Recovery at work as a health-promoting process

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as a health-promoting process

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Recovery at work as a health-promoting process

Lina Ejlertsson has a background in Public Health Science, with a special interest in healthy workplaces. This thesis deepens the understanding of recovery during the workday and its importance for employee health. Workplace intervention as a tool to promote employees' experience of recovery is also evaluated.

The results contribute to work recovery research by establishing that recovery is essential for self-rated health, and by identifying companionship, variation, and reflection as prerequisites for the recovery process. In addition, it is concluded that customized interventions can be used to enhance employees' experience of recovery during the workday. Other important areas, such as the work climate and the well-being of employees, can also be positively affected. For intervention success, special consideration should be given to strengthening workplace relationships, with support as a key factor.

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Abstract

The purpose of this thesis was to deepen the understanding of recovery during the workday and its importance for employee health. Workplace intervention as a tool to promote employees' experience of recovery was also evaluated.

The studies were carried out in a primary health care setting in one health care district in Sweden between 2013 and 2019, together with the employees working at the 26 participating centres. Both quantitative and qualitative methods were applied during the process. Two separate questionnaires were used and analysed with multivariate linear or logistic regression analyses. Also, focus group interviews were conducted for two different data collections, both analysed inspired by systematic text condensation.

The findings indicate that experiencing recovery is the most significant predictor of self-rated health. The results also identified three factors of importance for perceived recovery during the workday: variation, companionship, and manageability. Since these factors appeared to be prerequisites for recovery, they became the basis for planning and implementing a workplace intervention with various recovery activities addressed to primary health care employees. Consideration was also given to each workplace's own abilities, needs, and wishes. An evaluation after intervention ending showed a significant increase in experienced recovery during the workday among the participating employees, which was mainly explained by the possibility for reflection. When exploring the intervention process further, four promoting factors for the successful outcome emerged: support, legitimacy, customization, and simplicity. Also, three areas were positively affected by the intervention. These upward spirals were work climate, employee well-being, and recovery awareness.

The results of this thesis contribute to work recovery research by establishing that recovery is essential for self-rated health, and that interventions can be used to enhance employees' experience of recovery during the workday. Other important areas, like work climate and employee well-being, can also be positively affected. For intervention success, special consideration should be given to strengthening workplace relationships, with key factors such as companionship, reflection, and support.

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To Adele and Colin,
you are my joy

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Preface

Eight years ago, I was invited to join a project on positive work factors in the primary health care context. The thought of being part of a change in workplace health promotion aroused my curiosity and I immediately committed to the project.

The existing image of the employees' work situation, shown by public media as well as in the scientific discourse, was a negative psychosocial work environment with high levels of strain and job demands. There was also an increasing job turnover and high numbers of long-term sick leave. What if we started to look at it from the other side? What about all those people who choose to work in primary health care, despite the stress and pressure? There must be reasons for them to stay in their jobs, and most importantly, reasons for going to work with a feeling of joy. My goal was to find these positive factors, in order to highlight them and strengthen them further.

Now, here I am with a completed thesis. A thesis which I hope will enhance the knowledge on – and make a difference for – employees' well-being and their opportunity to experience recovery during the workday.

List of papers

This thesis is based on the following papers, referred to in the text by their Roman numerals.

I **Ejlertsson L**, Heijbel B, Ejlertsson G, Andersson HI. Recovery, work-life balance, and work experiences important to self-rated health: A questionnaire study on salutogenic work factors among Swedish primary health care employees. Work. 2018;59(1):155–163.

II **Ejlertsson L**, Heijbel B, Troein M, Brorsson A. Variation, companionship, and manageability important for recovery during working hours: A qualitative focus group study. Work. 2018;61(1):149–156.

III **Ejlertsson L**, Heijbel B, Brorsson A, Troein M, Andersson HI. Customized interventions improved employees' experience of recovery during the workday. Accepted for publication in Work, 2021.

IV **Ejlertsson L**, Heijbel B, Andersson HI, Troein M, Brorsson A. Strengthened workplace relationships facilitate recovery at work – Qualitative experiences of an intervention among employees in primary health care. BMC Family Practice. 2021;22(1):49.

At a glance

Paper I describes salutogenic work factors related to primary health care employees' self-rated health. A questionnaire with information on psychosocial work environment and experiences, recovery, leadership, social climate, reflection, and work-life balance was handed out to all employees (n = 599) at 26 primary health care centres in one health care district in southern Sweden. The response rate was 84%.

The quantitative data were used in a multivariable linear regression model with self-rated health as the dependent variable, which showed three significant predictors. Experiencing recovery had the highest relationship with self-rated health, followed by work-life balance, and having positive work experiences. These areas seem to be essential for workplace health promotion. Recovery outside the workplace has been studied previously. Since recovery during the workday was shown to be of great importance in relation to self-rated health in the present study, more research is needed to explore the concept of recovery together with different recovery strategies in the workplace.

Paper II explores the concept of recovery during the workday, trying to reduce the knowledge gap in work recovery research. Eight focus groups, with 50 employees from different professions, were conducted in a primary health care context in southern Sweden.

The qualitative analysis was inspired by systematic text condensation and identified three main categories important for experiencing recovery during the workday. These were: variation (including changes in location, tasks, and tempo), companionship (including helpfulness, appreciation, social chat, and laughter), and manageability (including completion, satisfaction, influence, control, and reflection). Recovery during the workday is multifaceted and needs to be further elaborated and tested in a workplace context.

Paper III evaluates how different intervention activities, focusing on recovery during the workday, may impact the employees' experience of recovery at the workplace. Customized recovery models were integrated at six primary heath care centres (n = 166) during one year. Recovery and positive work factors were measured with a questionnaire on two occasions. The questionnaire was also completed by a control

group, consisting of 15 primary health care centres (n = 328). The response rate was 88% at start-up and 83% at intervention ending.

Group differences were tested with chi-square test, and explanatory factors compared by logistic regression models. The results showed that the proportion of employees reporting workday recovery increased significantly (19.9% to 29.1%) in the intervention group after intervention, whereas the control group showed no significant change. Recovery was explained by the possibility for reflection during the workday. Also, having influence on work situation, energy-building experience, and opportunity for laughter contributed significantly to recovery at intervention ending. These results confirm that a customized workplace intervention may have an impact on employees' recovery experience during the workday. More research is needed to enhance the knowledge of the intervention process and its promoting factors.

Paper IV deepens the understanding of an intervention process aimed at increasing primary health care employees' recovery experience during the workday, by integrating different forms of recovery into daily work for one year. Focus group interviews were conducted at the end of the intervention. The participants were 39 employees from different professions, working at the six intervention centres. During the discussions, they were asked to describe their experiences of the intervention.

The qualitative analysis was inspired by systematic text condensation. The participants portrayed a positive outcome of the intervention, despite the workplaces' different conditions and attitudes when the project was launched. Four promoting factors for intervention success were identified: support (including help, feedback, and encouragement), legitimacy (including transparency, ownership, and enthusiasm), customization (including flexibility and maintenance), and simplicity (including convenience and integration). Also, three areas of improvement during the intervention period were described: the workplace climate, employee well-being, and recovery awareness. This process evaluation can be used as a guide towards increasing employee recovery during the workday in a health care setting.

