T-scores on Suicidal ideation treatment consideration scale.

Transgender individuals, especially adolescents, represent a vulnerable population at risk of negative mental health outcomes including depression, anxiety, self-harm and suicidality. Information on psychological impairment may help health care providers identify the most appropriate early psychological and medical intervention and treatment for transgender adolescents.



# Family health and relationships

15:30 - 17:00

John Bogue

## "Have they brushed their teeth this morning?" How did COVID-19 affect children's oral health behaviours?

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**Background:** Poor oral health in primary school children causes pain, distress, difficulties eating, sleeping, and socialising. In England, around ¼ children have tooth decay by the time they start school, impairing their ability to successfully engage in the classroom from the outset of their school career. COVID-19 resulted in severe disruption to dental services, in particular the scope for 'teachable opportunities' during routine dental checks with families. The study aimed to investigate parents' experiences of oral health care and preventative dental practice during COVID-19.

**Method:** A purposive sample of 20 mothers of children (<12 years) took part in individual semi-structured audio-recorded interviews. Audio-recordings were transcribed verbatim, and subjected to inductive thematic analysis.

**Findings:** Parents described how COVID-19 restrictions had created marked changes to their daily routines, which had largely negative consequences on oral health behaviours: new routines and distractions of home-schooling meant morning tooth-brushing was often missed, and there was greater proximity to sugary snacks and drinks. However, for some families, homeworking created more opportunities for parents to interact with children around tooth-kind behaviours. Emotional strains on parents reduced their motivation to enforce oral health care, and increased their use of sugary foods as compensatory treats. Dental care was restricted to emergency treatment, with parents feeling uncertain where to access support and burdened by the responsibility of oral health prevention.

**Discussion:** COVID-19 pandemic affected the opportunities and motivation for tooth-kind behaviours amongst parents, and revealed a lack of capability in dental services to provide preventative oral health care.

## „Enjoy your meal! “But how? Considering mealtime atmosphere in a more systematic way

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### Background

Positive mealtime atmosphere is associated with healthier family nutrition - but what constitutes positive atmosphere? No common definition exists to date, but various questionnaires claim measuring mealtime atmosphere. The aim of this study is to comprehensively test atmosphere items taken from these questionnaires in one sample to identify different facets of mealtime atmosphere, to distinguish atmosphere from related constructs, and to investigate how different facets influence fruit and vegetable intake.

### Methods

During three consecutive days, one parent and one child (Mage = 14) from each family (n=47; planned N=200) reported mealtime atmosphere and fruits and vegetables consumed during the family meal using established questionnaires. In addition, they described general family functioning, family meal routines, and availability and preference of fruits and vegetables.

### Findings

Preliminary analyses based on the parent data and using exploratory factor analysis identified three facets of mealtime atmosphere, which can be interpreted as communication, shared enjoyment and connectedness, and individual negative affect ( $\alpha > .7$ ), explaining 50% of the variance.

Overall mealtime atmosphere was medium related to general family functioning ( $\beta = .40$ ,  $p < .001$ ), which suggests that mealtime atmosphere explains additional variance. Negative affect was the strongest predictor for fruit and vegetable intake ( $\beta = -.18$ ,  $p = .014$ ).

### Discussion

This study provides initial evidence on mealtime atmosphere's factorial composition and their relation to diet quality. The findings provide a basis for a more systematic consideration of mealtime atmosphere in experimental research and the development of effective interventions.

## Somatic complaints, sedentary behavior and relatedness in adolescents during the second year of COVID-19 pandemic

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<sup>1</sup>Vilnius University, Lithuania

Stay at home orders, distance education, social restrictions were introduced in many countries to effectively manage unpredictable and high spread of coronavirus SARS-Cov-2. In Lithuania, most of adolescents spend in distance education more than half a year. In addition, strict restrictions for social contacting were implemented and public places for entertainment were closed. Youngsters might be especially vulnerable to pandemic restrictions because of developmental challenges. Many studies have revealed negative impact of higher sedentary behavior and less physical activity on adolescents' mental health both during pandemic and pre-pandemic. The impact on somatic complaints was less researched. In this study we aimed to analyze associations among adolescents' sedentary behavior, physical activity and somatic complaints, taking into account relationships with peers and parents as mediating factors.

The study included 1483 adolescents aged 11-19 years (mean age 14.6) from all regions of Lithuania. Participants answered online questionnaires self-reporting their daily physical activity (PA), sedentary behavior (SB), somatic complaints (various pains, nausea, etc.), and relationships with parents and peers. Data collected in May-June, 2021.

Results revealed somatic complaints were significantly related to more SB, less PA, lower rated relationships with peers and parents. Female and older adolescents had more somatic complaints and were less physically active. Higher SB, lower PA, less satisfactory relationships with parents and peers predicted more somatic complaints in female adolescents. Male youngsters' somatic complaints were significantly predicted by higher SB and less satisfactory relationships with peers.

Keeping sufficient PA and meeting psychosocial needs during pandemic were essential for adolescents' health.

## Affective relationship, identity positioning and caregiving experience: An interpretative phenomenological analysis on spouse caregivers

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In extension for being a relative, informal caregivers (IC) bring different types of care such as emotional support but also medical assistance. This combination of two concurrent identities (relative and health caregiver) refers to positioning theory. Using this perspective, we can postulate that the caregiver would adapt their identity according to the needs of the person being cared for. Such adjustment, combined with their complex affective bond, would have an influence on their experience as a caregiver. Recent theoretical works focus on caregiving effects rather than what constitutes caregiving itself. Thus, the objective of this exploratory study was to investigate the interactions between affective relationship and identity positioning and how they influence caregiving experiences. Nine spouses of patients with dementia were interviewed using semi-structured interviews. We explored their experiences as caregivers, how they address their own identity, and the affective relationship with their care receiver. Transcripts were analysed using interpretative phenomenological analysis. Findings revealed four themes related to caregivers' perspectives on the care they provide: (1) Perceived changes in the care receiver (e.g., behaviours, cognitions, personhood), (2) Relationship with care receiver (e.g., intimacy, past relationship, self-distancing), (3) Perception of support services (e.g., support, efficiency, shame), and (4) Self-perception (e.g., partner, professional, technical). Results suggest that informal caregiving specifically depends on affective and emotional bonds and IC's support needs to take the caregiver-receiver bonding factor into account. Interventions to improve IC's health and well-being should focus on the interactions that those four dimensions have and on easing transitions through both identities.

# Subjective health and wellbeing across the lifespan

15:30 - 17:00

Yael Benyamini

## A standard set of outcome measures for adolescent and adult Marfan Syndrome patients

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<sup>2</sup>Department of Psychosomatics and Psychiatry, Children's Research Center, University Children's Hospital, Zurich, Switzerland

**Background:** Marfan syndrome (MFS) is a rare connective tissue disorder. The goal of this study is to establish a core set of patient reported outcomes (PROs) and corresponding patient reported outcome measures (PROMs) for different age-groups (adolescents and adults) with MFS.

**Method:** The present study will use the Delphi methodology, incorporating a 3-step process to rate PRO importance. An extensive list of PROs will be provided by the pre-existing categories of the NIH Patient-Reported Outcomes Measurement Information System (PROMIS®). The sample will consist of health care professionals, patients, and parents. A fully labelled 5-point Likert scale, ranging from “very unimportant” to “very important”, will be used. For a PRO to be included ≥75% of participants, will have to rate it as very important or somewhat important, at the same time the PRO should not be rated as somewhat unimportant or very unimportant by more than 15%. After consensus will be established a systematic search will be conducted targeting PROMs that measure the PROs selected. Afterward, two reviewers will rate the psychometric properties of PROMs, based on consensus-based standards for the selection of health measurement instruments (COSMIN) guidelines.

**Discussion:** The redundant collection of PROs and their inappropriate measurement can lead to biased outcome reporting. In MFS there is a clear need for a core outcome set to ensure that relevant outcomes are being measured appropriately.

**Expected results:** This study is exploratory and therefore, no specific pattern of results is expected.

**Current stage of work:** Data collection will be starting soon.

## Role models for successful aging

A. Kashina<sup>1</sup>

<sup>1</sup>Latvian University, Latvia

**Objectives:** Positive role models, according to motivation theory, stimulate the introduction of necessary changes in an individual's lifestyle, and are an example of the possibility to achieve success and act as behavioural models. The poster presented at the conference shows the correlation between the presence of a role model and an individual plan of preventive measures among young people, adults of middle and pre-retirement age, as well as among the seniors.

**Method:** The survey was conducted among 200 residents of Latvia aged 18 to 99 years. The questionnaire assessed attitudes towards old age, the presence of role models, the reasons for choosing them, as well as the existence of an individual's plan for preparing for this important period of life. Open-ended answers were coded for recurring themes. Views on aging and attitudes towards one's own aging were assessed with questionnaires.

**Results:** 85% percent of participants indicated that they had at least one role model. Most mentioned role models from their family, including parents and grandparents. Role models were gender matched. The most frequently cited reasons for model choices were health, activities, and social resources. It was these factors that were considered the most important in the survey of attitudes towards aging. However, the priority of importance changed depending on the age of the participants. Young people tend to value physical health and the absence of disabilities most of all, whereas for older people, the preservation of mental abilities and social support are much more important.



## Mapping global variation in self-rated health across the lifespan

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<sup>2</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Germany

<sup>3</sup>German Centre of Gerontology, Germany

**Background:** Past empirical research suggests that self-ratings of health slightly decrease with age. But global variations in self-rated health across the adulthood are largely unknown, mainly due to a predominant research focus on ageing populations of the Global North. Here we describe variations in the self-rated health-age curve across the world, including data from 79 countries spanning 5 continents.

**Methods:** We analysed cross-sectional data from 132,802 respondents aged 16 to 82 years ( $M = 45.8$ ,  $SD = 17.2$ , 46% women) from 79 countries, who participated in the World Value Survey. Self-rated health was assessed by asking participants to rate their health on a scale ranging from 1 (very poor) to 5 (very good). Data were analysed using multilevel models, considering individual nesting of participants within countries and including fixed and random effects of age (z-standardised).

**Findings:** Preliminary results suggest substantial between-country global variation in age-adjusted levels of self-rated health, ranging from 3.08 (Zimbabwe) to 4.25 (Greece). Across countries, higher age was associated with lower self-rated health ( $\beta = -0.27$ ,  $p < 0.001$ ), with moderate variation in age differences between countries ( $var = 0.02$ ).

**Discussion:** These findings suggest that despite global inequalities in self-rated health, age differences in self-rated health during adulthood are relatively consistent across countries.

## Emotion regulation, negative affect, and somatic symptoms in daily life: a dyadic intensive longitudinal study

J. Roseman<sup>1</sup>, J. Drewelies<sup>2</sup>, N. Bolger<sup>3</sup>, G.(. Stadler<sup>4</sup>

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<sup>4</sup>Charité - Universitätsmedizin Berlin, Germany

**Background:** There are established links between somatic symptoms and negative emotions. However, less is known about the underlying mechanisms, e.g. emotion regulation strategies. While emotion regulation disturbances have been associated with somatic symptoms, few studies have examined these processes in daily life. This study investigates how daily emotion regulation strategies and negative affect are linked to daily somatic symptoms in romantic couples.

**Methods:** Heterosexual couples (N = 90) completed diary entries every day for 35 days. Questions consisted of daily emotion regulation strategies (e.g. self-blame, avoidance, distraction), negative affect, and somatic symptoms (e.g. upset stomach, feeling sick, insomnia, back or muscle ache, headache, rash or skin irritation) experienced within 24 hours. A multilevel model was used specifying within- and between-subject links between emotion regulation strategies utilized, negative affect, and daily somatic symptoms experienced.

**Findings:** On days in which male and female partners engaged in more self-blame, distraction, avoidance, and experienced higher negative affect, they reported more somatic symptoms. On the between-person level, individuals who tended to use more of these emotion regulation strategies, as well as experiencing generally higher negative affect, reported more somatic symptoms.

**Discussion:** Daily experiences of somatic symptoms are linked to daily use of self-blame, avoidance, and distraction as emotion regulation strategies, as well as negative affect. Given these associations, further research should investigate the bidirectional effects of emotion regulation and somatic symptoms in daily life.

# Health Psychology and aging

15:30 - 17:00

Kevin McKee

## The ASPIDA project: Physical activity, physical function, falls and quality of life in older adults

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A physically active lifestyle is important for healthy ageing. Yet with regard to falls, beneficial and harmful effects of specific physical activity (PA) and sedentary behaviour (SB) patterns, like bouts and total PA of various intensities, are unclear. The study aims to explore the relationships of objectively measured PA and SB patterns with physical function, falls and quality of life in community-dwelling older adults at high/low risk of falls; also, to identify psychosocial determinants of PA and SB patterns, namely motivation, self-efficacy, outcome expectations, fear of falls, depression. Methods. This is an observational study with 12-month follow-up, part of the wider multidisciplinary ASPIDA project, set up at community centers in municipality of Rodopi, Northern Greece. Baseline recruitment will take place from October 2021 to October 2022 with the aim to recruit 300 adults over 65 years. Measures include accelerometry (waist-worn Actigraph GT3X, GT9X), questionnaires and physical performance tests repeated at baseline and follow-up visits to recruiting sites, with quarterly recording of falls via telephone contact. Regression models will examine if changes in hypothesized determinants predict changes in outcome variables for each aim and path analysis will examine hypothesized process models. Discussion. By examining theory-informed underlying mechanisms of PA/ SB behaviours and implications of the latter for physical function, falls and well-being, the study will build a comprehensive evidence base for understanding this modifiable lifestyle factor in community-dwelling older adults. Findings will guide the development of lifestyle interventions, such as community- and home-based PA interventions, to improve selected outcomes.

### ASPIDA acknowledgment in publications

Funding: We acknowledge support of this work by the project “Study, Design, Development and Implementation of a Holistic System for Upgrading the Quality of Life and Activity of the Elderly” (MIS 5047294) which is implemented under the Action “Support for Regional Excellence”, funded by the Operational Programme “Competitiveness, Entrepreneurship and Innovation” (NSRF 2014-2020) and co-financed by Greece and the European Union (European Regional Development Fund).

## Preventing accidents and injuries: older adults' experiences, worries, and preventive measures regarding home hazards

E. Mauritzson<sup>1</sup>, K. McKee<sup>1</sup>, M. Elf<sup>1</sup>, J. Borg<sup>1</sup>

<sup>1</sup>Dalarna University, Sweden

**Background:** Accidents cause 3% of all deaths in Europe, yet health behaviour research rarely focuses on accident prevention. In Sweden, older adults are involved in 70% of all fatal accidents and 50% of all injurious accidents. This study explored older adults' experience, worry and preventive measures regarding a range of home hazards.

**Methods:** This was a cross-sectional questionnaire-based, telephone-administered survey of adults aged 70+ years living in ordinary housing in Sweden. Potential participants were randomly sampled from a national database of telephone numbers, with recruitment concluding at N=400. Participants were asked for their experience, preventive measures taken (yes/no) and worry (rated 1-5) regarding each of fifteen home hazards. Data was also collected on background variables including age, health and cohabitation status.

**Findings:** Falls (24.3%) and stab/cut injuries (22.3%) were the most experienced hazards, worry was highest for burglary (M=2.53) and falls (M=2.48), while preventive measures were most common for fire (84.8%) and burglary (61.8%). For most hazards, participants' experience, worry and preventive measures were significantly correlated, although effect sizes were small. Cohabiting was significantly positively associated with taking preventive measures against eight hazards, feeling unsafe in the home with five, and lower age with three.

**Discussion:** While older adults' experience and level of worry regarding home hazards are associated with preventive measures taken, these associations are not strong and other factors are associated with preventive behaviour. Further identification of the main determinants of older adults' preventive behaviour can contribute to effective policy for the reduction of home accidents.

## Subjective and objective cognitive decline in old adults

R. Massaldjieva<sup>1</sup>

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Our aim was to investigate 1)the degree of coincidence between subjective and objective cognitive decline, and 2)the mosaic of impairments of functions in older adults with subjective cognitive complaints(SCC),without dementia.53 adults with SCC, 28,3%males and 71,7females,living independently in the community,mean age 66.19(SD=7,903),with no evidence of mental disorders were assessed with interview, subtests from CERAD-NB(Word List Recall,Verbal Fluency,15-item Boston Naming Test),CLOX and Digit Symbol Substitution.The subjects were divided into 2 groups:with(n=22)and without objective cognitive decline-OCD(n=31)after a MMSE screening.There were no statistically significant differences in age ( $t = .341$ ,  $p = .735$ )and education of men and women -  $\chi^2 = 1.006$ ,  $df = 1$ ,  $p = .316$ .No significant cognitive decline was found in more than half of the subjects(58,49%).Men showed worse results from the memory test ( $t = -2.471$ ,  $p = .017$ ).Subjects without OCD from the initial screening had higher means on all tests, significant differences only in the immediate word reproduction and verbal fluidity.In the group without OCD the result of verbal memory correlated positively with the educational level ( $r = .672$ ,  $p = .002$ )but not with age and gender.In the group with OCD (MMSE score  $< 28$ )there was no relationship between memory and demographic variables,  $p > .05$ , this could reflect the leading influence of the impairments underlying the findings in these individuals.The most frequent errors from CLOX were the length of the hands of clock-60.7%; the organization of the main figures of the dial-58,9%; the symmetry on both sides of the axis 12-6 -53.6%.Our results can be a contribution to the development of effective mental health care programs in later life.

## Relationship between cognitive reserve and memory in non-demented older adults

K. Sneidere<sup>1</sup>, A. Stepens<sup>1</sup>

<sup>1</sup>Rīga Stradiņš University, Latvia

The current decade has been pronounced to be the one of healthy ageing, thus acknowledging the rising challenges in the rapid increase in the mean age of the population (UN, 2020; WHO, 2018). With age being the main predictor of cognitive deterioration, it is essential to identify potential activities to reduce or delay the onset of such changes. Cognitive reserve (CR) postulates that there are specific individual characteristics, often related to their lifestyle, that might explain the different susceptibility of cognitive abilities in case of a pathology or a challenge (Stern et al., 2020). Ergo we aimed to investigate the relationship between CR and memory in older adults without a diagnosis of dementia.

This cross-sectional study involved 58 participants, aged from 65 -85 (M=72.05, SD = 5.18, 22% males). Short and long-term memory was assessed using Memory Ten-word task (Luria, 1976) while working memory and associative memory was evaluated with subtests from Woodcock-Johnson test of Cognitive Abilities (Woodcock et al., 2001). Cognitive Reserve Index questionnaire (Nucci et al., 2012) was used to obtain data on CR.

CR correlated only with short-term memory ( $r_s = .312$ ,  $p = .017$ ). Linear regression analysis indicated that CR explained 10% of the variance in memory ( $R^2=.102$ ,  $F(57)=7.492$ ,  $p = .008$ ).

The results indicate a potential trend between long-term involvement in cognitive and social activities and better short-term memory performance in older adults. However, sample size and gender limitations should be considered, when interpreting the data.

This study was conducted within the project no.8.2.2.0/20/I/004

## MASCoD - Multidimensional Assessment of Subjective Cognitive Decline: a new screening for subjective cognitive decline

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**Background:** Subjective cognitive decline-SCD is a subclinical cognitive impairment subjectively experienced without being detectable from a diagnostic and neuropsychological perspective. It can negatively impact on patient's frailty and quality of life and it may be prodromal to severe cognitive impairment. Currently, only a few screening tools focusing mainly on memory complaints exist. Therefore, the aim is to present preliminary data and a new screening tool of an ongoing research.

**Methods:** Several meetings with experts (i.e. psychologists, neuropsychologists, neurologists) were scheduled to develop the tool on the basis of literature knowledge and clinical experience.

**Findings:** This instrument called MASCoD (Multidimensional Assessment of Subjective Cognitive Decline) is composed of a general form for socio-demographic data and the following sections: a) risk factors for SCD; b) memory and executive symptoms; c) anxious/depressive or distressing symptoms. There are four increasing risk levels (i.e. low, medium with emotional complaints, medium without emotional complaints, high risk) of developing a severe cognitive impairment. It can also potentially predict the most likely trajectories of cognitive decline over time. Preliminarily, 13 patients underwent both MASCoD and a usual neuropsychological assessment for cognitive impairment. Overall, 69,24% was the convergence level of the two measurements (i.e. detection of true positive and true negative cases for developing severe cognitive impairment in the future).

**Discussion:** MASCoD can be a promising tool as it is a brief screening that helps the professional to make differential diagnoses and to predict the risk of developing severe cognitive impairment over time for developing a personalized care path.



## Frailty and rehabilitation outcome in older patients with cardiorespiratory disease: preliminary multidimensional data

N. Granata<sup>1</sup>, M. Vigorè<sup>1</sup>, G. Callegari<sup>1</sup>, R. Vaninetti<sup>1</sup>, S. Conti<sup>1</sup>, R. Maestri<sup>1</sup>, G. Piaggi<sup>1</sup>, G. Cremonese<sup>1</sup>, A. Pierobon<sup>1</sup>

<sup>1</sup>Istituti Clinici Scientifici Maugeri IRCCS, Italy

**Background:** Chronic Heart Failure (CHF) and Chronic Obstructive Pulmonary Disease (COPD) are clinical conditions often associated with cognitive dysfunctions, psychological distress, poor quality of life (QoL), and functional worsening. In addition, since patients suffering from these conditions are often older adults, the presence of frailty syndrome could worsen the clinical situation.

**Methods:** In the present preliminary multi-center cohort ongoing study, CHF and COPD older patients (age  $\geq 65$ ) underwent a multidimensional assessment at admission and discharge from an inpatient rehabilitation program. Data obtained were compared between the two samples at baseline and longitudinally, that is before and after the rehabilitation program.

**Results:** Overall, 30 CHF and 30 COPD patients were included in the study. The two samples appeared to be similar except for the duration of illness that was significantly longer for COPD patients, and in cognitive and functional performances that resulted significantly better for COPD patients. After the rehabilitation program, the following variables were significantly improved: executive functions ( $14.34 \pm 2.49$  vs  $15.62 \pm 2.22$ ,  $p=0.001$ ), subjective QoL ( $58.77 \pm 18.87$  vs  $65.82 \pm 18.45$ ,  $p=0.003$ ), depressive and anxious symptoms ( $6.27 \pm 4.21$  vs  $3.77 \pm 3.39$ ,  $p=0.001$  and  $5.17 \pm 3.40$  vs  $3.38 \pm 3.21$ ,  $p=0.001$ , respectively), frailty status [ $4,00$  ( $3,00$ .  $5,00$ ) vs  $3,00$  ( $3,00$ .  $5,00$ )  $p=0.035$ ] and functional exercise abilities [Short Physical Performance Battery,  $7.40 \pm 3.10$  vs  $9.51 \pm 3.67$ ,  $p=0.0002$ ; Timed Up and Go Test,  $14.62 \pm 4.90$  vs  $11.97 \pm 4.51$ ,  $p<0.0001$ ; 6-minute walking test,  $353.85 \pm 127.62$  vs  $392.59 \pm 123.14$ ,  $p=0.0002$ ].