En överblick

Artikel I beskriver salutogena arbetsfaktorer kopplade till självskattad hälsa hos medarbetare inom primärvården. En enkät, innehållande områden som psykosocial arbetsmiljö, återhämtning, ledarskap, klimat, reflektion och balans mellan arbete och fritid, delades ut till alla medarbetare (n = 599) på 26 vårdcentraler tillhörande ett sjukvårdsdistrikt i södra Sverige. Svarsfrekvensen var 84 %.

Uppgifterna från enkäten användes i en multipel linjär regressionsmodell med självskattad hälsa som beroende variabel, vilken visade tre signifikanta prediktorer. Att uppleva återhämtning hade det starkaste sambandet med självskattad hälsa, följt av balans mellan arbete och fritid samt att ha en positiv upplevelse av arbete. Dessa områden verkar vara grundläggande för hälsofrämjande arbete på arbetsplatser. Återhämtning utanför arbetet har studerats tidigare, men eftersom återhämtning under arbetsdagen visade sig vara av stor betydelse kopplat till högre självskattad hälsa behövs ytterligare forskning för att fördjupa kunskapen om begreppet återhämtning under arbetsdagen samt strategier för att få in återhämtning i arbetet.

Artikel II kartlägger begreppet återhämtning under arbetsdagen, i ett försök att minska den kunskapslucka som finns kring återhämtning på arbetet. Åtta fokusgruppsintervjuer, med 50 medarbetare från olika professioner, genomfördes inom primärvården i södra Sverige.

Den kvalitativa analysen var inspirerad av systematisk textkondensation och identifierade tre huvudkategorier viktiga för att uppleva återhämning under arbetsdagen. Dessa var: variation (gällande plats, arbetsuppgifter och tempo), gemenskap (hjälpa varandra, uppskattning, skratt och prata om annat än jobb) samt hanterbarhet (göra klart, känna sig nöjd, påverkansmöjlighet, koll på läget och reflektion). Återhämtning under arbetsdagen är ett mångfasetterat begrepp, vilket behöver utvecklas ytterligare och bli testat i en arbetsplatskontext.

Artikel III utvärderar hur olika interventionsaktiviteter, som fokuserar på återhämtning under arbetsdagen, kan påverka medarbetarnas upplevelse av återhämtning på arbetsplatsen. Skräddarsydda återhämtningsmodeller integrerades på sex vårdcentraler (n = 166) under ett år. Återhämtning och positiva arbetsfaktorer mättes genom en enkät vid två tillfällen. Enkäten fylldes även i av en kontrollgrupp bestående av 15

vårdcentraler (*n* = 328). Svarsfrekvensen var 88 % vid början av interventionen och 83 % vid interventionens slut.

Skillnader mellan grupperna analyserades med hjälp av Chi-2 test och förklarande faktorer jämfördes med en logistisk regressionsanalys. Resultatet visade att andelen medarbetare som upplevde återhämtning under arbetsdagen ökade signifikant i interventions-gruppen, från 19,9 % före till 29,1 % efter interventionen, medan ingen skillnad hittades i kontrollgruppen. Medarbetarnas upplevelse av återhämtning förklarades av möjligheten till reflektion under arbetsdagen. Även att ha möjlighet att påverka arbetssituationen, att inneha en energiskapande egenskap samt att ha möjlighet att skratta bidrog avsevärt till återhämtning vid interventionens slut. Dessa resultat bekräftar att en skräddarsydd intervention kan ha betydelse för medarbetares upplevelse av återhämtning under arbetsdagen. Mer forskning behövs för att öka kunskapen om arbetsplatsinterventioner och dess främjande faktorer.

Artikel IV fördjupar förståelsen för en interventionsprocess, där målet var att öka primärvårdsanställdas upplevelse av återhämtning under arbetsdagen. I interventionen integrerades olika former av återhämtningsaktiviteter i det dagliga arbetet under ett år. Fokusgruppsintervjuer genomfördes efter avslutad intervention, där 39 medarbetare från interventionsvårdcentralerna ombads beskriva sina upplevelser av interventionen.

Den kvalitativa analysen var inspirerad av systematisk textkondensation. Deltagarna beskrev hur de alla upplevt positiva resultat av interventionen, oavsett arbetsplatsernas olika förutsättningar och attityder gentemot interventionen när den först introducerades. Fyra främjande faktorer för interventionens framgång identifierades: stöd (hjälp, feedback och uppmuntran), legitimitet (transparens, egenansvar och entusiasm), anpassning (flexibilitet och underhåll) och enkelhet (bekvämlighet och integration). Även tre områden som förbättrats under interventionen beskrevs, vilka var arbetsklimatet, medarbetarnas välmående och medvetenheten om återhämtning. Denna processutvärdering kan användas som en guide för att öka upplevelsen av återhämtning under arbetsdagen hos medarbetare inom hälso- och sjukvården.

Abbreviations

CA	Cronbach's alpha
IC	Intervention centre
PHCC	Primary health care centre
SHIS	Salutogenic Health Indicator Scale
SOC	Sense of Coherence
WEMS	Work Experience Measurement Scale
WHO	World Health Organization
WHP	Workplace health promotion

Introduction

Health and well-being

The concept of health is challenging to portray, as it is individually experienced and influenced by the surrounding environment. Depending on different perspectives, health has been described by various terms and has no unambiguous definition. However, the most common definition is the one formulated by the World Health Organization (WHO) [1], describing health as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity". Due to the criticism of this definition being unrealistic, the literature now includes attempts at alternative formulations. For example, the theory of salutogenesis [2] which propounds the experience of health as a movement along a continuum of ease and dis-ease. It has also been proposed that health is the ability to adapt and self-manage [3]; an approach that illustrates why people who live with several chronic diseases can still consider themselves as healthy [4]. Bringsén [5, p.14] stated that health is "a positive, subjective experience of oneself as a whole. Health can be measured by using individuals' feelings/experiences of physical, mental, and social well-being as indicators, and health serves as a resource for the individual when dealing with the various strains of everyday life or pursuing individual goals. Health can be promoted through the individuals' positive experiences as well as emotions, and illness is important because it may restrict an individual's ability to act", which is the underlying definition when expressing self-rated health in this thesis.

There is no consensus about one exclusive definition of the concept of well-being either. However, the general understanding of the concept includes satisfaction with life, feelings of happiness, and having a positive functioning [6, 7]. In the field of positive psychology, Seligman [8] has hypothesised the model of PERMA to explain well-being. The model consists of five core elements: positive emotion, engagement, relationships, meaning, and accomplishment, which are believed to be indicators of well-being and needed for an individual to flourish.

Workplace health

Given that most adults spend a considerable part of their lifetime at work, the workplace is an important arena for promoting health and well-being [9]. The knowledge of health related to work has gradually developed during the last 150 years, from hazards, chemical exposure, and accidents, to ergonomics, preventive measures, and workplace health promotion. A healthy workplace provides both employees and managers with psychological, physical, and social conditions to promote health at work, and allows everyone to take control over their own health and improve it [10]. There are studies illustrating the positive effect work can have on employees' well-being and work experience. For example, leadership behaviour, such as having a leader who is thoughtful and inspiring, has been identified as an important influencing factor [11, 12]. Humour in the workplace can also be beneficial for the individual, creating effects such as improved stress coping [13] and problem-solving [14]. In addition, a healthy and positive workplace can promote job satisfaction, commitment, and performance [15, 16], and can enhance employees' feeling of being energetic and engaged in their work [17].

When creating a healthy workplace with enhancing characteristics for employee well-being, the most prominent influencing factor seem to be positive work relationships [18]. The literature is unanimous when concluding a strong association between workplace relationships and employees' subjective well-being [19-21]. Experiencing positive work relationships includes several aspects, such as good communication [22], strong support [23], trust [24], belongingness [25], and joy [26], together with feelings of being valued [27], appreciated [28], and respected [29]. Besides the importance of social relationships at work, there are several other factors that contribute to setting a healthy work climate. For example, one study mentioned having adequate time for work tasks [30], while another argued the importance of having influence over the work situation [31].

Even if research on strengthening and health-promoting aspects has become more common, the dominant focus in work environment research is still on risk factors and shortcomings. For many professional groups, work is associated with a poor psychosocial environment [32], high demands [33], lack of control [34], and stress [35]. Occupational stress is seen as one of the most significant work-related problems both in Europe and globally. According to a report from the European Agency for Safety and Health at Work, one in four employees experience work-related stress most of their workday [36]. The list of negative work factors leading to stress reactions and ill-health among employees is long. Some examples from the research literature are the

absence of social support from leader and co-workers [37], work conflicts [38], tough physical requirements [39], low levels of decision-making [40], job insecurity [41], and unrealistic work demands in comparison with the resources available [42]. Experiencing stress at work has numerous adverse consequences for employees' health and well-being [43-45]. Studies have shown that acute exposure to stressors is related to sleep disturbance, fatigue, and anxiety [46, 47]. Meanwhile, chronic stress exposure has been linked to hypertension, coronary heart disease, and burnout [48-50]. These negative consequences for the employees also imply a heavy burden for organizations through direct and indirect costs, such as lost workdays, high turnover rates, and lower productivity [51].

Primary health care

All studies presented in this thesis were performed in a primary health care work context in Sweden. Depending on where in the world you live, the primary health care systems can be organized differently. However, achieving equity in health care is a main goal of most primary health care system reforms, where health care is provided to all citizens regardless of their age, gender, ethnicity, educational level, or income [52]. Hence, primary health care plays an important role in reducing health inequity and maintaining a good health status in the population. The delivery of safe and high-quality care for patients requires healthy employees. The most significant factor for patient satisfaction has been shown to be employee job satisfaction [53]; happy employees mean happy patients [54]. Several studies have shown this connection between health care workers' job satisfaction and work effectiveness, quality, and commitment [55, 56]. In addition to employee satisfaction, there is research indicating that increased employee retention can improve patients' care experiences [57-59].

Primary health care is the basis of the Swedish health care system. According to the Health Care Act [60], primary health care is described as health care activities where outpatient care is provided without limitations in terms of diseases or patient groups. Primary health care is responsible for basic medical treatment, nursing care, preventive work, and rehabilitation that does not require the hospitals' medical or technical resources, or other special skills. Swedish primary health care consists of about 1200 publicly financed health care centres, with just over 40% being privately run [61]. A general description of the work at the health care centres, and the roles of the personnel, is challenging to provide because of regional differences. However, the care for the patient is often provided individually by one health care professional, or by collaboration in teams if the patient's problems are complex. According to the Swedish

care guarantee, all patients have the right to get in contact with primary health care on the same day as they seek care and the right to a medical assessment from a physician or other health care worker within three days, if such a visit best meets the patient's needs [62]. The different professional groups working in primary health care are physicians trained in family medicine, registered and assistant nurses, psychologists, counsellors, physiotherapists, occupational therapists, dieticians, and medical secretaries.

Workplace health in the health care context

Previous research has highlighted that there are attributes characterizing the health care sector as a positive workplace setting, even though this salutogenic perspective is still rare. One example is a study that illuminated the experience of meaningfulness and social support when working in a hospital [63]. Also, a study on nurses highlighted the feeling of achievement and doing good as two components for enjoying their day at work [64]. Other enhancing resources that have been found in the health care sector are participation in decision-making [65], and the capacity for independence and autonomy [66], which can increase the employees' positive work experience and willingness to remain at their work. This employee empowerment, and having a sense of control, are believed to be essential factors for a health-enhancing workplace [67, 68]. Another practice that often applies to the health care work context is working together as a team. The presence of team spirit when achieving common work goals has been portrayed as an important factor for employee health in primary health care [69]. Having positive relationship experiences at work is closely related to health care employees' self-rated health, as was shown in a Swedish study where employees who experienced a good work atmosphere, with feedback from both managers and co-workers, also reported better health [70].

So far, most research has focused on negative work factors in the health care context, causing ill-health among the employees. For example, health care staff in general – and primary health care staff in particular – are considered to be at great risk regarding stress-related disorders [36, 71, 72], partly because of the high emotional work demands [73]. For the individual health care worker, occupational stress can have psychological, behavioural, and physiological effects. This includes musculoskeletal disorders [74], anxiety and depression [75, 76], frustration and anger [77], and lower levels of motivation and self-esteem [78]. Also, occupational stress in the health care sector is related to workplace structure factors such as time pressure [79] and excessive workload [80], as well as psychosocial factors such as insufficient teamwork and poor workplace

relationships [81, 82]. These negative work factors can lead to a high degree of job turnover and long-term sick leave [83, 84]. A study on health care practitioners further highlighted the possible difficulty seeking help for their own health problems, due to reasons such as lack of confidentiality, the fear of stigma, or adverse effects on their careers [85].

Workplace health promotion

Workplace health promotion (WHP) aims to achieve healthy employees in healthy organizations [86], and targets factors contributing to a safe, inspiring, and enjoyable work setting. The concept of WHP originated from the Ottawa Charter on health-promoting arenas [87], and has been defined as the joint efforts of employees, employers, and society to improve the health of the working group [86, 87] and create healthy workplaces [10]. Since the work context is essential for the promotion of health, WHO has stated that WHP should be a prioritized area during the 21st century [9]. Also, the Swedish Government has concluded that workplaces, working conditions, and working environments are important domains in the health promotion work, as a part of the public health policy [88].

Salutogenic perspective

Salutogenesis is an important approach for health promotion in the work context [89, 90]. The concept comes from Latin *salus*, which means 'health', and Greek *genesis*, meaning 'origin'. Thus, the salutogenic framework answers the question of what creates health and sets out from how the resources and capacities in humans can lead to enhanced health [91]. The core concept discussed in the theory is sense of coherence (SOC), which includes experiencing comprehensibility, meaningfulness, and manageability [92]. Having a strong SOC promotes good perceived health [93] and healthy functioning [94]. It has also been shown to have positive effects on work stress [95], as well as buffering against depression and burnout [96, 97]. In addition, the individuals' levels of SOC affect their ability to identify internal and external resources [89]. Work-related resources have been studied from a salutogenic perspective, where workplace relationships [98], open-mindedness [63], collegial reflection [99], feelings of joy and satisfaction [100], and perceiving work as meaningful [101] where shown to be enhancing resources for health. Accordingly, resources that facilitate positive emotions can help us cope with negative situations at work [102].