**Discussion:** Preliminary results showed a substantial homogeneity of CHF and COPD older patients' cognitive, psychosocial, frailty, and functional characteristics. Nevertheless, the specific rehabilitation intervention appears promising in both clinical populations.

## Middle-aged and older adults' intentions to participate in community-based walking sports: A social-ecological mixed-methods approach

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<sup>2</sup>Durham University, United Kingdom

<sup>3</sup>University of Geneva, Switzerland

<sup>4</sup>University of Southern Denmark, Denmark

We aimed to (1) assess the influence of constructs within the social-ecological model on middle-aged and older adults' intentions to participate in walking sports, (2) identify practical determinants of walking sport participation, and (3) explore why certain social-ecological and practical factors are relevant to the appeal of, and intentions to participate in, walking sports. In Phase 1, middle-aged and older adults (N = 311) without prior experience participating in walking sports completed an online questionnaire assessing various social-ecological constructs (i.e., personal, psychosocial, program-related, and environmental factors) and intentions to participate in walking sports. Hierarchical multiple linear regressions highlighted that perceived health status, evaluative attitudes, subjective norms, perceived behavioural control, and seeing physically active people in the neighbourhood were significant predictors of intentions. Descriptive analysis identified cost, location of the venue, and having a sociable environment as the top three practical determinants of walking sport participation among middle-aged and older adults. Subsequently, in Phase 2, interviews with a subset of participants (scoring top and bottom 10% in intentions to participate) explored why these identified constructs were relevant to the target population. These findings have implications for physical activity and health promotion for ageing adults. Individuals perceiving good health and having a positive attitude towards walking sports may be more attracted towards participation. We also highlight some key barriers to participation: support from loved ones, role models of physical activity, and an increased perception of control or self-efficacy towards the behaviour may increase ageing adults' intentions to participate in walking sports.

# Older People with Dementia's Adherence to a Tai Chi Exercise Intervention

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## Background

Adherence to exercise programs is required to reap their established physical and cognitive benefits. This study explored People with Dementia's (PWD) adherence to a Tai Chi exercise program. The objectives of the study included evaluation of predictors, and factors affecting adherence to Tai Chi exercise intervention and causes of non-adherence among PWD.

## Method

The present study was part of a Randomized Controlled Trial where 41 community-dwelling PWD and their carers received a Tai Chi exercise intervention in addition to usual care for 20 weeks. Measures of assessment included a generic quality of life scale (ICECAP-O) for PWD, their global cognitive assessment (Mini Addenbroke's Cognitive Examination), and their level of physical activity at baseline, PWD's self-ratings of their intention and self-efficacy to come to classes at baseline and during the intervention phase, record of PWD's and their carers' acute health conditions, and percentages of PWD's Tai Chi class attendance during the intervention phase. Multiple linear regression, and Pearson-product moment correlation analyses were conducted to evaluate associations between these variables.

## Results

Among all variables PWD's ( $r = -.64$ ,  $p < .001$ ,  $n=41$ ) and carers' ( $r = -.45$ ,  $p = .003$ ,  $n=41$ ) acute health conditions were found to be the dominating factors that reduced PWD's Tai Chi adherence.

## Discussion

PWD's cognitive status, and health psychology variables i.e., intention and self-efficacy, which were the most important variables for this population, did not contribute to their Tai Chi exercise adherence. As only PWD's and their carers' health issues dominated, they must be addressed to enhance PWD's exercise adherence.

## Development of a COM-B based sexual health model for mid-life and older adults

V. Giacomelli<sup>1</sup>, I. Tyndall<sup>1</sup>, I. Ball<sup>1</sup>, R. Lowry<sup>2</sup>

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<sup>2</sup>University of Essex, United Kingdom

The current study is part of a multi-national European Union Interreg funded project which aims to co-create, implement and evaluate a new sexual health model for the over-45's to improve sexual health knowledge and behaviour. Existing research suggests a lack of knowledge and engagement with sexual health issues, with barriers to accessing sexual health services compounded by a lack of knowledge and stigma by Health Care Professionals.

A pilot survey was run with participants aged 45-65 (n = 614) from three European countries to identify themes for the subsequent qualitative study. Questions were developed from the Theory of Planned Behaviour to inform interview protocols on five key themes: Local doctors; Knowledge of testing; Wider workforce; Stigmatisation, trust and judgement; and Messaging and communication. 30 participants were interviewed using semi-structured interviews and focus groups. Thematic analysis was used to identify barriers, facilitators and attitudes to good sexual health and grouped according to the domains of Knowledge, Awareness, Access, and Stigma. These themes were then mapped to the COM-B model and Behaviour Change Wheel in order to create a model of Sexual Health for over-45's.

This model is being piloted with the target population and will be evaluated using APEASE criteria. The present study underpins the production of a tested, evidence-based health model intervention for real-world application by sexual health professionals and the wider workforce in engaging and promoting sexual health for this underrepresented group in sexual health services.

## The effects of ageism on mental illness in the elderly during the Covid-19 pandemic

A.R. Donizzetti<sup>1</sup>

<sup>1</sup>University of Naples "Federico II", Italy

For more than two years, the Covid-19 pandemic has kept the whole of humanity in a situation of precariousness and uncertainty. The most affected by the virus have been the elderly, and this has also guided the policies adopted and public discourse carried out. Protective actions have often been perceived as discriminatory, with paternalistic public communication describing and considering all older people as 'vulnerable' members of society. This study aimed to investigate the effects on the mental health of elderly people of some variables, such as social isolation, loneliness, perceived age discrimination in Covid-19 management, fear and perception of Covid-19 risk. A self-report questionnaire was administered to 1301 participants, with a mean age of 77.25 years ( $SD = 5.46$ ), almost equally distributed by gender (56.1% female, 43.9% male). Descriptive and correlational analyses were performed, together with structural equation modelling. The results showed that perceived age discrimination in Covid-19 management positively predicts loneliness and mental illness. Furthermore, loneliness is the strongest predictor of mental illness along with social isolation, perceived Covid-19 risk and Covid-19 fear. In light of these findings, it is highlighted that it is important to implement public policies and discourses that are non-discriminatory but promote inclusion and not isolation of older people. Therefore, future emergency policies must take into account the impact of such actions on the well-being/disease of this segment of the population.

## Relationship of some psychosocial and biological factors with the life expectancy of older adults

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<sup>3</sup>Institute for Medical Research and Occupational Health, Croatia

<sup>4</sup>Institute for Anthropological Research, Croatia

**Background:** Individualised approach to the organisation of care for older adults aims at providing for the longest possible life duration along with good quality of life. The question is which factors contribute, and to which extent in achieving this aim.

The research aim was to explore the associations among biological and psychosocial factors in the prediction of survival in old adults residing in retirement homes.

**Methods:** Participants were 534 residents of 11 retirement homes in Zagreb, Croatia, 376 (70,4%) women, aged 56-96 years (average 79), ambulatory, and not diagnosed with dementia at the baseline. Variables were: Life status (alive/deceased), Biochemical (measured from the vein blood sample), collected at the baseline, and: Psychosocial - sociodemographic, self-perceived health, functional ability, cognitive function, depression, and social participation, collected at the baseline and at 8-year follow-up, individually, in the institution, by trained interviewers.

**Findings:** Survival analysis confirmed significant effects of the observed variables set on the life duration. Sociodemographic characteristics showed specific effects in the observed psychosocial variables, and in survival, e.g., sex. Among the psychosocial variables, self-perceived health was the strongest significant predictor of survival ( $\text{Exp}(B) = .77$ ;  $p < .01$ ), a finding in accordance with most other studies' findings. Several biochemical factors (e.g., apolipoprotein and urea) contributed significantly in explaining and predicting the survival.

**Discussion:** The implications are in the planning of interventions to maintain the adequate health status (physical and physiological) and to enhance the positive health self-perceptions in older residents of institutions.

# Healthcare Delivery and Medical Decision Making

15:30 - 17:00

Joanna Goldthorpe

## Differences in compassion in response to acute v. chronic clinical presentations: an experimental study

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<sup>2</sup>Auckland City Hospital, New Zealand

**Background:** Findings from the latest systematic review on the factors predicting compassion in health have shown that acuity of clinical presentation might be important to how likely a patient is to receive compassionate care. Observational and qualitative studies indicate that physicians are more likely to care for patients presenting with more urgent/acute care needs. The aim of this study was to confirm this hypothesis experimentally.

**Methods:** An experimental design used controlled vignettes to present acute and non-acute difficult patient scenarios; participants were randomised to vignette order. At the time of submission, more than 650 healthcare professionals (doctors, nurses, allied care professionals and midwives) from Aotearoa/New Zealand have participated in this study. The power calculation indicates that a sample of 680 will be needed to detect a small effect size. data collection is currently being finalized. The study protocol and basic analytic approach have been pre-registered on AsPredicted.

**Expected findings:** We predict that physicians will report greater compassion for acute versus non-acute difficult patients.

**Discussion:** Expected results will contribute to research on the clinical predictors of compassion in healthcare. These findings will have a direct clinical contribution in creating awareness regarding the possibility of compassion bias towards acute patients.



## Impact of uncertainty intolerance on clinical reasoning: a systematic review of the 21st century literature

C. Brun<sup>1,2</sup>, A. Akinyemi<sup>2,3</sup>, L. Houtin<sup>2,3</sup>, O. Zerhouni<sup>3</sup>, R. Monvoisin<sup>1</sup>, N. Pinsault<sup>1</sup>

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<sup>2</sup>AD-HOC Lab, France

<sup>3</sup>Université Paris Nanterre, France

**Background:** Clinical reasoning, which refers to the application of critical thinking in the medical field, is currently extensively studied in order to find out how to make proper diagnoses. Literature indicates that Intolerance of uncertainty (IU) may have a strong impact on clinical reasoning, and this review aims at summarizing the various consequences of IU on clinical reasoning.

**Methods:** A systematic review was conducted using relevant keywords to search databases (i.e., Google Scholar, Medline, PsycINFO, PBSC) from September to November 2021. Complementary research included relevant articles and articles retrieved through Google Scholar's alert system.

**Findings:** Our initial search yielded 1853 articles, of which 8 were included in our final sample. Two behavior categories were affected: investigative and prescriptive behaviors. Regarding the investigation process, mismanagement of uncertainty appeared to lead to reasoning bias, potentially resulting in diagnostic errors. IU was associated with withholding information, more referrals to peers and less use of new medical interventions. Regarding prescription behaviors, IU among health professionals could lead to overprescribing unnecessary or dangerous tests. IU was also associated with more antibiotic prescriptions for conditions where antibiotics are to be used carefully. IU could also influence abortion recommendation.

**Discussion:** Few studies have yet addressed the impact of IU on clinical reasoning. IU's influence is primarily observed on investigative and prescribing behaviors. More studies are still needed to fully understand the impact of IU on clinical reasoning itself, and not only on practical consequences.

**Declaration:** All authors have no potential conflict of interest to disclose.

# Systematic review of the effects of decision fatigue in healthcare professionals on medical decision making

M. Maier<sup>1</sup>, D. Powell<sup>1</sup>, P. Murchie<sup>1</sup>, J. Allan<sup>1</sup>

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**Background:** Decision fatigue is a state arrived at through continuous periods of effortful decision making, which results in a temporary shift towards decisions that are less effortful or more gratifying. Healthcare professionals are likely to be affected by decision fatigue, due to their busy professional environment. This study seeks to systematically identify, evaluate, and synthesise evidence regarding decision fatigue in healthcare professionals and its impact on medical decision making.

**Methods:** A systematic search was conducted to identify studies investigating the effects of decision fatigue in healthcare professionals on medical decision making. Studies about healthcare professionals and trainees/students in all health-relevant settings were included. Studies were also included if they observed decision fatigue indirectly, through changes in medical decisions over time or ordinal sequence. A narrative synthesis will be conducted, as the review question dictates inclusion of different research designs, for which other approaches are inappropriate.

**Expected Results:** We expect to discuss diverging definitions and theoretical explanations of decision fatigue; how it affects medical decision making and outcomes; whether this differs depending on decision(-maker) characteristics; and which medical decisions and disciplines have been investigated.

**Current stage of work:** The protocol is published, searches, title and abstract screening are complete. We are currently reviewing full texts.

**Discussion:** This review will provide clarification on the decision fatigue phenomenon, which has been observed in several contexts but is lacking conceptual clarity. It will identify research gaps and pave the way for the development of interventions that reduce decision fatigue and/or alleviate associated negative consequences.

## Using a model of behaviour to conceptualise ethical preparedness in healthcare and health research settings

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**Background:** Previous literature constructs the concept of ethical preparedness (EP) as a need to develop frameworks and principles. Constructing EP in this way is problematic as it does not facilitate the implementation of ethical decision-making processes in practice. **Aims:** to shift the concept of EP from frameworks and principles towards a concept that is enacted by a person, group or organisation (a behaviour).

**Methods:** Using a qualitative secondary data analysis design, we applied the theoretical domains from the COM-B model (capability, opportunity and motivation = behaviour) to two illustrative case studies. Case 1: UK NHSX COVID-19 contact tracing application ethics advisory board involving data from eight in-depth interviews. Case 2. Familial communication in genetic practice involving data from the UK Genethics Forum.

### Findings:

Case 1: Though there was sufficient capability (i.e., understanding how to apply the ethical framework), opportunity was lacking (i.e., ethics was deprioritised), impacting on capability and motivation.

Case 2: The forum facilitated EP, incorporating multiple theoretical domains. EP could have been facilitated further through reflective motivation (i.e., confidence in knowing when to apply professional versus legal judgement).

### Discussion:

We have explored EP as a behaviour, providing insight into specific factors needed to promote ethical decision-making, both in the pandemic context as well as areas of healthcare with rapidly changing technologies. Applying COM-B to these cases highlights that EP needs to go beyond equipping people with skills, knowledge, ethical principles and frameworks, offering a useful starting point for further conceptual work around the notion of being ethically prepared.

## Integration of the biopsychosocial approach in primary health care in Burundi: facilitating and impeding factors

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<sup>2</sup>Uclouvain, Belgium

**Background** De Man et al. (2016) note that in sub-Saharan Africa, where incomes are limited and resources scarce, the biopsychosocial approach to health is a key element in improving the quality of care, but remains weakly implemented. This study investigates the factors that facilitate or inhibit the integration of the biopsychosocial approach in primary health care in Burundi. The analysis is based on the theoretical model by Aluttis et al. (2014). This identifies seven areas of interventions in health promotion capacity: organisational structures, resources, partnerships, workforce, knowledge development, governance, and relevant country specific components.

**Methods** The analysis focuses on an intervention undertaken in the domain of HIV/AIDS during the period 2008-2018 in the “Bitare and Rumonge community health project”. A mixed method approach was used. For quantitative input, data were collected from secondary sources (i.e., reports, mid-term evaluation, minutes of meetings, health centre records). For qualitative data, 16 key actors were surveyed through semi-structured interviews. A thematic analysis was carried out.

**Findings** Results show that the integration of the biopsychosocial approach was promoted during the design, planning and implementation of the project. However, after the end of the project, integration failed due to the lack of financial and human resources (turnovers, transfers, poor motivation). Additionally, the reporting system, leadership and governance changed, which compromised the original purpose of the project.

**Discussion** For a sustainable integration of the biopsychosocial approach in primary care, it is necessary to anticipate the resource, workforce and governance needs with a long-term vision.

## The effect of negative emotions on framing effect and overconfidence among medical students

M. Galasová<sup>1</sup>, V. Čavojová<sup>1</sup>

<sup>1</sup>Institute of Experimental Psychology, CSPS SAS, Slovakia

**Background:** Medical workers have to deal with negative emotions, which can adversely affect their decision-making (e.g., LeBlanc et al., 2005; Halama & Gurňáková, 2012). However, the effect of negative emotions on cognitive processes such as overconfidence and framing effect, which are the most common diagnostic errors in healthcare, is relatively understudied. Thus, the current paper examines the effect of negative emotions on the two cognitive biases in medical students.

**Methods:** In an online experiment we collected data from 183 medical students (Mage = 23, SD = 1.95; 72% women). They were randomly assigned to the control (n = 97) or experimental (n = 86) group, in which we induced negative emotions. Then, participants completed tasks on I-PANAS (manipulation check), the framing effect and overconfidence. We used Welch's T-tests for the verification of hypotheses.

**Findings:** The induction of negative emotions was successful: negative emotions substantially increased in the experimental group ( $p < .001$ ,  $d = -0.67$ ). Medical students displayed the framing effect but were rather underconfident than overconfident. However, despite effective manipulation, negative emotions did not significantly affect framing effect ( $p = .24$ ,  $d = -0.18$ ) nor overconfidence ( $p = .72$ ,  $d = 0.05$ ).

**Discussion:** While naturalistic decision-making research demonstrated carry-over effects of negative emotions, a more controlled, experimental setting makes it more demanding due to ethical, logistic and time constraints of emotional manipulation. Still, our findings have implications for the education of medical students and their self-regulation.

# Healthcare Professionals: Perspectives and Relationships

15:30 - 17:00

Chris Keyworth

## Barriers to care and presenteeism among Canadian Armed Forces healthcare providers

J. Born<sup>1</sup>, C. Frank<sup>1</sup>

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**Background:** Research among Canadian Armed Forces (CAF) healthcare providers (HCPs) suggests HCPs under access care for mental and physical health issues, and may be at higher risk of presenteeism (i.e., working while ill/injured). This study explored presenteeism in a sample of military personnel who provide direct patient care.

**Methods:** Participants, including Medical officers, Nursing officers, Medical technicians and Physician assistants (n= 555), completed an online survey capturing barriers to care (for physical health issues or mental health issues) and presenteeism using four symptom-based scenarios to explore one's intent to work while ill/injured (i.e., back injury, pneumonia, depression, Posttraumatic Stress Disorder [PTSD]). Logistic regressions were used to identify predictors of working while ill/injured, including interactive effects.

**Findings:** In the physical health scenarios, fewer CAF HCPs intended to work with pneumonia (33.8%) compared to a back injury (89.0%). In the mental health scenarios 69.5% intended to work with depression compared to 84.6% with PTSD. Trends indicate that barriers related to opportunity (e.g., workload and support) and motivation to seek care (e.g., career goals), as well as individual factors such as gender and intent to seek care, were significant predictors of presenteeism. Gender and resource barriers interacted to predict presenteeism for depression such that when resource barriers were strong, men and women had similar levels of presenteeism; however, when resource barriers were weak, women were significantly less likely to engage in presenteeism.

**Discussion:** Findings suggest that many CAF HCPs intended to work while ill/injured which presents opportunities for targeted interventions to reduce presenteeism.

## Perspectives of healthcare professionals in Northern Cyprus on psychosocial care needs of patients receiving dialysis

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**Background:** Patients receiving dialysis experience a range of challenges that interfere with everyday life. Awareness of psychological burden as well as access to support varies across regions due to local healthcare infrastructure. In this research, we aimed to understand the perspectives of healthcare professionals' involved in kidney care in relation to psychosocial support needs of patients receiving dialysis in Northern Cyprus.

**Method:** The study used individual semi-structured interviews with sixteen healthcare professionals (2 nephrologists and 14 nurses). Transcripts in Turkish were inductively analysed using reflexive thematic analysis, with the findings then translated into English.

**Findings:** Three themes were developed. The first theme— self-management equates to well-being- emphasised the way that healthcare professionals intrinsically linked patient well-being to adjustment to life on dialysis and finding a new sense of balance with the associated routine. The second theme- multi-faceted nature of well-being- emphasised the range of individual, family, economic, hospital and system level factors that impact patients' overall mental health. The third theme – negotiating own and patient reality- brought into stark focus the need for empathy with patient situations but recognising the limits within which staff needed to operate due to knowledge, skills and system resources.

**Discussion:** Healthcare professionals in Northern Cyprus recognise self-management as an important driver of psychological adjustment and identify with a stuckness in their capacity to extend further care. These findings have implications for the development of care pathways that take a more integrated approach to patient physical and mental well-being.



# Impact of COVID-19 pandemic on high-risk prostate cancer treatment in the UK

J. Dunsmore<sup>1</sup>, S. Maclennan<sup>1</sup>, S. Maclennan<sup>1</sup>, E. Duncan<sup>1</sup>, J. N'Dow<sup>1</sup>

<sup>1</sup>University of Aberdeen, United Kingdom

## Background:

The COVID-19 Pandemic has changed the landscape of cancer care in the NHS. Clinical guidelines informing prostate cancer patient prioritization, diagnosis and treatment changed due to government restrictions.

These changes may have exacerbated previously reported 'low-value' Androgen Deprivation Therapy (ADT) use. The reasons for unnecessary ADT use and the impact of restrictions on prescribing behaviour are not well understood. We aim to understand barriers and facilitators to prescribing appropriate treatment in high-risk prostate cancer patients during the pandemic and presently.

## Methods:

This interview study is informed by the Theoretical Domains Framework and a systematic review of barriers to de-implementation. Around 20 UK-based Urologists responsible for treatment decisions will be recruited. Interview data will be coded to the Theoretical Domains Framework. Important barriers and facilitators will be identified.

## Expected results:

We expect environmental barriers including: staff numbers, restriction of services and changes to team communication affected cancer care. It is expected that staff morale, stress and anxiety, may influence their prescribing. These issues that arose in March 2020, may continue to impact urologists' decisions today.

## Current stage of work:

Interviews conducted in February, work completed by June 2022.

## Discussion:

This study aims to understand barriers and facilitators to prescribing appropriate treatment in high-risk prostate cancer patients during the pandemic and presently. The pandemic changed the way patients were prioritised and treated. These changes to practice may continue or impact prescribing behaviour today. Identifying these influences will help design effective interventions to help de-implement inappropriate low-value prostate cancer practice.

## Exploring healthcare professionals communication about children and young people with pain in paediatric rheumatology

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<sup>9</sup>Children's Hospital of Eastern Ontario Research Institute, Ottawa, ON, Canada., Canada

<sup>10</sup>Manchester Centre for Health Psychology, Division of Psychology and Mental Health, University of Manchester, Manchester, UK., United Kingdom

### Background

Multi-disciplinary teams (MDTs) in paediatric rheumatology regularly meet to discuss children/young people with complex conditions but little is known about the structure and/or content of this communication. The objective of the current study was to investigate these approaches.

### Methods

This study was a non-participant ethnographic observation of virtual and face-to-face MDT meetings. Three paediatric rheumatology centres participated. A structured observation checklist was used to capture field notes which were analysed using an inductive thematic approach.