Interventions

To accomplish the goal of healthy employees in healthy organizations, the European Network of Workplace Health Promotion proposes using health promotion interventions [86]. Several literature reviews have illuminated a relationship between WHP interventions and employee well-being [e.g. [103, 104]. An intervention can provide the participants with the knowledge and tools they need for health behaviour changes [105]. To enhance the chances of a successful intervention with sustainable changes, a supportive work environment focusing on the employees' experiences should be the foundation [106-108]. It is important to use a participatory approach [109], meaning that the employees are involved in the process of conducting WHP interventions. Studies have shown that a participatory approach can have a positive impact on employees' attitudes and accomplishments, as well as on their well-being [110]. Additionally, it has been emphasized that the probability for employee participation increases when the intervention activities are performed during the workday [106].

When promoting employee happiness at work Williams [111] proposes the Inside-Out Outside-In model, which states that there are both "inside" and "outside" factors affecting the employees. Factors "inside" the employee can be internal attitudes, emotions, behaviours, and values, which influence the employee's experience of work without being discrete from the individual, whereas "outside" factors are separated from the individual, though still affecting the employee's work experience. These factors can be associated with work characteristics, organizational culture, physical environment, or factors related to the manager. Hence, an intervention can have an "inside-out" approach, which starts off in the individual employee, and/or an "outside-in" approach, which uses positive strategies towards the organization for increasing employee well-being.

Already in the 1980s, it was suggested that WHP interventions could be divided into three levels: the individual employee, the individual-organization relationship, and the organization at large. The first level refers to the individual, where the goal is to provide the employees with knowledge and resources for them to handle events at work that affect their health negatively. Examples of intervention activities could be time management or concrete de-stressing exercises such as meditation and relaxation. When it comes to the interaction between the individual and the organization, which is the second level, it includes strengthening workplace relationships and employees' participation in decision-making. The third level of WHP interventions refers to different areas in the organization that can have an impact on the employees' health, for example the social and physical environment, with the aim of increasing the organization's ability to find influencing factors and address them with health-promoting strategies [112].

Recovery in the work context

Recovery has been defined as a process of regaining strength, replenishing resources, and "recharging the batteries", which contributes to making the individual return to a normal state mentally, physically, and emotionally after being drained of energy [113, 114]. It has been suggested that one should differentiate between the aspects of recovery as a process and recovery as an outcome [115]. Recovery as a process is described as the activities and experiences that cause the change, while recovery as an outcome portrays the psychological or physiological state that is achieved for the individual after the recovery period. The effort-recovery theory [116] proposes that recovery processes are needed to compensate when being exposed to high work demands and stressors of various kind, i.e. efforts. This need can be exemplified by feelings of overload, social distancing, fatigue, irritability, and lower performance at work [117]. Research shows that these negative exposures at work are related to poor well-being, at daily levels as well as over longer time periods [118]. Hence, recovery processes are essential for promoting employees' well-being. Outside work, sleep is considered as the factor of greatest value for recovery [119] together with psychological detachment from work, i.e. not thinking about work during non-work time [120].

Studies exploring recovery during the workday are few, although there are some examples. These are mostly intervention studies focusing on scheduled breaks, such as lunch breaks, as well as more informal shorter breaks between task episodes, i.e. micro-breaks. Work breaks can offer a respite and a feeling of unwinding from work demands, leading to recovery and reloaded individual resources [121]. The replenishing activities can be work-related, such as altering between tasks, making a to-do list, or thinking positive thoughts about work [122-124], or they can be work-disengaging, such as going out for a walk [125], browsing the internet [126], or performing a relaxation activity such as stretching, listening to music, or looking out of the window [127].

Engaging in micro-break activities during the workday has been shown to generate several positive health effects for the employees. For example, feeling more vigorous [123], experiencing improved work engagement [124], and reporting higher levels of well-being at the end of the workday [128]. There are several studies focusing on the lunch break as a possible recovery-enhancing period. For example, one study showed better daily well-being, with increased concentration and energy level in the afternoon, among employees conducting relaxation exercises or park walks [129]. Other studies have confirmed similar connections, where physical activity in nature resulted in improved self-reported mental health [130], as well as employees reporting lower levels

of strain [131] and decreased sleepiness [132] after performing progressive muscle relaxation. Using mindfulness as a recovery activity during the workday has also been studied previously. The results of one study showed an increase in job satisfaction, together with a decrease in emotional exhaustion among the participating employees [133].

Implementing workplace interventions could be successful for enhancing the well-being and recovery experience of employees in primary health care. However, the concept of recovery during the workday needs to be further illuminated. In addition, the effects of integrated interventions focusing on recovery and salutogenic resources are yet to be studied.

Aims

General aim

To deepen the understanding of recovery during the workday, and to evaluate workplace intervention as a tool to promote employees' experience of recovery.

Specific aims

To explore salutogenic work factors and assess the role of recovery for self-rated health among primary health care employees, in order to increase the knowledge base on how to develop relevant workplace health promotion strategies. (Paper I)

To explore the concept of recovery during the workday, as described by the employees working in primary health care, and use it as a foundation for planning a recovery- enhancing workplace intervention. (Paper II)

To evaluate whether workplace intervention activities may impact primary health care employees' experiences of recovery during the workday, and if so, to study which salutogenic work factors were of importance. (Paper III)

To explore the process of an intervention aiming at increasing primary health care employees' recovery experiences during the workday. Also, to study the participants' perceptions of the outcome, related to the individual and the workplace. (Paper IV)

Methods

This thesis comprises a set of studies that were carried out between 2013 and 2019, within two consecutive projects. The results of one study form the foundation for the next one, as can be seen in table I. A mixed method design was used, with both quantitative and qualitative studies, with each method being developed and decided on during the execution of the projects.

Table I. Overview of the papers.

Paper	I	II	III	IV
Design	Quantitative cross-sectional	Qualitative	Quantitative evaluation	Qualitative
Participants	599 employees from 26 PHCCs	50 employees from eight PHCCs	494 vs. 518 employees from 21 PHCCs (six intervention centres and 15 control groups)	39 employees from six intervention PHCCs
Outcome	Positive work experiences related to self-rated health	Perceptions of recovery during the workday	Changes in experienced recovery during the workday and factors of importance for recovery	Experiences of an intervention process and its outcome
Data collection method	Questionnaire	Semi-structured focus group interviews	Questionnaire before and after an intervention	Semi-structured focus group interviews
Data collection period	2013	2015	2017–2018	2019
Data analysis	Bivariate correlation Multivariate linear regression analysis One-way ANOVA	Systematic text condensation	Chi^2 test Bivariate and multivariate logistic regression analyses	Systematic text condensation

Study setting and participants

This thesis is based on four studies in the primary health care context. They were all carried out in one health care district in southern Sweden, with a population of about 186,500 in 2019 [134]. The district consisted of six municipalities with 26 PHCCs, in both urban and rural areas, with a total of about 600 employees. At the centres, the number of employees ranged from five to over 50.