### Findings

Ten meetings from each team (n=30) were analysed. Analysis was organised into three core inter-related elements:

1) Describing the child/young person: Personality characteristics (e.g. "He is mature" or "sensitive") were frequently used in child/young person introductions. These were always accompanied by a description of parents' personality traits (e.g. "Mum can shout").

2) Interpreting pain: Familiarity with the child/young person and parents was important (e.g., “I haven’t got a handle on them”). Interpretations were also influenced by “gut feelings” or “vibes something else was going on”.

3) Managing the child/young person: Healthcare professionals discussed the need for acceptance of pain (e.g., “She wasn’t buying into that explanation”, “He needs to get used to it”). Setting boundaries for accessing the team also featured in discussions (e.g., “I had to set expectations”).

## Discussion

Findings suggest that healthcare professionals in paediatric rheumatology describe, interpret and manage the child/young person presenting with pain alongside the broader psychosocial context. Findings will be used to create recommendations for improving communication about chronic pain in paediatric rheumatology in the future.

## Contributors to a trusting physician-patient relationship - a critical review using a systematic search strategy

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<sup>2</sup>Institute for Medical Education, Department for Assessment and Evaluation, University of Bern, Switzerland

**Background:** The lack of trust between patients and physicians has various negative consequences. It threatens treatment adherence and patient health and leads to increased costs for the health care system. Many factors contribute a trusting patient-physician relationship. We aim to identify these contributors and analyse their interplay.

**Methods:** To answer our research question “What contributes to a trustful patient-physician relationship?” we used a systematic approach. We developed a free-text search strategy. The MEDLINE, Embase, ERIC and APA PsycInfo strategies were run simultaneously as multi-file search in Ovid. We identified 625 articles. After the screening we will analyse the included articles for contributors to a trusting relationship.

**Expected results:** We expect that most contributors are related to physician, patient and contextual factors. As soon as we have identified all relevant literature we will integrate the contributors into a model. We will identify the modifiable contributors in order to improve the trusting relationship. Evidence suggests, that physician trainings to improve trust are not as successful as thought. Patient education strategies might be beneficial.

**Current stage of work:** We are currently screening the abstracts for inclusion- and exclusion with predefined criteria.

**Discussion:** With our critical review, we will generate hypotheses on how to improve patient-physician trust the best. Potential points could be to address the patient’s health locus of control and health literacy. Implemented ideas to improve trust will ultimately improve treatment adherence and health outcomes and reduce costs.

# Mental Health, Drug Use and Addiction

15:30 - 17:00

Jonathan Egan

# Barriers and facilitators to the design and delivery of social prescribing services for mental health

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## Background:

Social prescribing (SP) is a way of linking people with long-term health conditions with sources of non-medical support within their community. We aimed to elicit the views of staff working with adults with mental health needs on the barriers and facilitators encountered when designing and delivering SP services.

## Methods:

Staff involved in design and/or delivery of SP services in UK third sector organisations participated in one-to-one semi-structured interviews informed by the Behaviour Change Wheel (COM-B model). Interviews were audio recorded and transcribed verbatim. Data were independently coded by two researchers using the Theoretical Domains Framework (TDF).

## Findings

Twenty-one staff participated. Staff roles included Service Directors and Link Workers with an average of 7.7 years (SD=6.5) experience of working in SP. Analysis of interview data identified 14 TDF domains. Beliefs about consequences and environmental context and resources were dominant. Barriers identified included lack of knowledge about resources available in the community and sustainable funding for SP delivery. Facilitators included adopting a person-centred approach; positive feedback through service evaluations; and building supportive relationships with community services. The Covid-19 pandemic forced services to adapt to new ways of communicating and delivering services (remote methods) and focusing on maintaining regular contact with service users.

## Discussion

Provision of information about resources available in the community to support clients and skills training for link workers on person-centred practice would enhance service delivery. Our findings will inform development of a theory- and evidence-informed SP training intervention for staff working with adults with mental health needs.

## Secondary traumatization associated to the treatment of patients with maxillofacial trauma caused by police repression

G. Rojas-Alcayaga<sup>1</sup>, C. Corral Núñez<sup>2</sup>, M. Rios-Erazo<sup>1</sup>, R. Osorio<sup>2</sup>, A. Herrera Ronda<sup>1</sup>, J. Varas<sup>3</sup>

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<sup>3</sup>Department of Occupational Therapy and Occupational Sciences. Faculty of Medicine. University of Chile., Chile

**Background:** During the social protests that occurred in Chile from October 18, 2019, police repression caused eye or dental/maxillary injuries to some protesters. Due to the situation of vulnerability perceived by victims, they require a socio-affective safe zone which includes the health services. The social environment, people and institutions, can exacerbate the distress associated with trauma, situation in which the phenomenon called secondary traumatization occurs. The objective of this study is to explore the psychological experiences of the victims of ocular and dental/maxillary trauma in the setting of health care services associated to secondary traumatization.

**Methods:** It is a study based on qualitative methodology that uses in-depth interviews to produce information. The participants are people who have suffered ocular or dental/maxillary trauma caused by police violence. The size of the sample will be defined based on a theoretical sample. The analysis model will follow the guidelines of the thematic analysis.

**Findings:** A communication with low levels of information, an impersonal attitude, low empathy without considering human dignity are perceived by traumatized people as experiences that promotes a perception of greater vulnerability and favors secondary traumatization in the setting of health care service.

**Discussion:** A bodily mutilation, caused by police repression, is a critical psychological experience which can be aggravated by the perception of undignified treatment. The health staff must take this experience into consideration to avoid secondary traumatization and feelings of injustice.

## Attitudes and Beliefs about the Therapeutic Use of Psychedelic Drugs among Portuguese Mental Health Practitioners

J. Encantado<sup>1</sup>, L. Cabral da Ponte Carvalho<sup>1</sup>, D. Veiga<sup>2</sup>, P. Teixeira<sup>2</sup>

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Psychedelic-assisted therapy interest and demand are increasing. The so-called psychedelic renaissance is supported by the recent clinical trials that demonstrate robust evidence of the efficacy of psychedelic-assisted therapy for the treatment of several mental health conditions including depression, addiction, and post-traumatic stress. Psychologists and psychiatrists have a crucial role in mental health treatment and they are critical for future implementation of psychedelic-assisted therapies, safely and effectively.

The present study is based on a cross-sectional survey that explores the attitudes and beliefs regarding psychedelics when used in treatment among psychologists and psychiatrists in Portugal. Topics addressed in the survey are safety, therapeutic potential, acceptability, beliefs, attitudes, and experiences. We aim to collect data from 300 health practitioners.

This is the first time that the perceptions of Portuguese health practitioners will be assessed regarding psychedelic-assisted therapy. Based on previous studies conducted in other countries we may expect that participants will be cautious but favourable toward therapeutic psychedelic experiences, that more information is needed about risks and the effects of psychedelics, and access to long-term research through longitudinal randomized controlled trials.

At the moment we are recruiting participants for the online survey through advertising campaigns among professional associations and on social media.

This research will allow the characterizing of the perceptions of Portuguese mental health practitioners regarding psychedelic-assisted therapy and will be useful to identify potential gaps in education and training about psychedelics when used intentionally for mental health treatment. This initiative will help to increase knowledge and reduce stigma about psychedelic therapies.



# A Systematic Review of the Effects of Psychedelic Experiences in Naturalistic Settings

L. Carvalho<sup>1</sup>, J. Encantado<sup>2</sup>, D. Veiga<sup>1</sup>, C. Timmermann<sup>3</sup>, H. Kettner<sup>3</sup>, P.J. Teixeira<sup>1</sup>

<sup>1</sup>Faculty of Human Kinetics, Portugal

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<sup>3</sup>Imperial College London, United Kingdom

**Background:** The application of psychedelic-assisted therapies is a growing research field. A considerable number of recent studies were conducted in clinical settings, provide evidence of the betterment of several mental health conditions including depression and addiction. Nevertheless, there are a number of other studies with varied methodologies, whose effects have not yet been studied. This review aims to synthesise the current evidence of the effects of classic psychedelic substances, in naturalistic settings.

**Methods:** Studies were identified through electronic database searches (PubMed, PsycINFO, Web of Science, MEDLINE). Studies were eligible if they (1) were observational in nature, (2) conducted in a "real life" setting/ opportunity (clearly not a controlled - laboratorial, hospital, clinical environment), (3) use of a classic psychedelic (an agonist of the serotonin H2A receptor) (4) quantitative measures are reported, including medical, psychological, behavioural, biological, or otherwise health/wellbeing related. Effects reported will be extracted and synthesised using narrative techniques.

**Expected Results:** The effects of psychedelic experiences in naturalistic settings are still a new research area. There is little evidence to extrapolate the expected outcomes of classic psychedelics in naturalistic settings. For this reason, we expect heterogeneity between studies and results, from psychological to biological effects.

**Current stage of work:** We are currently in the process of data extraction.

**Discussion:** Scientific research regarding the effects of psychedelic experiences in naturalistic settings is increasing. Therefore, this review will synthesise the existing evidence regarding the effects of psychedelic experiences beyond the clinical setting, contributing to the scientific knowledge in the field.

## Understanding the implementation strategy for a secondary care tobacco addiction treatment pathway: A behavioural analysis

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<sup>2</sup>Newcastle University, United Kingdom

<sup>3</sup>Teesside University, United Kingdom

**Background:** The Conversation, Understand, Replace, Expert and evidence-based treatment (CURE) project is an evidence-based intervention that offers a combination of pharmacotherapy and behavioural support to inpatients. To inform the development of a tobacco dependence treatment in England, it is important to specify the successful characteristics of the CURE implementation strategy and use behavioural theory to understand mechanisms of action in changing clinician's practice. This study used the Behaviour Change Wheel framework to 1) define the content of the implementation strategy used, 2) specify mechanisms of action, and 3) identify opportunities for refinement.

**Methods:** Data were collected via document review and semi-structured interviews with 10 CURE healthcare professionals. Intervention content was specified through behaviour change techniques (BCTs) and intervention functions. A logic model was developed to specify the implementation strategy and its mechanisms of impact. Opportunities for refinement were determined by linking theoretical domains, intervention functions and BCTs. The development of recommendations for optimisation was conducted over a two-round Delphi exercise.

**Results:** Across interviews, 'Environmental Context and Resources', 'Goals', 'Social Professional Role and Identity', 'Social Influences', 'Reinforcement', and 'Skills' were identified as key domains influencing implementation. The behavioural analysis identified 26 BCTs, five intervention functions and four policy categories in the implementation strategy. Recommendations to optimise content were revised following stakeholder engagement.

**Conclusions:** The CURE project offers a strong foundation from which a tobacco dependence treatment model can be developed in England. This research suggests content modifications to improve the design of further implementation strategies and health policy in this area.

# Implementation in Chronic Condition Self-Management

15:30 - 17:00

Milou Fredrix

## Exploring perspectives of people with type-1 diabetes on goal-setting strategies within self-management education and care

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**Background.** Collaborative goal-setting strategies are widely recommended for diabetes self-management support within healthcare systems. Creating self-management plans that fit with peoples' own goals and priorities has been linked with better diabetic control. Consequently, goal-setting has become a core component of many diabetes self-management programmes such as the 'Dose Adjustment for Normal Eating (DAFNE) programme'. Within DAFNE, people with Type-1 Diabetes (T1D) develop their own goals along with action-plans to stimulate goal-achievement. While widely implemented, limited research has explored how goal-setting strategies are experienced by people with diabetes. Therefore, this study aims to explore the perspectives of people with T1D on the implementation and value of goal-setting strategies within DAFNE and follow-up diabetes care. Furthermore, views on barriers and facilitators to goal-attainment are explored.

**Methods.** Semi-structured interviews were conducted with 20 people with T1D who attended a DAFNE-programme. Following a longitudinal qualitative research design, interviews took place 1 week, and 6-8 months after completion of DAFNE. A recurrent cross-sectional approach is applied in which themes will be identified at each time-point using thematic analyses.

**Expected results.** Preliminary identified themes surround the difference in value that participants place on goal-setting strategies, and the lack of support for goal-achievement within diabetes care.

**Current stage.** Data collection complete; data-analysis ongoing.

**Discussion.** Goal-setting strategies are increasingly included in guidelines for diabetes support and have become essential parts of many primary care improvement schemes. Therefore, exploring the perspectives of people with T1D on the value and implementation of goal-setting strategies is vital for their optimal application.

## Barriers and facilitators of healthcare professionals supporting heart failure patients to increase physical activity levels

K. Ashley<sup>1</sup>, M.Y. Tang<sup>2</sup>, C. Jordan<sup>1</sup>, D. Flynn<sup>3</sup>, A. Batterham<sup>4</sup>, L. Avery<sup>1</sup>

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<sup>4</sup>MedConnectNorth, United Kingdom

**Background:** Physical activity (PA) interventions are effective for improving heart failure (HF) symptoms and quality of life. However, supporting HF patients to be physically active is hindered during routine care by a lack of evidence-informed training for healthcare professionals (HCPs). We aimed to identify barriers and facilitators to HCPs supporting HF patients to increase levels of PA.

**Methods:** HCPs from three NHS trusts in northeast England participated in a Behaviour Change Wheel (BCW) informed service evaluation, involving completion of a COM-B self-evaluation questionnaire and a semi-structured interview. Interview data were analysed with reference to the Theoretical Domains Framework.

**Findings:** Eighteen HCPs with different clinical roles (e.g. nurses, consultant cardiologists, physiotherapists) participated. Analysis of COM-B questionnaire data highlighted 'opportunities' as the most salient component influencing promotion of PA. Nine theoretical domains were identified from interview data. Barriers to promoting PA included sub-optimal knowledge of PA guidelines; absence of skills to address individual patient needs; time constraints; and low confidence to promote PA due to concerns about patient safety. Facilitators included adopting a multidisciplinary team (MDT) approach; behavioural change training in the context of HF; prompts; and support from colleagues.

**Discussion:** Future research should focus on service improvement (i.e. training and MDT working) to enable HCPs to acquire skills to provide personalised PA support to patients, as well as support for HCPs to identify opportunities to promote PA during routine practice. Findings will inform development of a theory- and evidence-informed, training intervention for HCPs to support HF patients to increase PA levels.

## Identifying barriers and facilitators of heart failure patients becoming more physically active

C. Jordan<sup>1</sup>, M.Y. Tang<sup>2</sup>, K. Ashley<sup>1</sup>, D. Flynn<sup>3</sup>, A. Batterham<sup>4</sup>, L. Avery<sup>1</sup>

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**Background:** Clinical guidelines recommend increasing physical activity levels of people with heart failure (HF) to better manage their symptoms and improve quality of life. However, promotion of physical activity within routine care is sub-optimal. We identified barriers and facilitators to HF patients increasing their physical activity levels in order to inform the development of a theory- and evidence-informed behavioural intervention.

**Methods:** HF patients from three NHS trusts located in north-east England participated in a service evaluation informed by the Behaviour Change Wheel. Participants completed the capability, opportunity, motivation, and behaviour (COM-B) self-evaluation questionnaire and took part in a semi-structured interview. Interview data were analysed with reference to the Theoretical Domains Framework (TDF).

**Findings:** Twelve adults with HF were recruited (7 men; 5 women; mean age  $68.3 \pm 14$  years; mean time since diagnosis  $= 3.8 \pm 3.0$  years). Findings from the COM-B questionnaire indicated that all components should be targets for intervention. Nine TDF domains were identified from interview data. Barriers to engaging in physical activity included lack of knowledge about the benefits of physical activity for HF; experiencing HF symptoms decreased motivation; and lack of beliefs about capabilities to perform physical activity. Facilitators were reinforcement from a healthcare professional that physical activity is safe; external monitoring of behaviour; and emotional support.

**Discussion:** Findings indicate that a theory-informed intervention for HF patients should include education on benefits and safety of physical activity; address self-efficacy beliefs around increasing physical activity (with prompts and external monitoring/feedback from clinicians) and involve relatives for emotional/social support.

## Development of a patient-centred asthma review template to improve self-management in UK primary care

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**Background:** Asthma results in 6.3 million primary care consultations in the United Kingdom (UK) each year, and supported asthma self-management (regular clinical review; patient education; asthma action plan provision) can improve outcomes. Templates are frequently used in reviews as reminders and to improve documentation, however, can affect patient-centred care. The IMPlémenting IMProved Asthma self-management as RouTine (IMP2ART) programme aimed to develop a patient-centred asthma review template that encourages supported self-management.

**Methods:** Aligned with the Medical Research Council (MRC) complex intervention framework, the multidisciplinary team developed a template in three phases: 1) Developmental phase, qualitative exploration with clinicians, a systematic review, prototype template development 2) Feasibility pilot phase, qualitative feedback from clinicians (n=7) 3) Pilot phase, delivering the template within the IMP2ART programme (incorporating the template with patient and professional resources), with clinician feedback (n=6).

**Findings:** Template development was guided by preliminary qualitative work that identified that templates can be poorly integrated with clinical IT-systems. The systematic review identified a need for patient-centredness, open-text/flexible options, and self-management questions/education. The prototype template was then developed for different IT-systems; with an opening question to establish patient agendas; refined content; links to patient-information; a closing prompt for action plan provision. The feasibility pilot identified refinements needed, including focusing the opening question to asthma. The pilot ensured the template integrated with the IMP2ART programme.

**Discussion:** A multi-stage development process, aligned with the MRC framework, contributed to the asthma review template development. The IMP2ART programme is now being tested in a UK-wide cluster randomised controlled trial.

## IMPlimenting IMProved Asthma self-management as RouTine (IMP2ART): a cluster randomised controlled trial protocol

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**Background:** IMPlimenting IMProved Asthma self-management as RouTine (IMP2ART) is a multidisciplinary and theoretically-informed strategy to improve implementation of supported self-management and asthma outcomes in primary care in the United Kingdom. The strategy includes 1) patient resources to educate and support self-management 2) asthma self-management training for staff 3) organisational strategies (audit/feedback, patient-centred review template). The aim of this trial is to determine whether the IMP2ART strategy reduces unscheduled care and increases provision of asthma action plans.

**Methods:** The trial is a parallel, cluster randomised controlled trial. General practices (N=144) will be randomly assigned to either the IMP2ART implementation arm, and provided with the IMP2ART strategy components, or to usual care control. The primary outcome is the between-group difference on unscheduled care in the second year after randomisation (i.e. between 12 and 24 months post-randomisation). Secondary outcomes include the number of asthma reviews conducted, prescribing outcomes (reliever medication, oral steroids), asthma symptom control, confidence in self-management and professional support, and health status and resource use. Additionally, an implementation outcome of action plan ownership at 12 months will be assessed.

**Expected results:** We expect that unscheduled care will reduce and action plan ownership will increase in the implementation arm.

**Current stage of work:** An internal pilot trial (n=12) has been conducted, and main trial recruitment and implementation delivery is underway. The trial is registered with [www.isrctn.com](http://www.isrctn.com) (ISRCTN15448074).

**Discussion:** Findings will add to the literature regarding effective strategies that can be implemented in primary care to improve supported self-management and asthma outcomes.



# Exploring psychological factors associated with perceived food intolerance

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<sup>3</sup>King's College Hospital, United Kingdom

## Background:

Perceived food intolerance (PFI), identified as non-allergic hypersensitivity to certain foods, is increasing in prevalence. PFI includes persistent symptoms that are often unexplained but have substantial personal and societal costs. This study aimed to explore psychological factors reported by individuals with PFI.

## Methods:

255 adults self-reporting PFI from the UK completed online questionnaires at three timepoints over 6 months. Measures included: illness perceptions (IPQ-R), coping responses (Brief-COPE), food-related quality of life (FR-QoL); distress (HADS); functional impairment (WSAS); perceived stress (PSS); gastrointestinal symptom severity (IBS-SQ), and extraintestinal symptom severity (PHQ-15). Hierarchical regression and mediation analyses were conducted to investigate predictors of distress and food-related quality of life.

## Findings:

Anxiety scores were above clinical thresholds for 60% of the sample. Extraintestinal symptom severity ( $\beta=.410$ ), functional impairment ( $\beta=.300$ ), and coping responses of self-blame ( $\beta=.268$ ), and disengagement ( $\beta=.171$ ) explained 53% of the variance in distress  $\{F(3,204)=20.94, p<0.001\}$ . Illness identity ( $\beta=-.130$ ), emotional representations ( $\beta=-.165$ ), stress ( $\beta=-.328$ ), gastrointestinal symptom severity ( $\beta=-.233$ ), and PFI severity ( $\beta=-.191$ ) were associated with poor FR-QoL  $\{F(1,199)=5.44, p<0.05\}$ . A coping response of positive reframing improved outcomes. Self-blame and disengagement mediated the effects of illness perceptions and functional impairment on distress. Illness perceptions had mediating effects on stress, gastrointestinal symptom severity, and PFI severity in FR-QoL.

## Discussion:

PFI may be maintained by psychological factors that could be modified through intervention. These findings support the Common Sense and Acceptance and Commitment Therapy models. Enhancing psychological flexibility, promoting adaptive coping responses and incorporating acceptance of discomfort may help people who experience symptom-related distress.

# Technology and Implementation

15:30 - 17:00

Jennifer Inauen

## Successfully implemented eHealth technologies to support informal care: a multiple case study

S. Bastoni<sup>1</sup>, L. Van Gemert-Pijnen<sup>1</sup>, M. Lindenberg<sup>1</sup>, R. Sanderman<sup>1,2</sup>

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<sup>2</sup>University of Groningen, Netherlands

Implementation is an articulated process with many unknowns. If not introduced properly, useful innovations are likely to be abandoned. This work is part of the ENTWINE ITN and aims at examining, describing, and comparing examples of successful implementation of eHealth technology in the context of informal care.

This Multiple Case Study is based on semi-structured interviews built upon the touchpoints of the most frequently used frameworks for implementation and prior research. To select the included cases, informants from academia, industry and informal caregivers were asked to indicate examples of eHealth technologies they knew/ used. Ten cases were selected following in/exclusion criteria. Contact people involved in the implementation of the selected technologies will be interviewed. Furthermore, the Business Model Canvas will be filled together with the interviewees to provide a systematic comparison between cases.

This work aims at offering a description and comparison of successfully implemented cases of eHealth for caregivers and derive best practices. The results will serve as basis for a model specifically built to guide the implementation of eHealth supporting informal care. Data collection is in progress.

The present work aims at offering principles to build a framework for implementation of eHealth that is specific to the context of informal care. The implications for health psychology would be 1) maximizing the efficiency of the efforts required in developing and implementing eHealth for informal care 2) promoting a more conscious implementation process from the early stages of development 3) preventing abandonment/ waste of resources due to inadequate implementation planning.

## Development of an implementation strategy for a complex eHealth intervention within routine cardiac care

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### Background:

The number of complex health interventions has increased considerably. Unfortunately, many interventions lack sustainable implementation within practice. Absence of sustainability of interventions has been identified as a significant translational research problem. To build on valuable lessons learned, a growing need for transparent and thorough reporting of implementation strategies is needed. This study provides an example of iteratively developing, evaluating, and improving a theory-based implementation strategy for the complex eHealth intervention 'BENEFIT for all', an ecosystem for health living used within routine cardiac care.

### Methods:

After developing the initial theory-based implementation strategy for the 'BENEFIT for all' program by using the Implementation model (process model) and RE-AIM (evaluation framework), the strategy was evaluated using stakeholder sessions and a pilot within routine care. Key factors that appeared to influence the implementation process in practice were subsequently connected to theory using CFIR (determinant framework).

### Findings:

Practice recommendations were formulated based on theory and practice. These recommendations were subsequently integrated to optimise the initial strategy.

### Conclusions:

This study provides an example of optimising the implementation process of a complex eHealth intervention by developing and using a theory-based implementation strategy. By combining theory with practice and alternating between both during the development process, the development of a theory-based strategy tailored to the targeted environment as well as the stakeholders' workflows can be realised. Our presented method for developing an evidence-based and tailored implementation strategy can be used as an example for those who aspire to sustainably implement complex health interventions within practice.

# Identifying determinants of adoption of new antibacterial technologies in patient care: An interview study

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<sup>2</sup>University of Antwerp, Belgium

## Background.

Antibiotic resistance is a major global health threat. Promising new antibacterial technologies (e.g., bioactive glass) are being developed that could help minimize our dependence on antibiotics. To exploit their full potential, these antibacterial technologies should be widely adopted in patient care. Previous initiatives aiming to curb antibiotic resistance (e.g., antimicrobial stewardship) have shown that barriers to change healthcare professionals' behavior exist at the individual, organizational, and external level. This study explores determinants of a new behavior: the adoption of antibacterial technologies in patient care.

## Methods.

In February and March 2022, semi-structured interviews will be conducted with healthcare professionals (n=10-15) associated with the Orthopedics department of the Maastricht University Medical Centre in the Netherlands. Interviewees are identified through snowball sampling. Interviews focus on determinants of adoption, covering healthcare professionals' attitudes towards antibiotic resistance and beliefs regarding adoption determinants adapted from the Consolidated Framework for Implementation Research (CFIR). After transcription, deductive coding based on CFIR will be performed in NVivo.

## Expected results.

Healthcare professionals' beliefs on barriers and facilitators for the adoption of new antibacterial technologies in patient care.

## Current stage of work.

Interviews are being conducted.

## Discussion.

This study provides insight into healthcare professionals' attitudes towards antibiotic resistance and determinants of the adoption of new antibacterial technologies in patient care. The determinants identified are the starting point for developing strategies to facilitate the adoption of new antibacterial technologies. In a second phase, the determinants will be validated among a larger sample of Dutch healthcare professionals.

## Using validated measures to assess self-management, patient-centred care, and behaviour change delivery in implementation research

E. Kinley<sup>1</sup>, K. McClatchey<sup>1</sup>, L. Steed<sup>2</sup>, H. Pinnock<sup>1</sup>

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<sup>2</sup>Queen Mary University London, United Kingdom

**Background:** Routine asthma reviews in primary care provide an opportunity for healthcare professionals (HCPs) to encourage self-management strategies and positive behaviour change. To inform the analysis of video-recorded asthma review consultations, we undertook a methodological literature review of existing tools and validated measures used within observational, implementation research to analyse consultations and patterns of communication between patients and clinicians.

**Methods:** We scoped existing literature and critically reviewed validated measures developed and used for exploring HCP delivery of supported self-management communication, patient-centred care and behaviour change techniques. A multidisciplinary team (general practitioners; health psychologists; academics) provided expertise on identified measures for inclusion in the review.

**Findings:** From six potential measures, we identified three measures that used in conjunction would provide a multifaceted view of supported self-management delivery, patient-centred care, and behaviour change techniques. Tools include:

- ALFA Toolkit Multi-Channel Video Observation (de Lusignan, 2008)
- Patient Centred Observation Form (Makoul, 2001)
- The Behaviour Change Counselling Index (Lane, 2002)

These three tools are currently being used to analyse video-recordings of asthma reviews undertaken by a sub-group of practices participating in the UK-wide, NIHR funded, IMP2ART (IMPlimenting IMProved Asthma self-management As RouTine) trial which is evaluating a strategy for implementing supported asthma self-management in routine primary care.

**Discussion:** This review of validated observational research measures enabled us to select analytical approaches that explore key aspects of HCP behaviour and communication. The findings of our analysis will shed light on HCP delivery of supported self-management, behaviour change, and patient-centred care.

# Implementation at Scale and Across Contexts

15:30 - 17:00

Aleksandra Luszczynska

## A systematic review of frameworks for implementation of policies promoting healthy nutrition and physical activity

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<sup>8</sup>University Hospital Ulm, Germany

**Background:** This study investigated frameworks guiding implementation of policies aiming at healthy nutrition, physical activity promotion, and a reduction of sedentary behavior. We examined the scope of the frameworks and the content of included constructs (e.g., referring to implementation processes, determinants, or implementation evaluation), the level at which these constructs operate (e.g., individual, organizational/community, systemic levels), relationships between the included constructs, and the presence of equity factors (gender, culture, socioeconomic status, etc.).

**Methods:** A preregistered systematic review (the PROSPERO registration no. CRD42019133251) was conducted using 9 databases and 8 international stakeholder websites. The content of 38 policy implementation frameworks was coded and analyzed.

**Findings:** Across the frameworks, 47.4% (18 in 38) addressed three aims: description of the implementation process, implementation barriers/facilitators, and evaluation of implementation. The majority of frameworks (65.8%) accounted for the constructs from three levels: individual, organizational/community, and the system level. System-level constructs were included less often (76.3%) than individual-level or organizational/community-level constructs (86.8% and 94.7% of frameworks, respectively). The majority of frameworks (84.2%) included at least some sections that were solely of descriptive character (i.e. a list of unassociated constructs). A complex system approach was accounted for in only 21.1% of frameworks. More than half (55.3%) did not account for any equity constructs (e.g., socioeconomic status, culture).

**Discussion:** Although the majority of policy implementation frameworks include multi-level constructs, many include sections of purely descriptive character and do to not include equity constructs. Three most comprehensive frameworks are: the CICI framework, the DPAS-general framework, and the DPAS-school framework.



## Adapting a Dutch participatory action research project with children to another context in Spain

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<sup>2</sup>Growth, Exercise, Nutrition and Development (GENUD) Research Group, University of Zaragoza, Zaragoza, Spain

### Background

Within the 'Kids in Action' project (2016-2019), participatory action research meetings were held to develop, implement and evaluate actions aimed at promoting a healthy lifestyle together with 9-12-year-old children from a deprived neighborhood in Amsterdam, the Netherlands. We aim to evaluate which adaptations are required to transfer 'Kids in Action' to fit the local context of Zaragoza, Spain.

### Methods

Adaptations to the practical protocol of 'Kids in Action' were based on: 1) lessons learned from 'Kids in Action', through discussions with the involved researchers; 2) insights from recent literature/work in the field of participatory research with children; and 3) specific contextual factors for Zaragoza, through discussions with local researchers. Adaptations were logged using the Model for Adaptation Design and Impact (MADI) and evaluated by critically reflecting on the weekly participatory meetings held with children participating in 'Chic@s in Acción' (since November 2021).

### Findings

Content-related adaptations include the integration of systems science elements, such as creating a child-developed causal loop diagram and mapping important stakeholders at the start of the project, the addition of a brainstorm about research topics before creating research questions, and a different evaluation approach. Context-related adaptations include the involvement of different stakeholders (i.e. education department, teachers) in the recruitment process, recruitment with a personal video by the academic researcher, a smaller age range focus (9-11 years), and partly holding sessions online.

### Discussion

We will provide insight in the adaptations that are necessary to translate and transfer a participatory action research protocol with children to another context.

## Validating Patient Safety Culture instruments and a Patient-Reported Incident Measure into the Estonian context

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<sup>2</sup>Radboud University Medical Centre, Netherlands

Positive patient safety culture (PSC) is crucial for improvement of patient safety as well as the psychological well-being of healthcare staff. In Estonia, the research on PSC is considered one of the priorities in patient safety research; still, valid instruments for PSC measurement are missing.

The aim is to assess the content and construct validity and responsiveness of Estonian and Russian versions of three PSC tools: the Hospital Survey on Patient Safety Culture, the Safety Attitude Questionnaire, and the Patient-Reported Incident Measure.

The assessment of content validity included the following steps: original version translation into Estonian and Russian, translation editing by an expert group, expanded expert group to assess the general usability and comprehensibility, adapted instruments back translating into the original language (English) and focus-group interview to ensure the final comprehensibility of the Estonian and Russian versions. The data for assessment of the construct validity and reliability is collected from three hospitals involving ca 1700 staff members and 1000 patients.

By the end of February 2022, content validity assessment of all instruments was accomplished and data collection for the construct validity of the validation process was started. The validation process will be finished by June 30th, 2022.

As a result of the research, three validated instruments in two languages will be available for the assessment of PSC in Estonian hospitals.

Understanding the patients' and staff perceptions of PSC allows to plan tailored interventions to improve the safety of patients as well as the psychological safety and well-being of healthcare staff.

## DecidHealth : Psychometric validation of the IUS-12 and IUS-12-H scales on French healthcare professionals

C. Brun<sup>1,2</sup>, A. Akinyemi<sup>2,3</sup>, L. Houtin<sup>2,3</sup>, O. Zerhouni<sup>3</sup>, R. Monvoisin<sup>1</sup>, N. Pinsault<sup>1</sup>

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<sup>2</sup>AD-HOC Lab, France

<sup>3</sup>Université Paris Nanterre, France

### Background:

Literature shows that intolerance of uncertainty can have negative effects on the diagnostic process of health professionals. However, there is no intolerance of uncertainty measurement tools in French, so this study aimed at validating the Intolerance of Uncertainty Scale-12 (IUS-12) in French, and a version of the IUS-12 adapted for healthcare professionals (IUS-12-H).

### Methods:

Five hundred and sixteen health professionals completed a French version of the IUS-12 and the IUS-12-H, as well as several scales covering related constructs (e.g., stress, reaction to uncertainty, discomfort intolerance).

### Findings:

Exploratory factor analyses (EFA) showed that both scales had a two-factor structure as in the seminal article of Carleton et al. (2007). One item was removed from the IUS-12-H due to crossloading on both factors. The cumulative explanatory variances were acceptable (0.53 for the IUS-12, 0.51 for the IUS-11-H). The factors of both scales were significantly positively correlated (respectively,  $r = 0.61$ ,  $r = 0.41$ ,  $r = 0.41$ ,  $r = 0.62$ ) and positively correlated with scales involving related constructs (e.g., Physicians' Reaction to Uncertainty Scale). Besides, these factors were negatively correlated with the Need for Cognition Scale, and partially correlated with the Distress Intolerance Scale.

### Discussion:

The IUS-12 and the IUS-11-H present good psychometric properties (i.e., internal structure, divergent validity and convergent validity) and can be used to assess individuals' level of intolerance of uncertainty, and in the IUS-11-H version, health professionals' level of intolerance of uncertainty.

### Declaration:

All authors have no potential conflict of interest to disclose.

# Occupational Health among Health Care Workers during the COVID-19 Pandemic

15:30 - 17:00

Jean-Baptiste Fassier

## “I didn’t feel like I was a doctor”: Covid-19 experiences of occupational compassion and self-care

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**Background:** The increased demand on healthcare professionals (HCPs) during the Coronavirus Disease (Covid-19) pandemic reduces opportunities for HCPs to deliver compassionate care to patients and to maintain self-care. This study explored how HCPs understand and experience compassionate working practices during the Covid-19 pandemic to better support HCPs’ wellbeing and to sustain quality of care. **Methods:** Participants (19) worked as doctors (11), nurses (7) and Health care assistants (1) during the pandemic, resided in the United Kingdom (UK), and participated in individual semi-structured interviews. Data were analysed using thematic analysis. **Findings:** Three themes were developed (a) ‘The art of compassion: Feeling and action’, discusses conceptualisations of compassion and highlights the dynamic nature of compassion (b) ‘Covid care, a compromise too far?’ elucidates on the multiple detrimental ways in which Covid-19 impacted clinical care and practices and HCPs response to this, and (c) ‘Suffering: To come to a knowledge of something by living through it’, examines the effect of working during Covid-19 on the health and wellbeing of HCPs and their coping behaviours. **Discussion:** The analysis illustrated the strong and negative impact that Covid-19 had on the ability to deliver compassionate care, resulting in psychological and behavioural difficulties for HCPs including serious moral distress, and an expressed lack of trust that they themselves were being cared for. This research demonstrates an imperative need for organisations to extend compassionate care towards healthcare workers, for example extending the use of Schwartz rounds, destigmatising access to support and introducing specific self-compassionate interventions and training.

## Mental health, posttraumatic growth and protective factors in healthcare professionals during the COVID-19 pandemic

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**Background:** After two years of the COVID-19 pandemic, healthcare workers are exhausted and show signs of important psychological impact. We aimed to (1) assess the adverse and positive psychological consequences of working as a healthcare professional during the pandemic and (2) explore their association with personal and professional variables.

**Methods:** Participants were healthcare professionals working in Spain (N = 915) and were recruited following a snowball approach in November and December 2021. We measured several work-related variables, contact with COVID-19, resilience, emotion regulation (ER), psychological inflexibility, connection to nature, depression, anxiety, posttraumatic stress symptoms (PTSS), and posttraumatic growth (PTG). Descriptive analysis, correlations and means comparisons were performed.

**Findings:** 19.1% of the sample scored above the cutoff for depression, 24.8% for anxiety, and 36.3% for PTSS. Besides, 41.7% showed PTG. The four variables showed significant and positive relationships with psychological inflexibility and (except PTG) with the ER strategy of expressive suppression. They all showed significant and negative associations with resilience. Depression was also negatively correlated with connection to nature. Lastly, PTG showed a positive correlation with connection to nature and the ER strategy of cognitive reappraisal.

**Discussion:** As a result of the long period of working in a pandemic, healthcare professionals show high levels of psychological impact. However, almost half of the sample also showed PTG, which is a positive outcome resulting from the COVID-19 crisis. Our results suggest that enhancing emotional expression, cognitive reappraisal, resilience, psychological flexibility, and connection to nature can contribute to improve healthcare workers' mental health.

# Psychological support for hospital workers at the University Medical Center Ljubljana during the COVID-19 pandemic

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## Background:

Dealing with the COVID-19 pandemic is a major source of psychological distress in health workers. The COVID-19 outbreak prompted psychologists at the UMCL to join forces and start providing active support to their coworkers.

## Methods:

In March 2019, a telephone help line was set up for employees, available 4 h/day, with a direct connection to a counselor's cell phone. Daily on-call duties were established at the busiest COVID-19 site, with group support at other COVID-19 departments, individual consultations, and psychological workshops; expert recommendations on how to maintain psychological wellbeing were produced for all the heads and employees.

## Findings:

By November 2021, 264 health workers from various occupational groups had taken part in the group interventions. From November 2020 to January 2022, 64 calls were recorded, but the nature of calls has begun to change: individuals now mainly call to schedule a personal counseling appointment. From June to January 2022, 126 individual consultations were recorded. The main reasons for seeking help included anxiety symptoms, worries about COVID-19 infection, stress due to new tasks at work, exhaustion, stigma, anger about the situation, insomnia, and depressive symptoms. Workers also experience distress after recovering from COVID-19. The typical person seeking help is a 40- to 50-year-old female registered nurse.

## Discussion:

Support for health workers was provided in an appropriate and timely manner. It remains uncertain to what extent the psychological distress resulting from COVID-19 pandemic will be manifested. Psychological support for hospital employees is planned to continue even after the pandemic is over.

## Personality and mental health among long-term care home staff during the pandemic in southern Switzerland

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**Background:** Long-term care (LTC) home staff have been under considerable stress since the onset of the COVID-19 pandemic, with important implications for their mental health. Personality traits may influence how individuals handle stressful situations, we aimed to assess the association between personality traits and symptoms of depression, anxiety and stress over a four-month period among LTC home staff.

**Methods:** We conducted a prospective seroprevalence study in eight LTC homes in southern Switzerland. 257 staff members (77.4% female; mean age=47.23, s.d.=10.55; 70.8% healthcare professionals) completed online questionnaires in February and June 2021. We assessed mental health with the DASS-21 and personality traits with the BFI-10, and explored their associations with linear regression models.

**Findings:** Net of age, gender, profession and baseline mental health, neuroticism at baseline was prospectively associated with depression ( $\beta=.14$ ;  $p<0.05$ ) and stress ( $\beta=.15$ ;  $p<0.05$ ), and extraversion with lower levels of depression ( $\beta=-.13$ ;  $p<0.05$ ). In addition, depressive symptoms at baseline were prospectively associated with both anxiety ( $\beta=.25$ ;  $p<0.05$ ) and stress ( $\beta=.27$ ;  $p<0.05$ ), also irrespective of initial anxiety and stress levels.

**Discussion:** During the COVID-19 pandemic, neuroticism and extraversion exacerbated or attenuated symptoms of mental health in LTC home staff. Greater awareness among LTC home staff of the influence of personality on their mental health could contribute to safeguarding their mental well-being, particularly during public health crises.



## PTSD Symptoms Among ICU Personnel During the Pandemic: Role of Sleep, Experience, Anxiety and Depression

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The pandemic has had a significant impact among health care providers who take care of patients with severe disease. Previous studies have documented increase in the rates of anxiety and PTSD symptoms among health personnel, however most studies have focused on overall hospital workers and most of these have been conducted in Europe, North America, and Asia. Sleep disturbances, other mental health conditions and having to assume additional responsibilities are relevant factors associated with worst mental health indicators. Consequently, the aim of the present study was to examine anxiety and PTSD in a sample of health personnel in 6 ICU in Chile. Data was collected between April and October 2021, using survey monkey. 248 workers completed the survey (66.8% females, mean age 35.6 years; SD = 9.60). We used the Impact Event Scale to assess PTSD symptoms, Pittsburgh Sleep Quality Index (PSQI) questionnaires and the Hospital Anxiety and Depression Scale (HADS). We performed descriptive analyses to assess the prevalence of mental health disorders among health workers and examine the relationship among variables using linear regression. We found that PTSD and anxiety symptoms, and sleep disturbances were more prevalent than depressive symptoms. Having children was found to protect against PTSD symptoms and for each cluster of symptoms. Anxiety symptoms and more difficulties sleeping were associated with more symptoms. Depressive symptoms did not predict symptoms neither did have years of experience in ICU, having had COVID-19 or having to move to the ICU, suggesting the symptoms that need to be addressed.

## Survey of SARS-CoV-2 vaccine hesitancy among French healthcare workers in a university hospital

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<sup>1</sup>Université Claude Bernard Lyon 1, France

<sup>2</sup>Hospices Civils de Lyon, France

### Introduction :

A high rate of vaccination coverage against Covid-19 is essential to control the pandemic, but vaccine hesitancy has long been reported in France.

### Material and methods :

All 23,000 employees of a university hospital with medical (5,700), nursing (1,350), technical (2,730), and administrative (2,240) staff were invited by email to participate from 22 March to 4 April 2021 to an anonymous online survey. Data were collected on age, gender, occupation, ward, attitude towards vaccination, perceived susceptibility to and severity of covid-19, vaccine hesitancy, and intention to be vaccinated. Descriptive, univariate and survey multivariate analyses were conducted with R-4.0.3 software to model vaccination intention.

### Results

2630 people participated (872 unvaccinated and 1758 vaccinated). Among unvaccinated people, 28% would accept and 18% would refuse the vaccine, and 54% were hesitant. The proportion of vaccine opponents was highest among cleaning (27%) and administrative (26%) staff, and workers aged 50-60 years (24%). Main reasons included lack of confidence (57%), fear of side effects (36%), preference for natural immunity (35%), need for more information (33%), and insufficient efficacy of the vaccine (33%). Multivariate analyses showed consistency of opinions on vaccination in general and against Covid 19. No gender effect was identified, and a weak influence of age. No effect of occupation was identified except for cleaning staff and blue-collar workers.

### Conclusion

The promotion strategy of covid-19 vaccination should target specific populations and barriers, by means of different actions.

# Occupational Health across Sectors during the COVID-19 Pandemic

15:30 - 17:00

Inge Brechan

## Post-traumatic stress symptoms and predictors among Spanish Security Forces during the COVID-19 pandemic in Spain

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<sup>2</sup>Department of Education and Psychology, Centro Universitario Cardenal Cisneros, Alcalá de Henares, Spain

**Background:** This study assesses the psychological impact of the COVID-19 crisis on the Law Enforcement Agencies and Armed Forces professionals.

**Methods:** In this cross-sectional study, participants (N = 242; 211 men, 31 women) completed measures of post-traumatic stress symptoms (PTSS; IES-R), burnout (MBI-GS), emotional suppression (ERQ), and several labour and sociodemographic variables. The association between PTSD and other variables was examined with mean differences tests, correlations, and a stepwise linear regression.

**Findings:** One third of participants showed severe PTSD symptoms. Armed forces professionals presented fewer symptoms than the other groups. Professionals who patrolled, lived with at-risk persons, had taken a COVID-19 test, or had distanced themselves from family and friends reported more PTSD symptoms. Similarly, those who had contact with other people all or most of the time, worked more than normal, had suffered an assault or insult, or had less than three weeks of vacation showed more PTSD symptoms. Likewise, burnout, emotional suppression, and fear of contagion correlated with greater PTSD symptoms. Notably, 72.31% had not received any type of support from their workplace. The linear regression showed a higher risk of PTSD for those with higher levels of burnout, fear of own contagion, and severity perception of the pandemic, as well as for those who took a COVID-19 test, suffered an assault, lived with at-risk persons, and worked in the Law Enforcement Agencies.

**Discussion:** There is an urgent need to establish effective psychological interventions and optimise the personal, social, and working conditions of the Spanish Security Forces.

## How has the pandemic impacted the mental health of clinical psychologists?

D. Preciado Rodríguez<sup>1</sup>, R. Rodríguez Rey<sup>2</sup>, S. Collado<sup>3</sup>, H. Garrido-Hernansaiz<sup>4</sup>, P. Collazo-Castiñeira<sup>2</sup>

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<sup>3</sup>Universidad de Zaragoza, Spain

<sup>4</sup>Centro Universitario Cardenal Cisneros, Spain

**Background:** In the aftermath of the COVID-19 pandemic, an increase in mental health problems and in the demand for psychological care has been reported across the population. This, in turn, has raised the workload of psychologists. However, there is little research showing the psychological effects of the pandemic on mental health professionals.

**Methods:** 188 clinical psychologists working in Spain completed an online questionnaire from December 2021 to February 2022. We measured several occupational variables, contact with COVID-19, posttraumatic stress symptoms (PTSS), depression, anxiety, stress, posttraumatic growth (PTG), resilience, emotion regulation (ER), and professional self-doubt (PSD). Descriptive analyses, correlations and means comparisons were performed.