Paper I

The quantitative study in paper I was part of a project titled *Salutogenic work factors in primary health care*, directed to all employees at the 26 PHCCs. Information about the project was given at a common meeting for all managers at the publicly run centres, and at individual meetings with the owners at the privately-run centres. All PHCCs in the district opted to participate. The study population included primary health care employees from a variety of professional groups: nurses (registered nurses, assistant nurses), paramedical staff (psychologists, counsellors, occupational therapists, physiotherapists, dieticians), physicians, administrative staff (such as medical secretaries and receptionists), and – at the private PHCCs – cleaners. The total number of employees was 599. Staff on long-term sick leave or parental leave were excluded, as well as all the managers and owners of the PHCCs.

Paper II

This qualitative study, presented in paper II, was part of a greater project called *Recovery at work – an intervention project for better health among primary health care employees*. The project was directed to the same 26 PHCCs as in the previous project on salutogenic work factors. Information about the current part of the project was given personally to all the managers and owners of the health care centres, who then gave notification if their PHCCs were interested in participating in this part of the study. Among the centres expressing an interest in taking part, a selection was made to ensure dispersion in the sample. Publicly and privately run PHCCs, as well as urban and rural, were included. The results of the previous questionnaire study at the same centres about positive work factors (paper I) were also considered, where centres with both high and low scores on experienced recovery during the workday were included. This resulted in eight focus groups interviews being conducted, at eight different PHCCs, with five to eight employees in each. Participants represented different professions in primary health care. All groups were mixed as regards sex and profession, with most participants

possessing a long experience of health care work. In total, 50 employees participated in the focus groups. Managers and owners were not included.

Paper III

The quantitative study in paper III was directed to all primary health care employees taking part in the project *Recovery at work – an intervention project for better health among primary health care employees*. In total, 21 PHCCs agreed to participate after information about the study had been given to all managers and owners of the centres in the included health care district. Among those who wanted to take part as an intervention group, a selection was made to ensure that both publicly and privately-run centres were included, as well as urban and rural. In addition, centres with both high and low scores on experienced recovery (paper I) were included. Six PHCCs attended as the intervention group, and the remaining 15 acted as a control group. The total study population included all employees of different professions working at the PHCCs (n = 494 at start-up, n = 518 at ending). All managers and owners were excluded from the study, together with staff on long-term sick leave or parental leave.

Paper IV

The qualitative study presented in paper IV was also part of the project *Recovery at work – an intervention project for better health among primary health care employees*, where six PHCCs in southern Sweden participated in a one-year long intervention, integrating different forms of recovery activities into daily work. After the intervention, each of the six intervention PHCCs was asked to enrol a group of voluntary employees as participants in a focus group discussion exploring the intervention process. Five focus group interviews with employees – who were not members of the inspiration groups – were conducted, while one of the employee groups declined participation. Two focus group interviews with mixed members from the six inspiration groups were also carried out. Altogether, 39 primary health care employees took part in the focus groups. All interview groups consisted of four to seven participants with different professional backgrounds. No managers or owners participated in the focus groups.

The intervention

In total, there were 166 employees working at the six intervention centres (ICs) at start-up and 169 employees at the intervention ending. The intervention was run for one year and started off with each centre forming an inspiration group consisting of 3–6 employees from various professions. This group – together with the researchers – was responsible for generating, elaborating, and implementing ideas about how recovery could be integrated into their daily work. All inspiration groups had frequent meetings for follow-ups and improvements of the project. The inspiration groups had close collaboration with me and, if requested, I attended these meetings to support them. One person from each inspiration group also had regular contact with the researchers via email and phone for updates, brainstorming, exchanging useful materials, etc.

The customized recovery models for each of the six workplaces were based on the areas of variation, companionship, and manageability (paper II), and modified according to the PHCCs' own abilities, needs, and wishes. In addition, consideration was given to the results from the questionnaire that was conducted before intervention start-up (paper III), which was presented to the respective participating PHCCs, together with current recovery research and evidence-based suggestions for possible recovery activities. This resulted in various types of activities being introduced at the centres and integrated throughout the workday. The recovery activities could be done individually or together with co-workers. There were also activities which were suitable to perform with the whole employee group. Each employee made a personal decision on which activities they wanted to engage in during the year of the intervention. A complete list of the recovery activities is shown in table II.

Equally for all ICs was that an inspiration board with positive messages was set up in the staff room, for everyone to see. It included funny comic strips, thoughtful quotes, breathing exercises, book tip of the week, interesting facts regarding recovery and well-being, etc. The idea was for the inspiration board to provide a moment of recovery for the employees while reading its content. The board was also a form of variation in the participants' regularly scheduled workday. Furthermore, all participants received information about, and examples of, micro-breaks to perform during the workday. They were all tasked with finding their moment of recovery before continuing work, either by taking a deep breath or some fresh air, doing a stretching exercise, listening to their favourite song, or performing a relaxation exercise such as closing their eyes and counting to ten. A micro-break is a moment of recovery that only lasts for a couple of seconds or minutes but is set up to give the practitioner a pause and some new energy.

As a reminder to engage in micro-breaks during the workday, coloured stickers were set up around the centres.

Table II. Number of intervention centres (ICs), in descending order, that integrated the different forms of recovery activities into daily work.

Recovery activities done individually or together with co-workers	No. of ICs	Recovery activities together with the whole employee group	No. of ICs
Deep breathing exercises	6	Recovery reminders in the form of coloured stickers around the centre	6
Relaxation exercises	6	Monthly recovery reflection	6
Stretching exercises	6	Notice board with positive messages	6
Access to relaxation room	3	Team-building activities	6
Interprofessional reflection group meetings	3	Morning meetings	5
Access to gym	2	Organized after-work activities	5
Lunch break walks	2	Joint physical activity exercises	4
Mail with mindfulness exercises	1	Concept discussions	4
Brief positive messages on toilet door	1	Weekly positivity letter from manager	4
		Mindfulness sessions	3
		Joint breakfasts	3
		Workplace development day	3
		Changes in the physical environment	2
		Management team	2
		Music in the break room	2
		Suggestion box for recovery ideas	2
		Reflection sessions	1
		Breakroom as a work-free zone	1
		Step counter contest	1
		Medical yoga therapy	1
		Basic body awareness therapy	1

Some centres needed the predominant focus to be around the area of companionship, which made them carry out activities such as joint physical activity exercises or team-building activities. The team building could focus on positive feedback, the competencies of the group, or to get to know each other. Workplace meetings, with all

employees present, were useful for this kind of events. Another example of an activity to promote companionship was the joint lunch break walks. The participants decided on a time and place each week, and anyone who had the opportunity and desire to participate could do so. Besides fresh air and physical movement, the joint walks gave the employees an opportunity to talk, both by reflecting on work events and by sharing moments of non-work-related social chats. Even though the organized after-work activities originally were not included in the set of recovery activities during the workday, they became a part of the intervention. This emerged from the employees' desire to socialize and get to know each other outside of work, with hopes of a ripple effect on the workday.