**Findings:** 25.5% of the sample scored above the cut-off points for PTSS, 16.5% for stress, 9.6% for depression, and 7.4% for anxiety. Additionally, 46.8% showed PTG. All these variables correlated significantly and negatively with resilience and positively with PSD. The ER strategy of cognitive reappraisal correlated positively with PTG and expressive suppression did with depression, anxiety, and stress. Women showed higher PTG and anxiety than men.

**Discussion:** The pandemic has affected the mental health of psychologists, who showed increased psychological distress. Nevertheless, anxiety, depression, and stress do not seem to be as high as in other health professionals. The pandemic has also generated positive results, as almost half of the sample showed PTG. Our results suggest that resilience may be a protective factor in the face of shocking events, while PSD and the ER strategy expressive suppression act as risk factors.

# Psychological impact of the SARS-CoV-2 pandemic on teachers - Results of a German-wide survey

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<sup>3</sup>Department of Sports Medicine, Rehabilitation and Disease Prevention, Institute of Sport Science, Johannes Gutenberg University Mainz, Germany

## Background

The SARS-CoV-2 pandemic changed school life as well as the professional life of teachers fundamentally. Organizational processes changed (e.g., increase in workload), pedagogical challenges emerged (e.g., distance learning), and implementation, communication, and adherence to hygiene plans also placed new burdens on teachers. The main research question was: which psychological variables in teachers changed most noticeably during the pandemic? Additionally, what was the role of sociodemographic and work-related variables in these changes and how did teachers compare to the general population?

## Methods

Teachers in Germany were surveyed online in March 2021. Data on a multitude of psychological variables were collected using established (e.g., PHQ-4: depression, COPSQ: work-privacy conflict) and specially developed (e.g., corona-associated anxiety) instruments. 31,089 participants were included in the analysis. Descriptive and inferential statistics were used to analyze the relationship between psychological variables and sociodemographic / work-related variables.

## Findings

Teachers reported a multitude of changes in psychological variables compared to pre pandemic times. For example, positive screenings for depression and generalized anxiety exceeded values of the general population. Work-privacy conflicts in teachers increased. These and more results will be presented at the EHPS conference in 2022.

## Discussion

The observed changes in psychological variables and the identification of particularly burdened sub-populations of teachers during the SARS-CoV-2 pandemic call for specific counter measurements to deal with the impact of the pandemic on teachers and maintain their mental health.

## “Remote presenteeism” A survey of employees on presenteeism and detachment in remote working

H. Urbic<sup>1</sup>, J.F. Bauer<sup>1</sup>, M. Niehaus<sup>1</sup>

<sup>1</sup>University of Cologne, Department of Rehabilitation and Special Education, Germany

**Background.** Working despite feeling ill – presenteeism – is widespread. One of the manifold motives for presenteeism is the work environment. Due to COVID-19 for many employees the work environment has changed as remote work (RW) became usual. Research shows that workers have a reduced ability to detach in RW. As a relevant part of recreation, reduced detachment can rise presenteeism.

So far, presenteeism in RW is rarely explored. Therefore, this study aims to investigate the extent of presenteeism in RW and possible relations with detachment.

**Methods.** Data was gathered through an online-survey. The cleansed sample consisted of 233 participants. Data was analyzed through descriptive statistics, t-tests and correlation tests.

**Findings.** 87,1% of the participants showed presenteeism in RW within 3 months ( $\bar{x}=4.13$  presenteeism days). Working despite feeling ill was rated significantly easier in RW compared to work on-site ( $t(200)=-21.13$ ;  $p=.00$ ;  $d=-1.49$ ) while at the same time the decision against presenteeism was rated significantly more difficult ( $t(200)=10.71$ ;  $p=.00$ ;  $d=.76$ ).

The detachment of workers correlated significantly negative with the number of presenteeism days ( $r=-.17$ ;  $p=.01$ ). 56,7% of the participants rated detachment in RW (much) more difficult compared to work on-site.

**Discussion.** Despite limitations the results indicate that presenteeism is prevalent in RW. Working conditions in RW seem to rise the tendency to show presenteeism. Reduced detachment is identified as one related variable, though with small effect size. The extent to which presenteeism in RW is a functional or dysfunctional behavior, and therefore is health risky, requires further research.

## Relationship between job design, occupational health, and absenteeism

I. Brechan<sup>1</sup>

<sup>1</sup>Kristiania University College, Norway

**Background:** The purpose of this study was to test the relationship between job design, occupational health, and absenteeism. Prior research found the relationship between some job characteristics and absenteeism was mediated through occupational health. This study extended on prior research by investigating a wide range of job characteristics.

**Methods:** A cross-sectional survey was carried out in 11 different companies resulting in a total of 577 participants. Measures of 30 different job characteristics were developed from several sources, e.g., the work design questionnaire. Occupational health was measured by five items from the SF-8 health survey. Absenteeism was measured as number of days away from work the last 12 months due to own illness. Relationships were investigated using regression analysis.

**Findings:** Thirteen of 30 job characteristics were significantly correlated to absenteeism, but none of the job characteristics had a significant relationship to absenteeism in a multiple regression analysis controlling for occupational health as well as company, age, and gender. Occupational health had a significant unique contribution to the prediction of absenteeism. All job characteristics were significantly correlated to occupational health. In a multiple regression analysis controlling for company, age, and gender, six of the job characteristics (Engaging tasks, Health risk and physically straining tasks, Social relations, Rumors creating uncertainty, Management, and Work load) had a significant unique contribution to the prediction of occupational health.

**Discussion:** Results support prior research finding that the relationship between job design and absenteeism was mediated through occupational health. Several different job characteristics are important for occupational health.



# The Breadth of Occupational Health

15:30 - 17:00

Kevin Roche

## Inequality in context of work. A study about social inclusion of people with disabilities

I. Lülfi<sup>1</sup>, J.F. Bauer<sup>1</sup>, V. Chakraverty<sup>1</sup>, S. Groth<sup>1</sup>, M. Niehaus<sup>1</sup>

<sup>1</sup>University of Cologne, Germany

**Background:** The inclusion of people with disabilities (PWD) in working life is still difficult. To enable better working conditions for PWD and to contribute to the optimization of collaboration, an employee survey was conducted at a university in 2019/2020.

**Methods:** A quantitative analysis was implemented with 783 cases, including 260 PWD (33%), to test assumptions about individual perceived inclusion.

**Findings:** The analysis shows that a significantly lower proportion of PWD feel included in the workplace (58%) than among people without disabilities (76%). Furthermore, a significant positive correlation was observed between the probability of feeling included and disclosure of disabilities (hiding: 33% vs. disclosed: 84%). Also, it was shown that a significantly higher proportion of people with mental disabilities (PWMD) feel non-included compared to people with physical disabilities (PWPD) (49% vs. 33%) and PWMD were significantly less open ( $M = 2.63$ ,  $SD = .22$ ) than PWPD ( $M = 4.63$ ,  $SD = .19$ ;  $\chi^2(13) = 47.59$ ,  $p = .00$ ). However, controlled for openness about disabilities, PWMD were on average not significantly less likely to feel included than PWPD (61% vs. 60%).

**Discussion:** Since PWMD are less open than PWPD - presumably because they have stronger fears of negative consequences - education about mental disabilities should be provided at the workplace and awareness of mental health issues should be raised. Better working conditions for PWD could be achieved through a opener approach to the topic of (mental) disabilities. These results should be used to optimize the situation of PWD at the workplace.

## Illegitimate tasks: make you feel insecure, exhausted, and hurt!

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<sup>1</sup>University of Bern, Switzerland

<sup>2</sup>University of Marburg, Germany

**Background:** Musculoskeletal complaints are widespread and highly relevant stress-related consequences. Tasks that are not aligned with the occupational role (so-called illegitimate tasks) were identified as one potential antecedent. Being assigned such tasks conveys a social message of disrespect. This, along with the additional effort that has to be made to perform illegitimate tasks, consuming time and energy that would be necessary to perform 'important' tasks, may lead to concerns about the individual's occupational development which in turn ties up mental capacity and exhaust the individual. This exhaustion may maintain stress-induced tensions, causing musculoskeletal pain.

**Methods:** The final sample of this online longitudinal study with three measurement points (six weeks apart) includes 155 employees with diverse occupations who completed all three surveys (52% male; mean age: 46.65, SD = 11.37). We used PROCESS to test the sequential mediation model.

**Findings:** The results revealed an indirect effect of illegitimate tasks on musculoskeletal pain three months later via qualitative job insecurity and subsequent mental exhaustion six weeks later. This effect was shown controlling for the initial musculoskeletal pain, individuals' age and sex, working conditions (physical job demands, home office days, quantitative job insecurity), and negative rumination as well as problem-solving pondering about work.

**Discussion:** Our results support and extend recent findings that illegitimate tasks can increase musculoskeletal pain. Specifically, qualitative job insecurity and subsequent mental exhaustion emerges as a possible mechanism. This should be considered in the development of prevention programs to reduce early experiences of pain in the workplace.

## Does (in)congruence between personal and perceived organisational values predict burnout or compassion in healthcare?

A. Pavlova<sup>1</sup>, A. Tuato'o<sup>1</sup>, A. Sutton<sup>2</sup>, A. O'Callaghan<sup>3</sup>, K. Schache<sup>4</sup>, S. Sinclair<sup>5</sup>, S. Paine<sup>1</sup>, N. Consedine<sup>1</sup>

<sup>1</sup>University of Auckland, New Zealand

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<sup>5</sup>University of Calgary, Canada

**Background:** Remaining compassionate over time in healthcare settings is challenging, with research indicating that patient, personal, and contextual factors matter. Unexamined to date are the possible consequences of working in environments when healthcare workers perceive organisational values as discrepant from their own. The aim of this study was to assess whether congruence between personal-organisational values (or their mismatch) predicted burnout and compassion in healthcare professionals.

**Methods:** This is an anonymous, cross-sectional, survey-based study featuring experimental vignettes. At the time of abstract submission, more than 650 healthcare professionals (doctors, nurses, allied care professionals and midwives) from Aotearoa/New Zealand have participated; data collection is currently being finalized. The study protocol and basic analytic approach have been pre-registered on AsPredicted.

**Expected findings:** We hypothesize that discrepancies between personal and organisational values will predict greater burnout and decreased compassion.

**Discussion:** Expected results will extend studies of the factors impacting the health workforce and their ability to care for patients to the consideration of organisational values. The notion that contextual factors impact staff wellbeing and care has been widely discussed but is infrequently studied empirically. Findings will help develop multi-level compassion interventions in healthcare.

## Health behaviours of partners of Fly-in Fly-out workers in Australia: a cross-sectional study

B. Asare<sup>1,2</sup>, D. Kwasnicka<sup>3,4</sup>, S. Robinson<sup>1</sup>, D. Powell<sup>2</sup>

<sup>1</sup>Curtin University, Australia

<sup>2</sup>University of Aberdeen, United Kingdom

<sup>3</sup>SWPS University of Social Sciences and Humanities, Poland

<sup>4</sup>University of Melbourne, Australia

**Background:** There is limited understanding of the potential impact of Fly-In Fly-Out (FIFO) work arrangements on the health and well-being of workers' partners. This study examined the health behaviours of partners, comparing on-shift days to off-shift days.

**Methods:** Partners of FIFO workers (N = 248) completed self-report questionnaires recalling key health behaviours during recent periods when workers were on-shift and off-shift, with within-person comparisons carried out.

**Findings:** Partners reported higher sleep duration ( $7.3 \pm 1.4$  hrs vs  $6.4 \pm 1.3$  hrs,  $p < .001$ ) and better sleep quality (73.0% vs 54.8%,  $p < .001$ ) when workers were off-shift compared to on-shift. Among the current smokers (16.9%), partners smoked more cigarettes per day when workers were on-shift than off-shift ( $13.1 \pm 8.2$  vs  $11.6 \pm 7.6$ ,  $p = .034$ ), but there was no difference for risky alcohol consumption levels (69.8% vs 70.6%). Partners also consumed similar fruit ( $1.6 \pm 1.1$  vs  $1.6 \pm 1.1$  serves) and vegetable portions ( $2.5 \pm 1.4$  vs  $2.4 \pm 1.3$  serves) per day, and engaged in similar minutes of moderate to vigorous physical activity per day ( $32.7 \pm 33.9$  vs  $32.2 \pm 31.6$  mins). The majority of partners (85.1%) had good physical health status (SF-8 Physical Component Summary scores  $> 50$ ), but risk of psychological distress (K10 scores  $> 21$ ) was high (50.4%).

**Discussion:** Findings suggest the health behaviours of FIFO workers tend to be less healthy when they are on-shift, particularly for sleep and smoking. Further research that looks at why is needed to help us understand behaviour and support target interventions to support positive change.

## Health psychological factors influencing the adoption of digital technologies in agriculture by farm managers

L. Reissig<sup>1,2</sup>

<sup>1</sup>ETH Zürich, Switzerland

<sup>2</sup>Agroscope, Switzerland

The advancing digitalization "an increasingly ubiquitous trend" changes work and health conditions in agriculture. The aim of this study is to evaluate health-psychological factors influence on the digitalization stage of Swiss family farms, which have a strong link between work and family.

A quantitative survey was sent online to 3000 randomly selected farms in German-speaking and French-speaking Switzerland in spring 2021. In a first step, 462 farmers took part online. In addition to the status of digitization on the farm, there were questions on topics related to the adoption of digital technologies in agriculture (family/household and farm, general questions about the person, benefits and risks of the technologies and attitudes, dealing with data, social factors).

A first analysis examines the connection between the status of adaptation and farm type, financial situation, workload, attitude towards digitization in agriculture, autonomy, self-efficacy and trust in data security by service providers using an ordered logistic regression using R.

In contrast to the structural variables the psychological variable attitude, autonomy, and self-efficacy are determinants that explain the phase of adoption, as well as workload and confidence.

I conclude the influence of health psychological variables on the adoption process of digital technologies, confidence in one's own ability to acquire the necessary skills to use new technologies, the farmer's degree of autonomy, a positive attitude combined with the perception of a heavy workload. The results can show the tendency that the farmer's mindset has a stronger influence on the adoption of digital technologies than the structure.

# Developing tools and training towards better healthcare

15:30 - 17:00

Vivien Swanson

## Measuring psycho-social perspective of Value-Based HealthCare: construction and initial validation of a new measure

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**Background:** Value-Based Healthcare (VBHC) is an economic framework to improve healthcare organizations effectiveness and efficiency. However, a recent review showed that professionals experience substantial job demands and resources resulting from the move toward VBHC. Hence the need to delve into the psychosocial dimension of VBHC, and to adopt value measurement tools in this perspective.

**Method:** In two studies, we constructed and validated the Perceived Value Scale (PVS), a new tool to measure physicians' value in a psychosocial perspective of VBHC. Study 1, through open-ended questions, involving 69 Italian hospital doctors and explored their point of view about value in healthcare, identifying noteworthy 5 areas propaedeutic into the items wording. Study 2, a quantitative pre-test, administered the items to hospital doctors, belonging to different medical areas and differentiated by gender and age.

**Findings:** Three main domains (individual, relational, and organizational) emerged with eleven subdimensions such as learning and competence, communication and decision-making, organizational support and participation. First results indicated good internal reliability and convergent validity.

**Discussions:** Despite a further study with a larger sample is needed to assess the reliability of the scale, our preliminary findings seem to support its adoption in the empirical study of factors affecting behaviors of healthcare professionals to enhance value in care. It also might be considered helpful to implementing an innovative tool of learning to support the value co-creation process in the doctor-patient relationship, resulting in a better quality of cares and organizational outcomes.



## A virtual reality education and training tool to reduce weight stigma in primary practice

L. Ryan<sup>1,2</sup>, R. Coyne<sup>3,4</sup>, C. Heary<sup>3</sup>, O. Conlan<sup>5</sup>, J. Walsh<sup>3</sup>

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<sup>5</sup>Trinity College Dublin, Ireland

**Background:** Weight-stigma is commonly experienced in primary care settings where it can contribute to the maintenance of obesity through a complex interplay of factors. There is a lack of education and training on weight-stigma for primary care practitioners (PCP). Virtual Reality (VR) offers a sophisticated medium to deliver a multicomponent behavioural intervention that could address this training need. This research aims to design, optimise and assess the acceptability and feasibility of a VR weight-stigma education and training tool for PCP.

**Methodology:** The person-based approach (PBA) will inform the key features and theoretical components essential to achieve the intervention objectives over three stages: (i) intervention planning (ii) optimisation stage (iii) acceptance and feasibility testing. Data will be collected through qualitative evidence synthesis (QES), semi-structured interviews with PCP and retrospective semi-structured interviews. Data will be analysed using thematic analysis.

**Expected results:** It is anticipated that using the PBA to inform the intervention design will increase user-engagement and encourage offline behaviour change.

**Current stage of work:** A QES exploring the patient experience of enacted weight-stigma across healthcare settings is underway. A qualitative study exploring PCP beliefs on obesity as a chronic disease, causation and treatment is also being conducted. Cumulatively the studies will inform the evidence base for stage (i) as set out by the PBA.

**Discussion:** The proposed research aims to combine cutting-edge technology and health psychology to design and deliver an innovative education and training tool that will enhance the skill set required to optimise the provision of care for obesity.

## Does professional training in behaviour change last? A follow-up in St Helena

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<sup>3</sup>University of Kent, United Kingdom

**Background:** In 2019 a UK team delivered MAP (motivation, action, prompts) behaviour change training on the remote island of St Helena, aiming to increase sustainability of public health interventions to improve obesity, diabetes and smoking, embedding skills for healthcare practitioners (HCPs). The island experienced isolation and subsequent high levels of staff turnover due to the Covid pandemic. This study aimed to evaluate the impact and sustainability of the initial training for HCP practice and patients in the community.

**Methods:** Eighteen-month (Time 2) follow-up survey of MAP competency use, including communication and behaviour change skills (BCTs) post Time 1 HCP training on St Helena. A brief pre-post community-based patient survey evaluated perceptions of practitioners' communication and behaviour change skills. Thirty-two HCPs participated at Time 1; 13 at Time 2. Twenty-five patients participated at Time 1; 74 at Time 2. Measures included Training Assessment Rating Scale (TARS); HCPs competence and confidence in 10 BCTs and 5 communication skills and adapted empathic communication measures for patients.

**Results:** Composition of the HCP workforce had changed significantly since initial training. Increases in HCPs confidence and use of skills and behaviour change competencies observed post-training were generally not maintained at follow-up. Patients reported HCPs used less positive communication skills and slightly more behaviour change techniques at follow-up.

**Discussion:** Despite very positive changes in HCP behaviour change competencies post-training, these were not maintained sustainably in the longer-term. The impact on patient care must be viewed in the context of the Covid pandemic and difficulties maintaining support systems.

# Development of the Health Communication Orientations Scale: a questionnaire measuring health communication style preferences

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<sup>2</sup>University of Michigan, United States

## Background

According to Self-Determination Theory, autonomous motivation has an important role in patient initiation of health behavior changes and maintenance of changes. However, there are individual differences in how patients prefer to receive health messaging, varying from a preference for relatively patient-driven to a preference for provider-directed communication. This paper outlines the development of the Health Communication Orientation Scale (HCOS), a new measure to assess health communication style preferences.

## Methods

Nationally representative online panels from the US (n=603) and the Netherlands (n=737) completed a web-based survey containing the HCOS, established motivational measures, and demographic and personal questions (N=1,340). Exploratory and confirmatory factor analysis identified five subscales in both populations. Factors include (1) external orientation toward experts, (2) External orientation towards peers (others), (3) Autonomous orientation, (4) Reactant orientation, and (5) An orientation toward online searching (internet).

## Findings

Alphas for the five factors were high across both samples (range 0.84-0.91). We calculated correlations with established motivational and personal measures for each national sample, and compared these to our pre-registered hypothesized relationships. In general, the correlations between the HCOS scales and validity measures were in the hypothesized direction and the pattern of association did not significantly differ between the US and Dutch samples.

## Discussion

The HCOS subscales have strong psychometric properties, providing a novel approach to assessing communication style preferences for patient populations. Further investigation into how individual differences in HCOS scores may moderate the effects of health communication interventions, and how these differences may be used for tailoring health communication.

## Challenges of teaching health psychology at Medical Universities. Interactive approach with scenarios

E. Wesołowska<sup>1</sup>

<sup>1</sup>WSB University in Gdańsk, Poland

Teaching psychology at medicine schools can be challenging due to students' focus and interest in their major biomedical subjects. Biopsychosocial model of health and disease can be not only described but also illustrated in health psychology classes. The presenter's experience shows that the standard approach used in social science departments (relying on reading and discussing the resource materials) might be successfully enriched with interactive group activities. The activities are meant to prove the importance of health psychology for future doctors and increase their interest in the discipline. Scenarios of five group activities designed for Health Psychology classes will be presented in the poster („ball game”, „leg lift”, „building blocks”, „assembling puzzles”, „criminal story”). EXAMPLE: the first activity starts with individual measurement of heart rate, then a ball game is played requiring mental tasks performance in public. After that the HR is measured again. and psychosocial mechanisms of stress are discussed. At the end of activity relaxation technique and the third measurement of HR is done. The activities aim to illustrate to students the following thesis: (a) interdependence of mental and physiological functions, (b) psychosocial mechanisms of stress, (c) barriers of effective doctor-patient communication and (d) problems of human activities coordination and team work in medical settings. They are also good opportunities to practice interpersonal skills

# Shared decision making and patient-physician communication

15:30 - 17:00

Heather Buchanan

## Doctor-Patient Communication in cancer care in China: A qualitative study

H. Buchanan<sup>1</sup>, A. Aubeeluck<sup>1</sup>, L. Wu<sup>2</sup>

<sup>1</sup>University of Nottingham, United Kingdom

<sup>2</sup>Tianjin Normal University, China

**Background:** Cultural variations between Western and Asian countries suggest there may be differences in communication with regards to diagnosis and treatment in cancer. The objective of our study was to explore how doctors in China communicate with patients and family in the cancer context.

**Methods:** Ten doctors (9 males) working in one of China's largest cancer hospitals were recruited for a qualitative interview study. Participants had differing levels of seniority and experience. Participants were interviewed in Standard Mandarin (SM) by a native Chinese researcher using a semi-structured interview schedule. Interviews were then transcribed verbatim in SM and translated into English by two of the authors. Thematic analysis (Braun & Clarke, 2006) was used to analyse the data.

**Findings:** Two of the authors analysed the data and identified four themes. Labels for these themes were: Family as a 'gatekeeper'; Cultural norms; Doctor's conflicted role; Patient-centred care?

**Discussion:** Cultural norms are evident in the role of the family in cancer care in China. The patient is often not actively told of their diagnosis or involved in treatment decisions. The doctors discussed how they are often conflicted as they would like to communicate directly with the patient; however, the family is the gatekeeper to the patient and holds 'the power' to information about diagnosis and treatment. The Western model of patient-centered care was in opposition to the current Chinese cancer context. Future health psychology research should explore how patients understand and adjust to their condition within this cancer context in China.

## Perceptions of Genetically Oriented Physicians Among Black and White Americans with Obesity

M. Lebowitz<sup>1</sup>, R. Pearl<sup>2</sup>

<sup>1</sup>Columbia University, United States

<sup>2</sup>University of Florida, United States

Obesity is widespread in the United States and disproportionately affects Black patients. Genetic conceptualizations of obesity's etiology are ascendant, but research has shown that Black (vs. White) Americans endorse genetic attributions less strongly, are more concerned that genetic information will be used in stigmatizing ways, and are less enthusiastic about the potential health benefits of genetic testing. Here, Black-identified (n=150) and White-identified (n=110) U.S. adults with obesity, recruited online, viewed a description of a physician that experimentally varied whether he was described as believing that obesity is primarily caused by either "people's genes" (genetic condition) or by their "social, financial, and physical environments, as well as their life experiences" (nongenetic condition). It also varied whether the physician made corresponding (genetic vs. nongenetic) attributions for racial disparities in obesity. Black participants in the genetic (vs. nongenetic) condition reported that they would be less interested in having the physician described as their own doctor,  $F(1, 146)=10.11$ ,  $p=.002$ ,  $\eta^2=.06$ , and perceived him as less effective at helping patients manage their health,  $F(1, 146)=8.75$ ,  $p=.004$ ,  $\eta^2=.06$  (neither effect was moderated by the presence/absence of attributions for racial disparities). White participants also perceived the doctor as less clinically effective in the genetic condition,  $F(1, 106)=3.94$ ,  $p=.0499$ ,  $\eta^2=.04$ , but there was no significant difference in their interest in being treated by him,  $F(1, 106)=2.36$ ,  $p=.127$ ). These results suggest that a physician's endorsement of genetic attributions for obesity could negatively affect how they are perceived by individuals with obesity, especially those who identify as Black or African-American.

## Parent involvement in end-of-life care and decision making in NICU: neonatologists' self-reported practices and attitudes

A. Bogdanic<sup>1</sup>, M. Grubic<sup>1</sup>, B. Filipovic-Grcic<sup>1</sup>

<sup>1</sup>University Hospital Centre Zagreb, Croatia

**Objective:** To assess the attitudes of Croatian neonatologists regarding parental involvement in end-of-life decision making.

**Methods:** Sample of 46 neonatologists and 14 neonatology interns from all tertiary neonatal intensive care units in Croatia filled in online questionnaire regarding parental involvement in end-of-life decisions in NICU.

**Findings:** Most of the participants (75%) believe that parents should be actively involved in end-of-life decision making in NICU. 7% believe that parents should not be involved but only informed about the decision and 17% think that parental wishes should be taken into account during decision-making process. When asked about parental involvement in decision making process in their units, 87% of the participants believe that parents are adequately involved in decision making process, while 13% think they should be involved in a greater extent.

As potential drawbacks of parental involvement in decision-making process, participants reported parental inability to completely understand treatment options and their consequences (55,4%), possibility that parents change their mind and feel guilty afterwards (53,6%) or sue the physician (48,2%) and inability to decide due to their emotional state (41,1%).

In situations when parental and physician's attitudes are opposed, 70% decide to continue the intensive care despite parental wish to withhold it, and 35% decide to withhold the intensive care despite parental wish for its continuation.

**Discussion:** Majority of Croatian physicians believe that parents should be included in decision making process in NICU. In situations when their and parental attitudes regarding continuation/withholding of care are opposed, physicians tend to continue the intensive care.



## Perceived risks, medical self-efficacy, patient-centered communication style, and SDM involvement on general public's treatment satisfaction

J. Chien<sup>1,2</sup>, A. Chen<sup>3</sup>, E. Liu<sup>3</sup>, R. Chen<sup>3</sup>, J. Li<sup>4</sup>

<sup>1</sup>Asia Eastern University of Science and Technology, Taiwan

<sup>2</sup>Department of Healthcare Administration, Taiwan

<sup>3</sup>Morrison Academy, Taiwan

<sup>4</sup>Pu Tai Senior High School, Taiwan

**Background:** Through asking the general public to recall a notable medical experience and implementing a randomly assigned high-risk or low-risk life-threatening scenario, the present study aimed to examine the impact of perceived risks, medical self-efficacy (MSE), perceived physician's patient-centered communication style (PPPCCS), and SDM involvement (SDMI) on treatment satisfaction (TS).

**Methods:** A pilot study (n = 241) was used to test the feasibility of the self-developed online questionnaire. The main study was implemented from September to October 2021, and the valid participants were 1599 after attention checks. Descriptive statistics, EFA, reliability analysis, contingency table analysis, ANOVA, correlation analysis, and multiple stepwise regression were used for data analysis.

**Findings:** When people were sick, most of them would go see a doctor (n = 1515, 94.7%) and their main consideration was the Physician's Reputation (n = 590, 36.9%). People with higher levels of MSE, PPPCCS, and SDMI reported more TS. When people were in a high-risk situation, they wanted to participate more in decisions and considered changing doctors if their preferred treatment option was different from the physician's. When they encountered a serious illness and could fully understand the physician's treatment explanations, the majority preferred to make the treatment decision themselves (n = 978, 61.2%). The best predictors to build TS were PPPCCS and SDMI, which accounted for 67% of the total variance.

**Discussion:** People wanted to participate more in treatment decision making especially in a high-risk situation. However, without the physician's patient-centered communication style, patient participation would never be possible.

## Congruence in treatment decision-making models among the general public: Does one size fit all?

J. Chien<sup>1</sup>, H. HSU<sup>1</sup>, W. LIN<sup>1</sup>

<sup>1</sup>Asia Eastern University of Science and Technology, Taiwan

**Background:** SDM approach has been advocated as an ideal model for treatment decision making (TDM); nevertheless, not all patients wanted to participate in TDM. The congruence between patient's preferred and actual TDM roles could also lead to higher treatment satisfaction. Through asking the general public to recall a notable multiple TDM experience, the present study aimed to examine which TDM model congruence could most enhance physician-patient relationship quality (PPRQ).

**Methods:** A pilot study (n = 301) was used to test the feasibility of the self-developed online survey through the 7-point Likert scale. The main study was implemented in July 2021, there were 1266 valid participants after attention checks (valid rate: 75.44%). After conducting the EFA and reliability analysis, this valid and rigorous questionnaire, mainly including three parts: medical self-efficacy (MSE), medical treatment indecision (MTI), and PPRQ. Descriptive statistics, contingency table analysis, ANOVA, correlation analysis, and multiple stepwise regression were used for data analysis.

**Findings:** Most people preferred SDM (n = 1018, 80.4%) and reported SDM as their actual TDM role (n = 692, 54.7%). However, the paternalistic model congruence showed the highest PPRQ (M = 6.57). The SDM congruence had higher PPRQ than the mismatched ones. People who had higher levels of MSE, lower levels of MTI, and perceived TDM model congruence could achieve a higher level of PPRQ, respectively.

**Discussion:** National Health Insurance in Taiwan provides affordable, accessible, and effective medical services for all citizens; therefore, Taiwanese people often seek doctors that can fit his or her treatment needs.

# Perceptions of illness, treatment and risks

15:30 - 17:00

Nicola Cogan

## Understanding and addressing COVID-19 Booster vaccine hesitancy: Rates, determinants and implications for health communication

K. Griva<sup>1</sup>, K.Y. Tan<sup>1</sup>, A.S.E. Soh<sup>2</sup>, M.I. Chen<sup>2</sup>

<sup>1</sup>Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore

<sup>2</sup>National Centre of Infectious Diseases, Singapore

### BACKGROUND:

In response to declining vaccine-induced immunity and the emergence of new COVID-19 variants, booster COVID-19 programs were widely launched in high-income countries. However public response had been slow and scepticism about these programs is rising. This study sought to identify the sociodemographic and psychosocial factors associated with COVID-19 booster vaccine hesitancy (BVH) in Singapore.

### METHODS:

Derived from the SOCRATES community epidemiological cohort in Singapore, 1005 fully vaccinated adults (62.1% female, mean age = 42.6 years) that had not received the COVID-19 booster vaccine completed an online survey between October-November 2021 on vaccination beliefs, intentions, and behaviours. Subgroup analyses and a multivariable binary logistic regression model were utilised.

### FINDINGS:

The overall BVH rate was 30.5% (25.9% unsure; 4.7% refused the booster vaccine). The multivariable model (Nagelkerke  $R^2 = 51.9\%$ ,  $p < .001$ ) indicated that a tertiary education (no qualifications/primary education aOR = 0.110  $p = .009$ ; secondary/postsecondary education aOR = 0.549,  $p = .006$ ), lower COVID-19 threat perception (aOR = 0.710,  $p = .029$ ), lower perceived benefits (aOR = 0.323,  $p < .001$ ), lower need for booster vaccination (aOR = 0.506,  $p < .001$ ) and lower benefit/concerns differential (aOR = 0.530,  $p < .001$ ) were associated with higher odds of BVH.

### DISCUSSION:

While the majority were willing to receive the COVID-19 booster vaccine, BVH could be addressed by leveraging on efforts aimed at reinforcing the benefits of taking the booster vaccine while also allaying concerns surrounding it, thereby achieving a positive benefit-cost ratio.

## A preference for personally experienced status-quo affects vaccine-like decisions under risk

M. Kachelmann<sup>1</sup>, K. Tiede<sup>2</sup>, W. Gaissmaier<sup>1</sup>, H. Giese<sup>1</sup>

<sup>1</sup>University of Konstanz, Germany

<sup>2</sup>Max-Planck-Institute for Human Development, Germany

### Abstract

**Background:** In health-related contexts like vaccination or treatment decisions one usually chooses between the experienced status-quo of being not (yet) vaccinated and a described alternative of the possible outcomes resulting from vaccination. To investigate, how default effects and information format effects jointly influence decision making, this pre-registered study utilized monetary lotteries to circumvent any pre-existing influence of personal opinions on vaccinations.

**Design:** In an online sample of adults ( $N = 193$ ), subjects chose between a described and an experienced option in 80 choice problems. We contrasted how default framing affected choices for an experienced vs. a described prospect in a between-subjects design: experience-option is default, experience-option is alternative, no default is present. We assessed the number of experience option choices as a preference measure.

**Findings:** We found a significant default effect ( $F(2,190) = 3.35$ ,  $p = .037$ ,  $\eta^2 = .034$ ): only the experience sampling option choices were significantly different from 50% (54.31%,  $p = .005$ ) indicating only options learned through experience sampling were affected by default framing, whereas described options were not.

**Discussion:** Based on our results, it might be possible that vaccine-hesitancy can be partially explained by the presence of default effects that seem to exclusively affect previously experienced choice options.

## Understanding COVID-19 vaccine hesitancy among health and social care workers during mass vaccination in Scotland

N. Cogan<sup>1</sup>, L. McInnes<sup>1</sup>, V. Ling<sup>1</sup>, L. Williams<sup>1</sup>, P. Flowers<sup>1</sup>

<sup>1</sup>University of Strathclyde, United Kingdom

**Background:** Health and social care workers (HSCWs) have an essential role in the uptake of the COVID-19 vaccine. Vaccination has long been an emotionally charged issue and risk perception can contribute towards vaccine hesitancy (VH). The aim of this study was to explore psychosocial factors associated with HSCWs' uptake of the COVID-19 vaccine, in order to better understand VH during the initial mass roll-out of the vaccine in Scotland.

**Methods:** A cross-sectional, online survey design with a multi-method approach to analysis was adopted. The survey was conducted with HSCWs (N = 1189) aged 18 to 67 years (M = 44.09 yrs, SD = 11.48) working in Scotland during the third lockdown (December 26th – March 31st 2021) of the COVID-19 pandemic. The survey collected data relating to socio-demographical characteristics, vaccine uptake and intent, emotions associated with the vaccine and COVID-19 risk perception. Free text data was also collected relating to HSCWs' views on the vaccine.

**Findings:** The majority of participants (83.96%) felt positive about the roll-out of the COVID-19 vaccine, stating it would be beneficial for themselves and others. Nonetheless, 16.04% of HSCWs expressed VH. Occupational group, age, and gender did not affect variance in VH, but COVID-19 risk perception, emotions associated with the vaccine and years of experience did.

**Discussion:** The implications of these findings are discussed at both the individual and organisational level, emphasising the importance of future interventions aiming to address VH targeting negative emotions associated with the COVID-19 vaccine and risk perceptions, particularly among less experienced HSCWs.

## Co-development of risk communication resources for people with a genetic predisposition to cancer

K. Morton<sup>1</sup>, K. Kohut<sup>1</sup>, H. White<sup>2</sup>, J. Young<sup>3</sup>, C. Foster<sup>1</sup>, D. Eccles<sup>1</sup>

<sup>1</sup>University of Southampton, United Kingdom

<sup>2</sup>Patient Reference Panel, United Kingdom

<sup>3</sup>Patient Reference Panel, United Kingdom

**Background:** People with an increased genetic risk of cancer are faced with complex decisions about managing their risk. We aim to co-develop a decision aid to support people with a genetic predisposition (called Lynch syndrome) to make decisions to reduce their risk of cancer.

**Methods:** Our co-development approach involves working closely with a patient panel of twelve contributors, and wider patient and public involvement (PPI) activities with our target population. Five online PPI discussion groups were held with 16 people with Lynch syndrome, co-facilitated by members of our patient panel. We explored perceptions of risk communication using examples from existing patient resources. Feedback was captured in an intervention planning table, in line with the person-based approach, and discussed with our panel to inform the decision aid development.

**Findings:** People with Lynch syndrome preferred risk information that was personalised and accessible. Booklets presenting a range of risk across groups were disliked, as being told you were in a sub-group at 'highest risk' could be frightening. Icon arrays were easier to interpret than graphs. Statements to clarify uncertainty of future outcomes were acceptable and reassuring for people.

**Discussion:** While we are following guidelines from the UK Winton Centre for Risk Communication and decision aid best practice, speaking to different people from our target population was essential to understand what living with increased risk meant to them and how risk information influences their decisions. Decision aids need to promote positive feelings about risk management and reduce anxiety.

## How do women at increased risk of breast cancer appraise their risk? A systematic review

V. Woof<sup>1</sup>, A. Howell<sup>1,2</sup>, L. McWilliams<sup>1</sup>, D.G. Evans<sup>1,2</sup>, D. French<sup>1</sup>

<sup>1</sup>University of Manchester, United Kingdom

<sup>2</sup>Manchester University NHS Foundation Trust, United Kingdom

### Background:

It is well established that women under and overestimate their breast cancer risk. Provision of an objectively-derived clinical risk estimate modestly improves the accuracy of women's risk appraisals. Nevertheless, personal breast cancer risk appraisals are often only weakly affected by objective risk estimates. Reasons for this discrepancy are largely unknown. This qualitative systematic review aims to investigate how women, who have been informed of their increased breast cancer risk appraise their risk of the disease.

### Methods:

Five electronic databases were systematically reviewed for qualitative research exploring how women who have received an increased breast cancer risk estimate appraise their risk status. Fourteen papers have been included and critically appraised using the CASP. Data will be analysed using thematic synthesis.

### Expected results:

Results are expected to identify what information and heuristics women draw upon to make sense of their risk. For example, women appear to view family history as more important than other risk factors, which may make breast cancer seem inevitable. Points of misunderstanding will also be highlighted, for instance the belief that breast cancer risk decreases as the individual passes the affected relative's age of onset.

### Current stage of work:

This work is at the analysis stage, where data from 14 included papers are being thematically synthesised.

### Discussion:

The results from this review will provide implications for breast cancer risk communication between healthcare professionals and women. This could lead to reduced misunderstandings, improved accuracy of risk appraisals and more informed decision making regarding chemoprevention and screening frequency.



# Embedding health behavior change in healthcare

9:30 - 11:00

London

Molly Byrne

## Developing an animation using the Behaviour Change Wheel to facilitate breast screening amongst under-represented groups

A. Acharya<sup>1</sup>, C. Gardner<sup>1</sup>, G. Judah<sup>1</sup>, A. Darzi<sup>1</sup>

<sup>1</sup>Imperial College London, United Kingdom

### Background

Breast cancer screening uptake has fallen in the UK, with coverage in London the lowest nationally (67.3%). There are also socio-demographic disparities in uptake. This study aims to 1) understand determinants of non-attendance amongst under-represented populations using the Behaviour Change Wheel (BCW) approach and 2) apply these to develop a novel animation to facilitate screening attendance.

### Methods

Ten semi-structured interviews and two focus groups, informed by a literature review, elicited behavioural determinants to attendance. Purposeful sampling ensured minorities were represented. An inductive thematic analysis elicited common themes, which were then classified according to COM-B and Theoretical Domains Framework (TDF). Consequently, information sources (qualitative, survey, literature review) were triangulated, and themes mapped to candidate Behavioural Change Techniques (BCTs). Four co-design workshops were conducted to design an animation encompassing selected BCTs. This was refined following feedback from screening commissioners, behavioural experts, and service users.

### Findings

Qualitative work elicited perceived low-susceptibility, impact of cancer diagnoses, and fear, as common barriers to breast screening. COVID-19 was not a strong deterrent to attendance. Following the workshops, BCTs including verbal persuasion about capability, reducing negative emotions and credible source were incorporated into the animation, with minorities appropriately represented.

### Discussion

Using the BCW approach, we triangulated barriers identified from different methods, selected BCTs and co-designed an intervention to improve breast screening attendance, which will be tested in a randomised controlled trial. Moreover, we have highlighted the importance of engaging under-represented populations throughout development (from information gathering to feedback), to ensure the intervention is relevant and acceptable.

## Are macro-level changes required to implement and embed CMV education into routine antenatal care?

A. Montague<sup>1</sup>, T. Vandrevalla<sup>1</sup>, C. Jones<sup>2, 3</sup>

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<sup>2</sup>Clinical and Experimental Sciences, Faculty of Medicine and Institute for Life Sciences, University of Southampton and NIHR Southampton Clinical Research Facility and NIHR Southampton Biomedical Research Centre, University Hospital Southampton NHS Foundation Trust, United Kingdom

<sup>3</sup>Paediatric Infectious Diseases Research Group, St George's, University of London, Cranmer Terrace, London, United Kingdom, United Kingdom

**Background:** Congenital Cytomegalovirus (CMV) is a leading cause of sensorineural hearing loss and neuro-disability in childhood. In the absence of a licensed vaccine or effective antenatal treatment, the adoption of hygiene-based measures is used to reduce risk in pregnancy, however, this advice is not routinely given to pregnant women in the NHS UK.

**Methods:** Underpinned by Normalization Process Theory (NPT), qualitative research methods were used to investigate the ways of implementing, sustaining, and enhancing CMV educational interventions in real-world routine antenatal care settings. Virtual, semi-structured interviews were conducted with health care providers (HCPs) (n=14) from three NHS trusts and digital antenatal organisations in the United Kingdom. Data were analysed using Thematic Analysis.

**Findings:** HCPs are reluctant to include CMV education due to lack of time, knowledge and absence of guidance or policies relating to CMV in antenatal education. The educational intervention was perceived as a useful vehicle to encourage conversations and empower women to manage risk. Macro-level challenges such as screening policies and lack of official guidelines to legitimise dissemination were identified. Future interventions need to consider inclusion and diversity.

**Discussion:** Using Normalization Process Theory enabled insights to be gathered on the 'work' that is involved in implementation. However, NPT places undue emphasis on individual and collective agency without explicitly locating this within, and as shaped by, the organisational and relational context in which implementation occurs.

## The Choosing Health process evaluation: feasibility and acceptability of a tailored weight loss intervention

I. Palacz-Poborczyk<sup>1</sup>, F. Naughton<sup>2</sup>, A. Luszczynska<sup>3</sup>, E. Quested<sup>4</sup>, M.S. Hagger<sup>5,6</sup>, S. Pagoto<sup>7</sup>, P. Verboon<sup>8</sup>, S. Robinson<sup>4</sup>, D. Kwasnicka<sup>1,9</sup>

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<sup>4</sup>Curtin University, Australia

<sup>5</sup>University of California, Merced, United States

<sup>6</sup>University of Jyväskylä, Finland

<sup>7</sup>University of Connecticut, United States

<sup>8</sup>Open Universiteit Nederland, Netherlands

<sup>9</sup>University of Melbourne, Australia

**Background:** Increasing our understanding of participants' and deliverers' experience of digital weight loss and maintenance interventions can help with their optimisation and inform future evaluations. This process evaluation assessed the feasibility and acceptability of the Choosing Health program and trial, an online-delivered, theory-based weight loss and weight maintenance intervention with an imbedded idiographic study.

**Methods:** Following a mixed methods design, we investigated three key aspects of process evaluation: context, implementation, and mechanisms of impact. Strategies to collect data from stakeholders of the Choosing Health trial (N=288) included: (1) feedback surveys completed at 6- and 12-month follow-up assessments, (2) data-prompted interviews at 12-month follow-up (N=20), (3) semi-structured interviews with data collectors (N=4), (4) records of attrition and engagement throughout the trial.

**Findings:** The Choosing Health trial was predominantly conducted according to the protocol, all participants were recruited within the planned timeframe; however, the attrition rate was higher than expected (more than 30%). Facilitators of intervention acceptability were: goal setting based on regular and detailed body composition data, personalised support based on the idiographic data, and the hybrid form of the trial (online-delivered intervention content and face-to-face follow-up meetings). The main barrier to engagement was lack of involvement from dietitians and medical doctors in the program.

**Discussion:** Findings offer evidence of intervention feasibility and acceptability. The study provides evidence of challenges and informs good practices to further develop tailored, theory-based interventions for health behaviour change among people with overweight and obesity.

## Enhancing Communication and Patient Safety in Obstetrics: Application of the Health Action Process Approach

C. Derksen<sup>1</sup>, J.E. Dietl<sup>1,2</sup>, F.E. Häußler<sup>3</sup>, M. Schmiedhofer<sup>1,2</sup>, S. Lippke<sup>1</sup>

<sup>1</sup>Jacobs University Bremen, Germany

<sup>2</sup>German Coalition for Patient Safety, Berlin, Germany

<sup>3</sup>German Coalition for Patient Safety, Berlin, Germany

**Background:** In 2021, the World Patient Safety Day illustrated the need for “safe maternal and new-born care” to reduce traumatic birth experiences, maternal and neonatal morbidity. Although safe communication can ensure patient safety, mothers-to-be are rarely empowered and trained in communication behaviour. Interventions should be based on (health) psychological models since communication behaviour needs to be developed. The aim of the current research was to apply the Health Action Process Approach to safe communication in obstetric care and evaluate a training for mothers-to-be to enhance patient safety.