Picture I. A joint physical activity exercise being performed at one of the participating ICs.

There were also activities with focus on manageability, providing the employees with a feeling of influence over their work situation. Several of the ICs used concept discussions trying to increase the ambition, and understanding, for common goals in the organization. The participants discussed concepts such as recovery, feedback, and reflection, and how to include them in their everyday work structure. Another example was the morning meetings, where the manager/owner and all employees with the

possibility to participate got together for a couple of minutes. This was a chance for saying a mutual "good morning" and for everyone to be seen. The brief meeting also created an opportunity to speak their mind if needed or to take a deep breath together before heading in different directions to carry out their various work tasks. In addition, some of the managers and owners of the ICs sent out weekly letters to their employees. Besides providing the employees with useful information, the letters could comprise positive feedback from the past week and encouragement to perform recovery exercises during the workday the upcoming week.

Throughout the intervention phase, all employees at the participating centres had the opportunity to influence and evaluate the recovery activities, by communicating with members of the inspiration group or leaving a note in an anonymous suggesting box. In addition, the whole employee group was given time to reflect on the project at workplace meetings, making joint decisions on how to move forward. This was a recurring event for the participating centres; scheduled once a month during the year of the intervention.

Picture II. Employees at one of the participating ICs engaging in a deep breathing exercise.

In addition to the frequent contact and support, the research group arranged gatherings three times during the intervention year. At intervention start-up, the intervention plan

was introduced and discussed with the entire employee group, including the managers and owners. Also, a joint team-building activity was performed as an attempt to encourage a positive start to the intervention. At half-time, an inspirational day for all members of the inspiration groups took place. This was an opportunity to exchange ideas and experiences, as well as to help each other to solve any problems encountered along the way. They were also given an update on current work recovery research, to expand their knowledge base further. The last organized meeting took place at intervention ending, when all employees had a chance for joint closing reflection about the intervention, led by the researchers.

Data collection

Paper I

The questionnaire on health and working conditions had a salutogenic perspective and included questions on psychosocial work environment and experiences, recovery, leadership, social climate, reflection, and work-life balance. The questionnaire contained two previously validated instruments: SHIS (Salutogenic Health Indicator Scale) measuring self-rated health [135] and WEMS (Work Experience Measurement Scale) [136]. Analyses of individual and focus group interviews exploring salutogenic work factors (not reported here) were used to develop the remaining questions. In addition, questions on age, sex, profession, and employment rate were included. A symmetric Likert-type scale was used for most of the questions, where the respondents specified their level of agreement or disagreement to different statements. All statements were positively phrased. In two of the question groups, a semantic differential with six steps was used. Also, demographic data were collected. One of the researchers attended work group meetings at most of the centres, where the employees completed the questionnaire on the spot. In the remaining centres, the manager distributed the questionnaires to the employees, who then individually and anonymously sent in the questionnaire by mail in a prepaid envelope. The same course of action was applied to the employees who were absent from the work group meetings.

Paper II

Focus groups were conducted because this was deemed a suitable method to explore the employees' perceptions, attitudes, and opinions regarding recovery during the workday. Two of the researchers performed the focus groups, acting as moderator and

observer, which took place in an undisturbed room at the PHCCs. Open-ended questions such as "What does the term recovery mean to you?" and "What is needed for you to experience recovery during the workday?" were used, with help from a semi-structured interview guide. Clarifying questions could be asked, depending on the discussion, to get a deeper understanding of the employees' experience of recovery during the workday. The interviews lasted for approximately 90 minutes each and were all recorded with a digital voice recorder.

Paper III

The questionnaire had a salutogenic perspective and included question areas regarding recovery, health, and working conditions. The majority of the questions were developed through analyses of the focus group interviews exploring the concept of recovery (paper II), while the remaining questions came from the previous questionnaire study on salutogenic work experiences (paper I). Questions on age, sex, profession, and employment rate were included in the questionnaire. For most of the questions, a symmetrical Likert-type scale with six response alternatives was used, where the respondents specified their level of agreement or disagreement with various positively phrased statements. Also, a semantic differential with six steps was used in two of the question groups. The questionnaire was distributed in person to all participating centres, both at the start-up and one year later at the end of the intervention. Most of the employees completed the questionnaire during a joint work group meeting, while some were handed out by the managers. The employees then individually and anonymously sent in the questionnaire by mail in a prepaid envelope. The same arrangement applied to the employees absent from the work group meetings.

Paper IV

Focus group interviews were chosen as an appropriate method to explore the variety, and to get a deeper understanding of experiences, perceptions, and opinions of the intervention participants. Two of the researchers conducted the interviews, acting as moderator and observer. A semi-structured interview guide was used, with open-ended questions such as: "What was your experience of the intervention?" and "In what way has the intervention affected your experience of recovery during the workday?". Also, they were asked to describe promoting and limiting factors linked to the intervention and its activities. All interviews were recorded with a digital voice recorder and took place in an undisturbed room at the PHCCs, either the participants' own centre or, for the mixed groups, at a nearby centre. The average discussion time for each interview was 90 minutes.

Analysis

Paper I

The statistical analyses were carried out with SPSS 21, and a significance level of 0.05 was used. Indices were created based on the logical connection between the different question areas, in combination with an optimization of Cronbach's alpha (CA). The acceptance level of CA was set at >0.70 [137]. A multivariable linear regression model was used to determine which variables were associated with self-rated health (SHIS). The selection of independent variables to be included in the regression analysis was based on empirical grounds, theoretically based findings in previous research, and the correlation (Pearson) between the independent variables and SHIS. The model was adjusted by sex, age, and working time. Four additional regression models were run, to analyse the impact of different professional groups. Multi-collinearity of the data was excluded (normal variance inflation factor, VIF) and the residuals were tested and shown to have a normal distribution. One-way ANOVA was used to compare various levels of recovery during the workday and outside work with impact on SHIS.

Paper III

All statistical analyses were carried out using SPSS 25, and the level of significance was set at $p<0.05$. The bivariate relationship between the experience of recovery and intervention/control group, before and after the intervention, was studied. The statistical significance was tested by chi-squared test. Also, the changes in variables affecting the experience of recovery during the workday in the intervention group, before and after intervention, were explored by using two multivariate logistic regression analyses. The independent variables used in the regression models were chosen on empirical grounds, dichotomized, and tested bivariate, with an inclusion criterion of $p<0.2$.

Papers II and IV

All interviews were transcribed verbatim by an experienced transcriber. The analyses had an inductive approach and was inspired by systematic text condensation according to Malterud [138]. Both the analyses started after all interviews were completed and transcribed. Initially, the entire transcripts were read separately and repeatedly by three of the researchers, in order to get an overview of the data. In the next step, preliminary themes were identified and text according to these marked. Thereafter, smaller text

units with similar substances were identified and labelled with codes, which were then merged into broader categories and subcategories. Finally, the categories were compared to the original data. The researchers met on several occasions and all subcategories, categories, codes, and preliminary themes were discussed and adjusted until consensus was achieved. In relation to subcategories and categories, a confirmatory reading of transcripts was made by the remaining researchers.

Ethical considerations

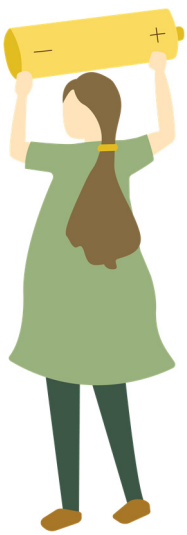
The benefits and risks of the different study parts were carefully considered in advance, and decisions along the way were continuously discussed with the best interest of the participants in mind. The initial project, entitled *Salutogenic work factors in primary health care* (paper I), was conducted in accordance with the Swedish Research Ethics Act, SFS 2003:460, which conforms to the principles outlined in the Declaration of Helsinki [139]. The latter project *Recovery at work – an intervention project for better health among primary health care employees* (which includes the studies in papers II, III, and IV) was approved by the Regional Ethical Review Board in Lund, Sweden (2015/490).

In the two quantitative studies (papers I and III), all participating employees were given information personally and/or through a written information sheet. The information included the purpose of the study, the voluntary nature of participation, the confidentiality of their responses in the questionnaire, and an assurance that they had the right to withdraw from the study at any time, if desired. By responding, the participants gave their consent to participate. Also, precautions were made to ensure the anonymity of the participating PHCCs, and all data was treated confidentially.

The participants in the qualitative studies (papers II and IV) were given oral and written information about the purpose of the study, the voluntary nature of participation, the guarantee of confidentiality, and their right to withdraw from the study at any point. At the time of the focus groups, all participants gave written consent to participate. An agreement within each group was made trying to ensure that what was said during the session would stay inside the group.

Results

Recovery – an important salutogenic factor for employees' self-rated health (paper I)



The questionnaire response rate was 84%. A regression model, with salutogenic self-rated health as the dependent variable, showed three significant predictors. Recovery, measured as a combination of recovery during the workday and outside work, had the highest relationship to the employees' self-rated health ($\beta = 0.34$), followed by experience of work-life balance ($\beta = 0.25$), and positive work experiences ($\beta = 0.20$). These three factors were significant in all four professional groups (nurses, paramedical staff, physicians, and administrative staff), when specific regression models for each group were run.

The results also showed that recovery during the workday was related to higher self-rated health independent of the level of recovery outside work. This indicates the great value of recovery during the workday in relation to employees' self-rated health.

Variation, companionship, and manageability as promoting factors for recovery at work (paper II)

Three main categories emerged when exploring the concept of recovery during the workday: variation, companionship, and manageability. All three categories interacted with each other and are, at various levels, prerequisites for recovery. The primary health care workers described how the variation in their work gave them a feeling of recovery. Sometimes they needed a break with the possibility to rest, but often the variation, i.e.

their work not being monotonous, was enough. The three subcategories of variation were: location, tasks, and tempo. The social parts of work, i.e. having friendly co-workers, having fun together, and being part of a team, were reported to be of great importance for the employees' recovery experience. This feeling of companionship at work was represented by four subcategories: helpfulness, appreciation, social chat, and laughter. To experience the work situation as manageable was portrayed as important for enabling a recovery process during the workday. It was portrayed as being in control of and exerting influence on one's work, as well as having a sense of structure in all parts of the work. The five subcategories were: completion, satisfaction, influence, control, and reflection. Also, the workplace culture and atmosphere were described as essential elements for giving the employees' possibilities to recover.

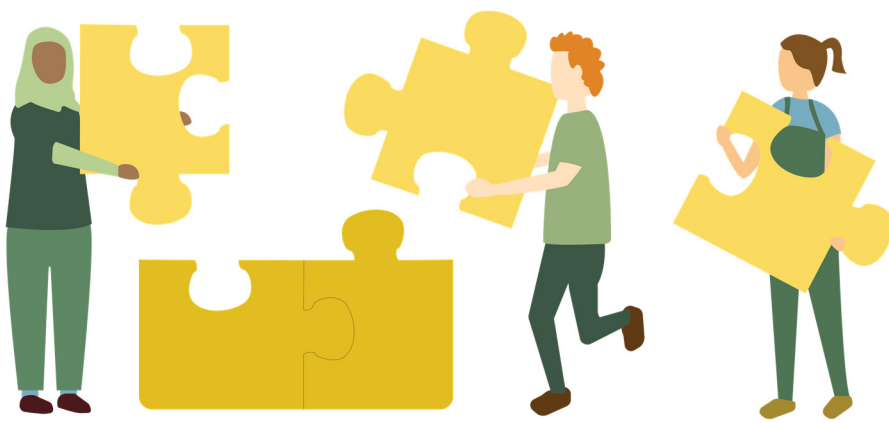
Customized interventions improved employees' experience of recovery during the workday (paper III)

The response rate of the questionnaire was 88% at the start-up, and 83% at the end of the intervention. The proportion of employees reporting recovery during the workday increased significantly (p = 0.01) in the intervention group during the year of the intervention (19.9% to 29.1%), whereas the control group showed no significant change (p = 0.38). The experience of recovery was reported by a positive response to the statement "I feel I get time for recovery during the workday". Additionally, 41.0% of the participants in the intervention group disagreed with this statement before intervention start-up, which decreased to 25.2% after the intervention.

A regression model, with recovery during the workday in the intervention group before the intervention as the dependent variable, showed two significant relationships: self-reflection (OR = 10.2) and reflection with co-workers (OR = 4.63). After intervention, recovery once again was explained by the possibility of self-reflection (OR = 3.70) and reflection with co-workers (OR = 7.42), but also by having influence on work situation (OR = 3.76), an energy-building experience (OR = 4.24), and the opportunity for laughter (OR = 12.8).

Strengthened workplace relationships facilitate recovery at work (paper IV)

An improvement in experienced recovery during the workday was described by the participants. This was independent of the PHCCs' different initial conditions, concerning leadership, staffing, physical and psychosocial environment, workload, workplace structure, and attitudes towards the introduction of the project. The successful outcome of the intervention was due to four promoting factors: support (with its subcategories help, feedback and encouragement), legitimacy (including transparency, ownership, and enthusiasm), customization (including flexibility and maintenance) and simplicity (including convenience and integration).



Also, the participants portrayed three areas as positively affected by the intervention. These upward spirals were a better work climate (including companionship, familiarity, openness, and influence), improved well-being (including calm, joy, energy, and exercise), and increased recovery awareness among the employees (including eye-opening and ripple effect). As the upward spirals became stronger, they also had a positive effect on the intervention.

Discussion

This thesis has a salutogenic perspective and focuses on employees' perception of recovery during the workday. The results expand the previous scarce knowledge on the concept of recovery during the workday and its importance for well-being. Also, the results increase the understanding of how workplace interventions can be used to enhance employees' experiences of recovery and, moreover, strengthen other positive work factors.