**Methods:** The study used an RCT design at two German university hospitals. N = 286 mothers-to-be provided data before and after giving birth (drop-out rate 33%). In the intervention group, N = 142 received a 2.5 hour online communication training prior to giving birth. In the control group, N = 144 received care-as-usual, but no training in communication. Questionnaire data regarding communication behaviour, perceived patient safety, and social-cognitive variables were analysed using mixed models.

**Findings:** Significant interaction effects were found for communication behaviour ( $F[1;274]=7.13$ ,  $p=.008$ ), perceived patient safety ( $F[1;256]=4.09$ ,  $p=.044$ ), coping planning ( $F[1;274]=10.19$ ,  $p=.002$ ), coping self-efficacy ( $F[1;278]=4.51$ ,  $p=.035$ ), and action planning ( $F[1;274]=8.27$ ,  $p=.004$ ), favouring trained mothers-to-be.

**Discussion:** Using the Health Action Process Approach to inform a communication intervention was effective in targeting both social-cognitive variables as well as pregnant women’s communication behaviour and perceived safety during childbirth. Applying psychological theories can help to empower mothers-to-be. Future research should use objective data to evaluate the effectiveness of theory-based communication interventions during pregnancy.

## Health Psychology in Industry: Applying behavioural-science to develop a patient support programme for multiple sclerosis

K. Hamilton-West<sup>1</sup>, J. Walburn<sup>1</sup>, C. Maloney<sup>1</sup>

<sup>1</sup>IQVIA, Medical Patient Communications, United Kingdom

**Background:** Industry produces Patient Support Programmes (PSPs) to support self-management for people with long term conditions. We aimed to develop a PSP for people with relapsing remitting MS informed by health psychology models and frameworks within an industry context.

**Methods:** We utilised behavioural science models and frameworks (e.g., The COM-B model and Theoretical Domains Framework) to underpin the programme design and development of the programme content. We combined these with 'journey mapping' identifying 'pain-points' faced by people with MS. We utilised a co-creation stakeholder approach involving behavioural scientists, nurses, medics, and graphic design specialists.

**Findings:** We designed a personalised intervention to deliver support via either a nurse, app, or nurse + app. Content was developed to address illness perceptions (coherence, controllability, consequences, and emotional impacts), confidence (self-efficacy) and motivation to adhere to treatment. App content covered a range of aspects of disease and treatment management (e.g., developing habits and routines, managing MS at work, managing negative emotions) via interactive content (e.g., video, quizzes).

**Discussion:** We demonstrate the opportunity for health psychology to inform practice in a commercial setting. We emphasise the need for PSPs to be patient-centred (tailored to the individual's needs and priorities), empirically grounded (using evidence-based methods to target behavioural drivers/barriers) and developed with evaluation and implementation plans built in from the start.

# Psychosocial predictors of Physical Activity Adherence in Cancer Survivors: A Systematic Review and Meta-Analysis

B. Rodrigues<sup>1</sup>, J. Encantado<sup>2</sup>, S. Franco<sup>3</sup>, M. Silva<sup>3</sup>, E. Carraça<sup>3</sup>

<sup>1</sup>Universidade do Porto, Portugal

<sup>2</sup>Universidade de Lisboa, Portugal

<sup>3</sup>Universidade Lusófona de Humanidades e Tecnologias, Portugal

**Background:** Physical activity (PA) attenuates treatment adverse effects and is considered safe for cancer survivors. However, PA recommendations are not achieved by most cancer survivors. Therefore, this study systematically reviewed psychosocial predictors of PA adherence in this population.

**Methods:** Pubmed, PsycINFO, and SportDiscus were searched until April 2021, for experimental or observational studies, exploring the associations between psychosocial predictors and short- and long-term PA in cancer survivors. Study quality was evaluated with the EPHPP tool. A narrative synthesis and random-effects meta-analyses were conducted, when 3 or more studies per predictor were available.

**Findings:** Results yielded 52 studies, testing 112 psychosocial PA predictors, of which 14 were significant PA correlates. However, 69% of predictors were tested less than 3 times, and 63% of studies presented a poor quality. Meta-analyses were performed for 14 psychosocial PA predictors. Results showed significant positive effects for 11 psychosocial factors ( $p < .05$ ): enjoyment, exercise self-efficacy, intention, perceived behavioural control, subjective norms, injunctive norms, affective attitudes, instrumental attitudes, social support, physical functioning, barrier self-efficacy.

**Discussion:** Despite the limited and heterogeneous evidence, this review highlighted key psychosocial PA predictors, which could inform future interventions and public health policies related to PA promotion in cancer survivors. However, it was not possible to separately analyse long- and short-term predictors, due to the scarcity of studies including long-term PA outcomes. Future studies are required to overcome these shortcomings.

# Physical activity interventions

9:30 - 11:00

Rome

David French



## Using the health action process approach to improve physical activity in adolescents

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**Background:** Most adolescents do not meet the recommendations for physical activity (PA) of at least an average of 60 minutes per day, although physical inactivity is considered a risk factor for poor health. However, research on adolescents concerning PA behavior change is limited. Thus, this study investigates the role of psycho-social predictors from a health-behavior change theory, the Health Action Process Approach (HAPA), on adolescents' PA.

**Methods:** A total of 270 adolescents attended a one month randomized controlled trial (ClinicalTrials.gov: NCT03575559) to compare the effectiveness of an individual and collaborative planning intervention to enhance PA with two active control conditions. The participants (Mage = 16.0, SD = 1.2) completed questionnaires measuring the key constructs of the HAPA. PA was assessed with a motion sensor.

**Findings:** Path analyses indicated that self-reported planning had a significant relationship with the change in PA under experimental conditions. Additionally, no significant differences between the two control conditions in PA were found. Planning did not mediate the association between intention and PA. The correlations of the other social-cognitive variables of the HAPA (self-efficacy, outcome expectancies, and intention) were significant among each other, except for risk perception. Additionally, adolescents performed less PA in the one-month follow-up measurement.

**Discussion:** Reasons for these results might be the Covid-19 pandemic or the suitability and execution of the plans to increase PA. However, the present findings highlight the effectiveness of plans in interventions to enhance adolescents' PA.

## Do physical activity plans help to reduce sedentary behavior? A randomized controlled trial involving dyads

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### Background:

This dyadic study evaluates the efficacy of individual “I-for-me” planning, dyadic “we-for-me” planning (i.e., joint planning, targeting the behavior of the focus person), and collaborative “we-for us” planning (i.e., joint planning and joint behavioral performance) on SB (sedentary behavior) time and the proportion of time spent in sedentary SB and PA (physical activity).

### Methods:

Adult dyads (N = 320) were randomized into three PA planning conditions or a control condition. Main outcomes, i.e., SB time, proportion of time spent in SB and light-intensity PA, proportion of time spent in SB and total PA were measured with GT3X-BT accelerometers. Two-level models with measurement points nested in participants were fit, separately for focus persons and partners.

### Findings:

Findings for focus persons obtained at 1-week follow-up indicated that in the collaborative planning condition SB time significantly decreased, compared to the control condition and was displaced by PA [SB time:  $p = .013$ ; the proportion of time spent in SB and light-intensity PA:  $p = .019$ ; proportion of time spent in SB and total PA ( $p = .018$ )]. None of interventions had a significant effect on SB indices at 36-week follow-up. There were no effects of the planning interventions compared to the control condition in partners.

### Discussion:

Collaborative planning may result in a short-term reduction of SB time and prompt a shift towards a healthier balance between SB time and PA time among focus persons, who did not adhere to PA guidelines at baseline.

## Older adults' intervention engagement and functional status are related to physical activity and social participation

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**Background:** Physical activity (PA) and social participation are important across the lifespan, especially with increasing age and limited functional status (FS) (i.e., a person's physical functions). While intervention programs aim to improve both, theoretical assumptions are unspecific regarding the interplay of these factors to promote PA and social participation. Furthermore, empirical research suggests that intervention engagement is related to PA behavior in either a linear, dose-response (more engagement = more PA) or a quadratic manner (i.e., a medium and not exaggerated level of engagement best promotes PA). In the present study, we tested whether FS of a person can explain the relationship between intervention engagement and PA behavior or social participation. **Method:** N = 251 adults (M = 68.42 years) took part in the longitudinal PROMOTE 2 project that implemented a PA intervention. **Findings:** Results of mixed model analyses show that the intervention was successful: Participants were more physically active and engaged more in social participation at two follow ups (three and nine months later) than at baseline. Furthermore, results suggest that a dose response relationship between intervention engagement and PA seems to be stronger for individuals with a high FS, whereas a quadratic relationship seems to be more applicable for individuals with low FS (three way interaction:  $F[1,199] = 5.82$ ,  $p = .017$ ). Results moreover suggest that the FS was the only variable related to social participation. **Discussion:** Our research reveals a complex relationship between FS and behavior change and social participation among older adults.

## Increasing the uptake of deposit contracts for physical activity behavior change using a smartphone intervention

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**Background:** Deposit contracts are a type of financial incentive in which participants pledge their own money. Low uptake is a crucial obstacle for large scale implementation of deposit contracts. We investigated whether (1) matching the deposit 1:1 (doubling what is deposited) and (2) allowing for customizable deposit amounts increased uptake of a deposit contract.

**Methods:** 137 healthy students (age M = 21.6 years) downloaded a smartphone application that provided them with a tailored step goal and required either a €10 fixed deposit or the option to deposit any amount between €1 and €20 upfront. The deposit was either not matched or 1:1 matched (doubled) with a reward provided by the experiment. During 20 intervention days, daily feedback on goal progress and incentive earnings was provided. Primary outcome was uptake. Secondary outcome was effectiveness.

**Findings:** A binary logistic regression showed uptake odds were 4.08 times higher when a deposit was matched ( $p = .010$ ) compared to when it was not matched. Furthermore, uptake odds were 3.53 times higher when a deposit was customizable ( $p = .022$ ) compared to when it was fixed. Furthermore, two-way ANCOVA showed that matching ( $p = .752$ ) and customization ( $p = .143$ ) did not impact intervention effectiveness.

**Conclusions:** Both matching and customization increased uptake without affecting effectiveness. Customizable deposit amounts can be offered without additional cost to the intervention provider. We recommend consideration of both matching and customization to overcome issues with uptake. Future research should further investigate which personal characteristics are predictive of deposit contract uptake.

## Which 'self' makes us exercise more? An online RCT on future-best-possible, future-worst-possible and past-successful exercise-self

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**Background:** Possible selves can prompt behavior change by providing visions of future self-images to strive for or avoid. Mental imagery (Conroy & Hagger, 2018), and concrete imagination exercises with best/worst possible-selves were found to increase physical activity (Murru et al., 2010, Ouellette et al., 2005). Social cognitive theory, however, proposes that not only future-oriented self-images, but past successful-selves (mastery experiences) are key to behavior change (Bandura, 1997). We aimed to compare future best-possible-self (imagining oneself as healthy, regular exerciser), future worst-possible-self (unhealthy, inactive), and past successful-self (at times when engaged in regular exercise and healthy) online imagination exercises on physical activity two weeks later.

**Methods:** Randomization of a German student sample (N=193; aged M=23.6, SD=1.9; 80% female) into three conditions (n=76 best, n=64 worst, n=54 past). Minutes of moderate and vigorous physical activity (7-day-MVPA) were self-reported pre-intervention (T0) and post-intervention (T1, two-week-exercise-diary, n=137, attrition treated by full-information maximization).

**Findings:** Although all groups increased MVPA with considerable intra-individual difference, growth curve models found past possible-selves (fixed effect= 175.88, p=.011; MVPA\_T0=190, MVPA\_T1=442), but not best-possible-selves (fixed effect=18.96, p=.76, MVPA\_T0=250, MVPA\_T1=364) to significantly predict MVPA over time, compared against worst-possible-selves (MVPA\_T0=201, MVPA\_T1=300).

**Discussion:** These findings provide preliminary support that imagining past successful-exercise-selves promotes MVPA more effectively than future best- or worst-selves. The prompted mental review of successful exercise possibly increases mastery beliefs. Past-successful-exercise-selves might be perceived as more realistic and proximal than future distal exercise-selves, because these might lack proof of capability to be reached or avoided.

## Effectiveness of the Let's Move It intervention on physical activity and sedentary behavior: Cluster-randomised trial

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**Background:** Physical activity (PA) declines in late adolescence, particularly among those on lower educational pathway. Few trials have tested interventions to decrease sedentary behaviour (SB). No school-based interventions have shown lasting effects on PA or SB of older adolescents. The Let's Move It intervention design utilized behavioural science theories (e.g. self-determination theory, habit theory), empirical studies and stakeholder input.

**Aim:** To determine whether the Let's Move It intervention has an effect on behavioural and clinical outcomes among the adolescents after two (T3) and 14 months (T4).

**Methods:** The intervention brought changes in school setting and classrooms, and targeted students' motivation and self-regulatory skills. A cluster randomised trial was undertaken in six school units in vocational education in Finland. Of the invited 1240 first and second year students, blind to arm allocation, 89.7% consented to participate (mean age 18.5 years, 43.5% boys), and provided valid 7-day accelerometry data and survey responses at the three measurement points.

**Results:** No evidence of a significant intervention effect on the co-primary outcomes of moderate-to-vigorous PA (MVPA) or breaks was found, but a reduction in sedentary time was detected. Furthermore, participants in the intervention arm engaged in more accelerometry-measured light PA, in particular, school time. There were few differences in secondary outcomes.

**Discussion:** Few school-based PA interventions have changed accelerometry-measured MVPA. Despite a positive outcome on school-time activity, more comprehensive or intensive environmental changes may be needed to meaningfully improve total and more intensive PA. The findings will be discussed in light of mixed-methods process evaluation.

# Broadening the focus: Examples of non-WEIRD research in health psychology

9:30 - 11:00

Paris

Gudrun Sproesser

## Exploring psycho-social motives of health care seeking among Nicaraguan migrants in Costa Rica

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**Background:** Nicaraguans represent the main migratory group in Costa Rica and a vulnerable population in terms of health care seeking. The present qualitative study aims to explore the access to health care from the migrant perspective to understand the psycho-social barriers and facilitators for health care seeking.

**Methods:** Semi-structured interviews were conducted with 16 Nicaraguan immigrants (10 M, 6 W) with ages ranging between 18 and 64 years old. The interview guide was based on the theory of planned behavior. A secondary thematic analysis of the data was conducted to identify psycho-social barriers and facilitators for health care access.

**Findings:** Themes related to control, normative and behavioral beliefs emerged as relevant for health care access among Nicaraguan migrants. Discrimination based on origin, time constraints, economic situation and knowledge were identified as barriers towards seeking health care. The presence of symptoms constituted an important motivator to seek health care. Family, friends, co-workers, and health care personnel were seen as sources of subjective norms to seek health care services.

**Discussion:** The qualitative findings provide insight into a hard-to-reach group motives to access health care. Results serve to improve health communication with immigrant populations and ensure equitable access to health care among vulnerable groups.



## The effectiveness of Naluri app on clinical and psychological outcomes of cardiac patients in Malaysia

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<sup>3</sup>Naluri Hidup Sdn Bhd, Malaysia

### Introduction:

App based interventions have a great potential to improve the health of cardiac patients. This study is aimed at investigating the effectiveness of the Naluri app in clinical and psychological outcomes of cardiac patients in Malaysia.

### Methods:

A randomised controlled trial was conducted whereby patients in the treatment group (n=84) downloaded the Naluri app and used it for four months after recruitment. The control group (n=91) received usual care that included lifestyle counseling. The Health Action Process Approach (HAPA) theory was used as the theoretical framework for the Naluri app and to investigate patients' intention, planning and action in improving diet and physical activity. The clinical and psychological outcomes included BMI, HbA1c, lipid levels, anxiety, depression and health-related quality of life.

### Results:

The treatment group reported significantly higher vigorous physical activities,  $t(83)=4.13$ ,  $p<.01$  and improved diet,  $t(83)=3.10$ ,  $p<.01$  at post trial compared to the control group. Higher engagement with the Naluri app was effective in improving blood pressure, heart rate, anxiety, health-related quality of life, physical activity and diet. The HAPA was a useful theoretical framework to explain patients' health behaviour change. Risk perception and outcome expectancies predicted intention to improve diet ( $R^2=0.113$ ,  $F(3,169)=8.33$ ,  $p<.01$ ) and physical activity ( $R^2=0.069$ ,  $F(2,169)=7.71$ ,  $p<.01$ ). While action planning, and self-efficacy mediated the relationship between Naluri app and physical activity ( $R^2=0.06$ ,  $F(3,161)=3.40$  ( $p<.05$ )).

### Conclusion:

The Naluri app can be a useful tool for cardiac patients to improve their health behaviours, clinical and psychological outcomes.

# Increasing handwashing infrastructure functionality through increased psychological ownership in a refugee camp in Bangladesh

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<sup>1</sup>Eawag: Swiss Federal Institute of Aquatic Science and Technology, Switzerland

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<sup>3</sup>Ranas Ltd., Switzerland

## Background

People in humanitarian settings are particularly susceptible to the spread of communicable diseases. Handwashing with soap is a simple, but effective measure against such diseases. Yet in humanitarian settings, regular handwashing is often hampered by malfunctioning handwashing infrastructure, mainly because the users of the infrastructure engage insufficiently in monitoring and maintenance of the infrastructure. One way to motivate them to engage in monitoring and maintenance activities more frequently might be to increase their feeling of ownership of the infrastructure.

## Methods

To test this assumption, we ran a cluster-randomised controlled trial in a Rohingya refugee camp in Cox's Bazar, Bangladesh (N=268). In collaboration with our humanitarian partner, the Bangladesh Red Crescent Society, we conducted interventions aimed at increasing psychological ownership and improving the monitoring and maintenance protocols. Before and after the trial, we measured felt collective ownership, engagement in monitoring and maintenance, functionality of handwashing infrastructure and the frequency of handwashing. We analysed the data with ANCOVAs, controlling for baseline values, and path analysis.

## Findings

Our interventions partly increased the feeling of ownership and improved some monitoring and maintenance activities. However, they did neither increase the functionality of the infrastructure nor the frequency of handwashing. Results from path analysis shed additional light on the associations between the constructs, particularly on the role of ownership for infrastructure functionality.

## Discussion

Increasing psychological ownership seems a promising route to increase infrastructure functionality. Yet, successfully intervening on ownership stays a challenge for programming in Water, Sanitation and Hygiene in humanitarian settings and beyond.

## Perceived distributive fairness and acceptance of decentralised wastewater treatment systems in Bangalore, India

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Worldwide, rapid urban population growth and increasing water scarcity raise the need for complementing the prevalent centralised wastewater treatment systems with alternative systems and for reducing potable water consumption, for example by means of decentralised treatment plants that treat wastewater for non-potable reuse. To increase the use of these systems, the local government of Bangalore has issued a policy that mandates their adoption for part of the population, while the rest of the population continues using the centralised system. This might affect the distributive fairness of the policy and of water services, i.e. the fair distribution of their costs and benefits. This potential lack of distributive fairness might affect public acceptance of both the policy and decentralised treatment plants, and consequently also the chances of a successful implementation. To test this assumption, we conducted an online survey with both residents of Bangalore who are covered by the policy and residents who are not covered (N=300). We assessed perceived costs, risks, and benefits of the systems and the policy, their perceived distribution in society as well as the perceived fairness and acceptance of the policy. We investigate whether (i) the perceived distribution of different costs, risks, and benefits explains perceived distributive fairness and (ii) whether perceived distributive unfairness is related to a reduced acceptance of the policy. Moreover, we examine whether this relationship differs between residents covered by the policy and those who are not. We discuss the implications of our findings for future policies on urban water management and beyond.

## Traditional and modern eating in a sample of older adults from Gujarat, Western India

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**Background.** Traditional eating behavior constitutes an important element of cultural identity, with the latter being associated with well-being. However, across the world modern eating is increasing, especially in middle-income countries, such as India. The present study aimed to investigate how often and to what degree older adults living in an urban vs. rural area of Gujarat, Western India, enact traditional and modern eating behaviors.

**Methods.** A trained research assistant administered a questionnaire in a face-to-face situation with 120 older adults in a rural and an urban area of Gujarat, Western India. Participants were asked how often and to what degree they perform 57 traditional and modern eating behaviors, including both what and how people eat.

**Results.** Overall, our sample of older Gujaratis reported a high level of traditional eating behaviors and a low level of modern eating behaviors. However, we also found, for example, a low level of the traditional eating facet of men getting preferential treatment ( $t(119) = -2.64$ ,  $p = .005$ ,  $d = 0.24$ ) and a high level of the modern eating facet of food being readily available ( $t(119) = 26.31$ ,  $p < .001$ ,  $d = 2.40$ ). Moreover, most modern eating facets were more pronounced in the urban than in the rural sample. This was also the case for half of all traditional eating facets.

**Conclusion.** Results might hint at some first signs of modernization among older adults in this area of Gujarat, for example with regard to changing gender roles and better food availability.

# Health services research applications

9:30 - 11:00

Berlin

Laura König

## Does the health belief model predict patients' uptake of therapeutic patient education programs?

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**Background:** Therapeutic patient education (TPE) programs help patients to self-manage their chronic disease and improve their health and quality of life. Despite these benefits, a majority of patients do not attend TPE. Using the health-belief model, we tested whether patients' beliefs predicted their uptake of TPE.

**Methods.** Prospective design: after a proposition of TPE by a healthcare professional, 352 patients with a chronic disease (mainly obesity, diabetes, Parkinson, epilepsy and rare diseases) immediately completed ad-hoc questionnaires assessing their perceived benefits of TPE (Cronbach's alpha = .88), the barriers to attend TPE (alpha = .64), the threat they perceive of their disease (alpha = .81), and the control they think they have over the disease (alpha = .71). Six months later, we recorded whether patients had attended TPE or not.

**Findings:** 47% did not attend TPE. Controlling for patients' sociodemographic and medical variables, an interaction between benefits and barriers was found ( $p = 0.02$ ): when patients perceived low barriers, perceived benefits did not predict uptake of TPE, OR = 1.34, 95% CI [0.64-2.82],  $p = 0.44$ , whereas when perceived barriers were high, perceived-benefits predicted the outcome, OR = 5.23, 95%CI [2.14-12.77],  $p < .0005$ . Neither perceived control nor perceived threat predicted their (non)-uptake of TPE, respectively OR = 0.99, [0.74-1.33] and OR = 1.15 [0.85-1.53].

**Discussion:** When proposing TPE to patients, healthcare professionals should insist on the numerous benefits of TPE, especially when it can be difficult for patients to attend sessions due to lack of time or organizational issues.

## Clustering the cognitive status indicators in cardiac surgery patients to assess the cognitive disorders risk

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<sup>2</sup>Novosibirsk State Technical University, Russia

**Background and aim:** To determine the informational value of psychometric indicators of the cognitive status in cardiac surgery patients for the differentiation of the individual sensibility to postoperative cognitive dysfunction (POCD).

**Methods:** The clustering methods were used to analyze the extended psychometric testing data in 256 cardiac surgery patients. The psychometric testing carried out 3-5 days before and at 7-10 days after surgery using the psychophysiological complex "Status PF".

**Results:** The cluster analysis revealed that the most informative psychometric indicators for a screening risk assessment of POCD are the response to visual stimuli with biofeedback (the changes of the stimuli exposition according to the individual reaction time) and the short-term memory (memorized words). The analysis of postoperative psychometric indicators revealed that the modified clustering group of patients was characterized by a deterioration of short-term memory and a decrease of the reaction time. The stable group of patients demonstrated an acceleration of the reaction time to visual stimuli.

**Conclusion:** The clustering methods enabled the identification of cardiac surgery patients in the preoperative stage who had less cognitive reserve for recovery after surgery. It was suggested that the dedifferentiation of cognitive functions in patients with high risk of POCD are associated with the changes of the relationships between the complex visual and motor response, as well as between the attention and memory indicators.

**Funding:** This work is supported by the Russian Foundation for Basic Research, project no.19-29-01017.

**Conflict of interests:** No conflict of interests.

## «Doctor, doctor, please»: Evidence for more frequent doctor visits as a reaction to social exclusion

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**Background:** Ostracism, to be ignored and excluded, has severe consequences for individuals' functioning and mental health. Previous research identified coping mechanisms that either aim to re-establish affiliation, or cause excluded individuals to withdraw from others. Here, we investigate the assumption that these coping mechanisms might manifest in specific health behaviors.

**Methods:** Relying on representative panel data from two waves of the German Socioeconomic Panel (N = 1'957 unique participants), we tested whether excluded individuals would either seek affiliation by seeing their doctor more frequently or, conversely, withdraw by seeing their doctor less frequently. Exclusion frequency was assessed with the Ostracism Short Scale.

**Findings:** Controlling for age, gender, and medical diagnoses, we find a positive effect of social exclusion on the number of doctor visits in the previous three months ( $b = 0.09$ ,  $p = .006$ ) and on the number of sick days from work ( $b = 0.18$ ,  $p = .024$ ), but not on being hospitalized,  $p = .587$ . Moreover, in two cross-lagged panels, social exclusion in 2015 predicts more frequent doctor visits in 2018 ( $b = 0.29$ ,  $p < .001$ ) and more sick days in 2018 ( $b = 1.81$ ,  $p = .012$ ) while the reverse relations were not supported.

**Discussion:** Results suggest that excluded individuals see their doctor more often, and are more often absent from work, but do not become ill in a way that requires hospitalization. We discuss possible relations to workplace ostracism, and potential underlying mechanisms as well as implications for patient care for excluded individuals.



# A systematic review and meta-analysis of studies of reactivity to in-time-moment measurement of health behaviours

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<sup>2</sup>University of Cambridge, United Kingdom

**Background:** Retrospective self-report measures of health behaviour have several limitations including measurement reactivity, i.e. changes in people's behaviour, cognitions or emotions due to taking part in research. It is thus often recommended to use digital in-the-moment measurements instead; however, it is unclear whether they are also prone to reactivity. This systematic review with meta-analysis thus synthesised the evidence on reactivity to digital measurement of health behaviour.

**Methods:** A protocol was developed following the PRISMA guidelines and preregistered on PROSPERO (CRD42021221933). Four databases (Embase, Pubmed, PsycInfo, Web of Science) were searched. All observational or experimental studies investigating reactivity to digital assessment of health behaviours (alcohol consumption, dental care, diet, medication adherence, physical activity, sedentary behaviour, smoking) that were published in English between 2008 and 2020 were included.

**Findings:** Of the 11,723 records initially screened, 30 publications reporting on 31 studies were included in the qualitative synthesis/ 7 studies in the quantitative synthesis. Eighty-one percent of studies focused on reactivity to the measurement of physical activity indicators; small but meaningful pooled effects were found (Cohen's ds: 0.27 to 0.30). Only a small number of studies included other behaviours, yielding mixed results.

**Discussion:** Digital in-the-moment measurement of health behaviours may be as prone to reactivity as self-reports in questionnaires. Measurement reactivity may be amplified by (1) ease of changing the behaviour, (2) awareness of being measured and social desirability, and (3) resolving discrepancies between actual and desired behaviour through self-regulation.

## What people think about medicines and its prescription by doctors \_ a study in Portugal

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Despite the general recognition of the benefits of adherence to medical regimes, it has been estimated that 50% of medicines prescribed for long-term illness are not taken as recommended.

Adherence is a multidetermined process. The Extended Common-Sense Model proposes the inclusion of beliefs about medicines as mediators between illness representations and adherence. Stronger beliefs about medicines and its harmful effects have been associated with higher levels of nonadherence.

Objective: Explore general beliefs about medicines, and its recommendation by doctors among Portuguese general population (age > 18 years) who use community pharmacy.

Methodology: The two subscales, "general overuse" and general harm", of the "The Beliefs about Medicines Questionnaire" (BMQ) and a sociodemographic questionnaire were used. IBM SPSS 26 software was used for statistical analysis..

Results: A total of 847 Portuguese adults participated, 331 (39,1%) were 25-44 years of age; 427 (50,4%) concluded secondary education and 198 (23,4%) reported having a chronic condition. The majority of participants endorse the belief that most medicines are addictive, and a large percentage agreed that they are toxic, that doctors overprescribed and could benefit from hearing patients; and that natural remedies are safer than medicines. Differences were found considering age ( $p=0,093$ ), sex( $p=0,08$ ), and having active working ( $p=0,045$ ) with stronger beliefs in young adults and adults, in males and no active workers. No differences were found considering the presence/absence of chronic disease".

These results are discussed considering their possible contribution to the promotion of adherence through better communication with doctors, nurses and pharmacists.

# Stress management interventions

9:30 - 11:00

Vienna

Liz Steed

## Stress-management interventions for the irritable bowel syndrome: a systematic review and meta-analysis

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**Background:** Stress reactions in humans may interact with gut functioning. The irritable bowel syndrome (IBS), without known organic pathology, is a very common chronic gastrointestinal disorder. It is associated with psychological distress and reduced quality of life. Still, little is known about the effectiveness of management strategies. In this systematic review we report effects of stress-management interventions for IBS.

**Methods:** We predefined PICOS criteria (adult IBS patients; stress-management interventions; care as usual as control condition; patient-relevant outcomes; (randomized) controlled trials and systematic reviews), pre-registered the study on PROSPERO and searched major medical databases (e.g. MEDLINE, EMBASE). Two researchers screened publications, assessed risk of bias using SIGN checklist and reported according to PRISMA statement. We conducted meta-analyses based on homogeneous studies with acceptable quality.

**Findings:** After screening of 6,656 studies, we identified 10 eligible randomized trials (5 of acceptable, 5 of low quality), with 527 patients in total. Meta-analyses (with considerable statistical heterogeneity) on IBS severity showed no effect of mixed relaxation techniques compared to usual care. Three studies assessed health-related quality of life (HRQOL). In one study, the total HRQOL score improved, in another only a subscale. Of the two studies that measured depression and anxiety only one showed a short-term reduction of symptoms.

**Conclusion:** The limited number of good quality studies does not allow a final conclusion. However, there may be benefits of stress-management interventions for patients with IBS in terms of improved HRQOL and short-term mental health. More good quality trials with standardized outcome assessments are needed.

## Mindfulness-Based Cognitive Therapy for fatigue in patients with Inflammatory Bowel Disease: A randomized controlled trial

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**Background:** Fatigue is a prevalent and burdensome problem in patients with inflammatory bowel disease (IBD), even when the disease is in remission. Evidence-based strategies for managing IBD-related fatigue are still lacking. This study examined the short- and long-term effectiveness of mindfulness-based cognitive therapy (MBCT) for reducing fatigue in patients with IBD in remission.

**Methods:** A two-arm multicenter randomized controlled trial was conducted in 113 IBD outpatients in remission, with elevated levels of fatigue (i.e., Checklist Individual Strength – subjective fatigue  $\geq 27$ ). Patients were randomly assigned to an 8-week MBCT program (n=56) or a waiting-list condition (n=57). All participants completed questionnaires at pre-treatment, post-treatment, three- and nine-month follow-up. The primary outcome was fatigue, assessed with the four subscales of the Checklist Individual Strength-20. Secondary outcomes included fatigue interference in daily life, depression, anxiety and quality of life. Analysis of covariance and multilevel modelling were performed to examine treatment outcomes.

**Findings:** Intention-to-treat analyses showed significant pre- to post-treatment reductions in the subjective experience of fatigue in patients receiving MBCT compared to the waiting-list control condition ( $p = .025$ ; Cohen's  $d = 0.46$ ; clinically relevant improvement in 36% vs. 10%). These reductions were maintained over nine months follow-up. No significant effects of MBCT were found on other fatigue aspects or secondary outcomes.

**Conclusion:** Our findings indicate that an 8-week MBCT group program contributed to long-lasting reductions in the subjective experience of fatigue in patients with IBD in remission. Results did not support beneficial effects for other aspects of fatigue or secondary outcomes.

## Feasibility Study of a three-week Chatbot-based Intervention for Stress Reduction and Health Improvement

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**Background:** In present times, the general population exhibits high stress levels that require attention. One approach for innovative online-based interventions are “chatbots” – computer programs that can hold a fully automated conversation in a human conversational style in real-time as a software agent. Research on chatbot-based interventions in the context of health psychology is sparse. Therefore, there is a need to also assess user-oriented parameters like the usability. The feasibility study at hand investigated whether a three-week chatbot-based intervention is feasible, can reduce stress, and improve interoceptive sensibility. The study aimed to improve these health-related parameters for a sample with medium to high stress levels.

**Methods:** In this multicenter, two-armed randomized controlled trial with a parallel design, a three-week guided chatbot-based intervention group (n = 18) who underwent two daily interactive training sessions via smartphone (à 10-20 min.) was compared to a treatment-as-usual control group (n = 16). Assessments including perceived stress (Perceived Stress Scale, PSS-4), interoceptive sensibility (Interoceptive Accuracy Scale), took place before, after the intervention or control condition, and after six weeks. The mHealth App Usability Questionnaire was used to assess the intervention prototype application.

**Findings:** Results showed no change in stress levels, but descriptive trends of improved interoceptive sensibility. The usability was received positively.

**Discussion:** The chatbot-based intervention might be a feasible, innovative, and flexible tool, which exhibited the potential to improve health-related variables such as interoceptive sensibility. Data of the following study are necessary to evaluate the effects of the intervention on stress and interoceptive sensibility.

## Which Cognitive Behavioural Therapy interventions show most promise for treating Diabetes-related distress: A systematic review

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**Aim:** Diabetes-related distress is common in diabetes and has implications for mental and physical wellbeing. However, findings around the effectiveness of Cognitive Behavioural Therapy (CBT) interventions as a treatment for diabetes-related distress are inconclusive.

**Method:** We conducted a systematic review with meta-analysis to understand the efficacy of CBT and third-wave CBT interventions in treating diabetes-related distress, depression, anxiety, and glycaemic control. We conducted a narrative synthesis and subgroup analyses to identify the most useful intervention components for treating distress. Seven electronic databases were searched from inception to April 2021. The protocol was pre-registered with international Prospective Register Of Systematic Reviews (PROSPERO): CRD42021240628.

**Results:** A total of 22 randomised controlled trials (RCTs) were included in the review, investigating the efficacy of CBT and third-wave CBT interventions on diabetes-related distress in adults with diabetes. CBT significantly reduced distress (SMD = -0.149,  $p = 0.021$ ) and depression (SMD = -0.380,  $p = 0.001$ ). Third-wave CBT significantly reduced anxiety (SMD = -0.433,  $p = 0.003$ ). CBT interventions that included a digital component, were delivered by a psychological practitioner, and included behavioural activation and third-wave interventions that were delivered by a psychological practitioner, included the techniques of behavioural activation, psycho-education and the cultivation of acceptance appeared most useful in reducing distress.

**Conclusions:** CBT is effective at reducing diabetes-related distress, but effect sizes are small. Third-wave CBT shows promise for reducing distress, but the pooled effect was non-significant. Health psychology theories and the key ingredients identified in this review may hold potential to improve overall effectiveness through tailoring of interventions.

## RCT of a cognitive behavioural intervention (TANDEM) for individuals with COPD. Cost and effectiveness results

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### Background

Co-morbidities of anxiety and depression are common in physical health conditions and can impede engagement with treatments, such as pulmonary rehabilitation (PR) in chronic obstructive respiratory disease. In the TANDEM (Tailored intervention for ANxiety and DEpression Management in COPD) trial we hypothesised that treating mood symptoms through a cognitive behavioural and self-regulatory approach (CBA), prior to pulmonary rehabilitation would improve engagement with PR and would significantly improve outcomes relative to pulmonary rehabilitation alone.

### Methods

A randomized controlled design compared PR alone to a trained respiratory health care professional delivered CBA + PR intervention (x6-8, 40-60 minute sessions plus telephone support). Participants had moderate to very severe COPD and anxiety and/or depression. Co-primary outcomes at 6 months were the Hospital Anxiety and Depression Scales (HADS-A, HADS-D). Secondary outcomes at 6m and 12m included: quality of life, uptake and completion of PR, cost effectiveness.

### Findings

423 participants were randomised (intervention 242; control 181). Follow up at 6- and 12-months was 93% and 82%. Despite good fidelity for intervention delivery, mean between-group differences (MD) in HADS at 6-months ruled out clinically important effects (MD (95% CI): HADS-A -0.60 (-1.40; 0.21); HADS-D -0.66 (-1.39; 0.07)) with similar results at 12-months. There were no between-group differences in any secondary outcome.

### Discussion

The tailored CBA intervention delivered by trained respiratory professionals to people with COPD was neither clinically nor cost-effective. Different approaches are required to address co-morbid anxiety and depression in people with advanced COPD and to support uptake of, and retention in, PR programmes.



# Technological and digital solutions in the context of illness

9:30 - 11:00

Warsaw

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## Clinical efficacy of COMPASS, a digital therapeutic for treating anxiety/depression in long-term conditions: randomised-controlled trial

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**Background:** COMPASS is a novel, theory-based, therapist-supported, digital therapeutic targeting adjustment to long-term physical health conditions (LTCs). This study investigated the efficacy of COMPASS in reducing LTC-linked psychological distress (anxiety and depression) in a two-arm, parallel-group randomised controlled trial.

**Methods:** Adults with clinical levels of depression/anxiety related to their LTC(s) were recruited through five national patient charities. Independently administered online randomisation, ensuring allocation concealment, randomised participants to COMPASS or standard charity mental-health support (SCS). Participants completed COMPASS sessions at home over ten weeks with 5 fortnightly 30-minute support calls from a therapist. Data was collected online (co-ordinated by blinded assessor) at baseline and 6 and 12-weeks post-randomisation. Primary outcome was Patient Health Questionnaire Anxiety and Depression Scale (PHQ-ADS) at 12-weeks post-randomisation. Analysis was by intention-to-treat (ITT) estimated using linear mixed-effects model.

**Findings:** 194 participants were randomised. At 12-weeks, PHQ-ADS (distress) was significantly lower in the COMPASS than the SCS arm (SMD=0.71, CI: 0.48-0.95 p<.001). 89% of COMPASS participants reported a clinically significant change in PHQ-ADS (reduction  $\geq 4$  on PHQ-ADS) compared to 45% in SCS. Results on all secondary outcomes including daily functioning, quality of life, impact of symptoms, and illness self-management favoured the COMPASS arm with 7/9 showing significant differences at 12-weeks. There were no serious adverse reactions to treatment.

**Discussion:** COMPASS is an efficacious, easy to access and potentially cost-effective way of treating illness-related anxiety and depression across long term conditions. The results of this trial will inform modifications to further enhance COMPASS and its implementation at scale.

## A mixed-methods real-world evaluation of a novel transdiagnostic digital therapeutic designed to treat anxiety and depression related to living with a long-term condition

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**Background:** Mental health comorbidities are common in physical long-term health conditions (LTCs). This study aimed to explore the effectiveness of COMPASS, a therapist-supported, digital therapeutic specifically designed to treat anxiety/depression in the context of LTCs, in a real-world setting, as well as explore patient experiences of the programme.

**Methods:** A mixed-methods design was utilised. Pre-post data from 76 LTC patients receiving psychological treatment (COMPASS) via local NHS services (either an IAPT or secondary care services) were analysed using paired sample t-tests and Cohen's d, using depression (PHQ9), anxiety (GAD7), distress (PHQADS), and functioning (WSAS) self-report scales. The qualitative aspect explored patients' experiences of using COMPASS. A total of 21 semi-structured interviews were completed and analysed with inductive thematic qualitative techniques.

**Findings:** COMPASS patients demonstrated significant reductions in depression (-2.47, Cohen's d=-0.376), anxiety (-2.30, Cohen's d=-0.420), and psychological distress (-4.87, Cohen's d=-0.422) and significant improvements in functioning (-3.00, Cohen's d=-0.282). Effect sizes were larger when analyses were restricted to patients with clinically significant baseline symptoms (depression: -4.02, Cohen's d=-0.701; anxiety: -3.60, Cohen's d=-0.739; psychological distress: -5.58, Cohen's d=-0.523; functioning: -3.28, Cohen's d=-0.355). The qualitative study highlighted three key meta-themes relating to patient experience: i) Engagement, ii) Human Connection and iii) Integration of Mental and Physical Health.

**Discussion:** Preliminary results suggest that COMPASS is effective in NHS settings, and that it is acceptable to the LTC patient population. LTC-tailored content, therapist support and a clear delivery strategy should be prioritised to aid intervention implementation.

## Robot-assisted and Virtual Reality-based Neuromotor Rehabilitation: Evidence on Devices Experience of Use and Effectiveness

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**Background:** Robot-assisted and virtual reality-based neuromotor rehabilitation have so far shown promising evidence in terms of motor recovery. Contextually, what has been scarcely addressed up to date are the technological devices experience of use and the related psychosocial impact. This study aimed to preliminarily explore the perception and the biopsychosocial effects of technology-based rehabilitation in patients with neuromotor diseases.

**Methods:** In this quasi-experimental study, pre-post intervention effects were explored in a group of patients undergoing conventional treatment (n=5) and a second group additionally participating in technology-based rehabilitation (n=7). Patients' functional status (motor functionality, ADLs independence, risk of falls), cognitive functioning (attention and executive functions), health-related quality of life (HRQoL), anxiety, depression, and quality of life satisfaction were measured. At post-intervention, devices usability, experience of use and psychosocial impact were also assessed. Descriptive statistics and within-groups comparisons through non-parametric tests were performed.

**Findings:** At follow-up, all patients improved in all the dimensions assessed. Notably, in technology-based rehabilitation group statistically significant changes and large effect sizes were estimated in ADLs independence ( $p=.018$ ,  $r=.63$ ), motor functionality ( $p=.028$ ,  $r=.59$ ), executive functions ( $p=.039$ ,  $r=.55$ ), HRQoL in terms of physical state ( $p=.028$ ,  $r=.59$ ), anxiety ( $p=.043$ ,  $r=.54$ ), depression ( $p=.046$ ,  $r=.53$ ), and quality of life satisfaction regarding the mood ( $p=.018$ ,  $r=.63$ ) and the resistance to physical fatigue ( $p=.027$ ,  $r=.59$ ). Satisfactory results on technology perception and psychosocial impact were also found.

**Discussion:** Despite the preliminary nature of the findings, promising evidence on the biopsychosocial impact of technology-based neuromotor rehabilitation emerged. Future research adopting consistent framework is strongly recommended.

## Behaviour change techniques and intervention characteristics in digital cardiac rehabilitation: A systematic review

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**Background:** Emerging data indicate that digitally delivered cardiac rehabilitation (CR) is likely to be an effective alternative to centre-based in-person CR. However, there is limited understanding of the behaviour change techniques (BCTs) and intervention characteristics that are included in digital CR programmes. This systematic review aimed to identify the BCTs used in digital CR and to describe the characteristics of these interventions.

**Methods:** PubMed, MEDLINE (Ovid), EMBASE, CINHAL (EBSCO), PsycINFO (Ovid) and Cochrane Central Register of Controlled Trials were searched for randomised controlled trials of digital CR in patients with heart disease. Interventions were coded using the BCT taxonomy v1 and the Template for Intervention Description and Replication (TIDieR) checklist.

**Findings:** Twenty-five studies were included in the review. A total of 37 unique BCTs were coded across the studies (mean 8.2, SD = 5.37). More than half (52%) of all coded BCTs belonged to the groups 'feedback and monitoring' and 'goals and planning'. The most frequently used BCTs were self-monitoring of behaviour, feedback on behaviour, information about health consequences, prompts/cues, and goal-setting (behaviour). Completeness of reporting on the TIDieR checklist across studies ranged from 42% to 92%. Mode of delivery and location were reported in all studies, while intervention modifications (4%), intervention material descriptions (24%), and planned intervention adherence (36%) were less frequently reported.

**Discussion:** Digital CR interventions frequently employed BCTs relating to feedback and monitoring, goals and planning, and natural consequences. Many characteristics of digital CR interventions are not adequately reported, preventing accurate interpretation of results and intervention replication.

## Usability, cybersickness and working mechanisms of virtual reality for chronic pain in Rheumatoid Arthritis

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**Background:** A substantial number of patients with rheumatoid arthritis (RA) experience persisting pain after adequate treatment. Working mechanisms of virtual reality as treatment for pain include education, relaxation and neuromodulation. Aim of this study was to evaluate cybersickness, usability and perceived working mechanisms of VR in the treatment of chronic pain in patients with RA.

**Methods:** Mixed methods design, 20 participants (14 female, age 41-85 years) with well-controlled RA and persistent chronic pain. Participants played a single session of the application 'Reducept', which is based on visualization, experiencing control, relaxation and education. Questionnaires were filled in on pain (NRS), usability (adapted from unified user experience in immersive virtual environments questionnaire) and cybersickness (Virtual Reality Sickness Questionnaire). Five patients participated in semi-structured interviews; topics were overall experience, effectiveness and working mechanisms.

**Findings:** Quantitative data showed participants enjoyed being in the virtual environment and liked the positive approach. Use of VR goggles was generally well tolerated, participants who reported discomfort, fatigue and eyestrain had these symptoms already before use. Interviews revealed the following perceived working mechanisms: relaxation, distraction, raised awareness and regained control about pain. Repetition and being actively involved were seen as beneficial by patients.

**Discussion:** Chronic pain in RA is often difficult to treat with traditional pain medication and comes with a high psychological and socioeconomic burden. Patients intuitively recognized beneficial working mechanisms of VR, application was well tolerated and patients were able to use it. Results encourage next steps to evaluate VRself-management of chronic pain at home.