Discussion of the results

Experiencing recovery was the most important factor in relation to employees' self-rated health, as shown in paper I. It was also demonstrated that recovery during the workday was related to higher self-rated health independently of the level of recovery outside of work – an association that has not been studied before. By integrating various recovery-activities into daily work, the employees' perceived well-being improved, as portrayed in paper IV. There are some studies highlighting that recovery can have positive effects on health and well-being [e.g. 140, 141], and it has been claimed that the process of recovery is an indicator of good health [142]. However, most previous research concludes that insufficient recovery can result in ill-health and a decrease in overall well-being [e.g. 143-146]. For example, it was stated by Geurts and Sonnentag [147, p. 482] that "incomplete recovery is an important pathway to chronic health impairment". The recurring pattern for the earlier research on work recovery is the focus on recovery outside of work.

Factors of importance for experiencing recovery were identified in paper II, where the concept of recovery during the workday was explored. To the best of my knowledge, there is no prior research defining recovery during the workday. Previous studies have discussed recovery during leisure time, where psychological detachment from work is one of the prioritized areas [148]. According to the present results, it seems that detachment from work during the workday could similarly be enhancing for the recovery process. The participants explained how variation, which could be doing a

non-work-related activity for a moment, as well as engaging in social chats with co-workers about something other than work, could provide a recovery experience. Work-related variation, such as changing tasks or work pace, were also mentioned as recovery-promoting factors. Parallel to this, Zijlstra and Sonnentag [114] describe how altering between mentally and physically demanding activities outside of work can have effects that are comparable with taking a rest, since it enables the resources not being used to recover.

Workplace interventions focusing on recovery can be successful, as concluded in papers III and IV. There are previous research with tendencies in that direction, with studies on, for example, micro-break activities, relaxation exercises, and nature walks for recovery [e.g. 123, 129]. However, there are no previous studies with the breadth of the current intervention. We successfully implemented recovery models at six workplaces, where the employees could engage in various recovery activities throughout the workday. This integration of activities fostering recovery at work was called for by Sonnentag [118], who introduced the concept of the recovery paradox. The paradox proposes that the individual's chance of experiencing recovery decreases when being exposed to a high level of stress, even if that is when recovery is needed the most. It could therefore be beneficial for the employees to engage in activities promoting an ongoing recovery process, as in the current intervention study. Due to how differently individuals can perceive and appreciate the same activity, it is difficult to determine what kind of recovery experience an activity will lead to [149]. Therefore, Bennett and colleagues [150] suggest that it can be beneficial for employees' recovery experience to engage in different types of micro-break activities. The customization and activity range were factors contributing to a positive outcome of the intervention presented in this thesis and should be considered in future workplace interventions.

The possibility for reflection with co-workers during the workday was the strongest explanatory factor for the significant increase in employees' experienced recovery during the workday after the intervention ending, as shown in paper III. The importance of reflection for enhancing the recovery process was also mentioned in paper II. It has been concluded that collegial reflection on work-related issues is a health-promoting resource that can enhance employees' recovery experience [151]. Similar findings were shown in a study by Aronson and colleagues [31], who found a relationship between having sufficient time for reflection and feeling recovered. Further, an intervention study on health care professionals showed that reflection can develop resilience, which is a person's ability to handle work-related stress and demands. This enhanced resilience could in turn foster recovery [152]. During the intervention presented in this thesis, reflection was promoted by various activities, such as interprofessional reflection group meetings, lunch break walks, and shared reflection

during the coffee break. With this background, reflection is proposed to be included when planning workplace interventions for enhancing employees' recovery experiences.

A common thread throughout the results in this thesis was the importance of workplace relationships. Helpfulness, appreciation, social chat, laughter, and joint reflection were identified as important factors for experiencing recovery during the workday, as shown in paper II. Further, reflection with co-workers emerged as one of the explaining factors for experienced recovery, together with having the opportunity for laughter, in paper III. Support from manager and co-workers, illustrated by help, feedback, and encouragement, was an essential part for promoting a successful intervention outcome. Also, the workplace climate, including companionship, familiarity, and openness, was an area that was positively affected by the intervention and further facilitated creating recovery processes during the workday, as presented in paper IV. A meta-analytic review by Holt-Lunstad and colleagues [153] discovered that social relationships in general – or the lack of them – can influence an individual's health outcome and the risk of premature mortality. Having positive relationships has been established as one of the most essential sources of well-being [18, 154, 155], and can also provide a purpose to life [156]. The same link has been shown at work, where good workplace relationships facilitate employee well-being [21, 63, 157, 158]. In addition, there is research indicating that the presence of good relationships at work can strengthen the individual employee's self-worth [159], have an impact on experiencing work as meaningful [160], and act as protection against high work demands and stressors [161]. Promoting workplace relationships is not only related to enhanced individual and work-related effects, but also to the creation of sustainable, productive, and profitable organizations [162, 163]. With the results from this thesis, highlighting the importance of strong workplace relationships, in combination with the existing literature on this area, it is suggested that workplace relationships play a significant role when conducting WHP interventions.

> Rich I felt when I found another,
> for man is the joy of man.
>
> *Hávamál* [164]

The discussion between the participants in paper II partly concerned the importance of companionship to enable recovery during the workday. They highlighted the workplace trait of an open atmosphere, where the employees could engage in small talk, help each other and show appreciation, as well as laugh together. In addition, laughter was significantly related to experiencing recovery, as shown in paper III. A Swedish study in primary health care, exploring motivation at work, found that kindness and enjoying each other's company in the work group were promoting factors [165]. A

similar result was shown in a literature review investigating motivational factors for nurses, which emphasized the meaning of having a positive team spirit [166]. The content model of attractive work describes positive work characteristics in an organization, which can affect the employees' willingness to stay. Åteg [167] suggests workplace relationships as important, including openness, empathy, and humour. Further, the model highlights helpfulness and support. Strategies for increasing opportunities for friendly co-worker interactions at work should be established in order to create a recovery-enhancing work environment.

Support was emphasized as strongly contributory to the successful implementation of recovery activities, as addressed in paper IV, as well as an important factor for experiencing recovery, as shown in paper II. In a prospective 20-year follow-up study of healthy employees, Shirom and colleagues [168] found that the employees who reported high levels of peer social support had a significantly lower risk of mortality from all causes. Hence, a supportive work environment may by protective for the individual employee. Social support has been defined as "the individual belief that one is cared for and loved, esteemed and valued, and belongs to a network of communication and mutual obligations" [169, p. 300]. Support from co-workers and manager seems to be essential for employee well-being [170, 171]. Also, social support has been recognized as vital for buffering against work stressors [172-174] and strengthening health care workers' professional identity [175]. In the demand-control-support model [176] it is suggested that high demands can be met if the employee has a sense of control over the work situation and enough support from co-workers and manager. Smith and colleagues [177] described how creating meaningful and warm bonds within a work group can make the employees maintain their work performance despite a high stress level. In addition, several studies have highlighted the role of workplace relationships for promoting employee flourishing [63, 178, 179]. It seems that support, by help and encouragement from co-workers, can be rewarding in terms of promoting the likelihood of engaging in recovery-enhancing behaviours and in the recovery process itself.

Experienced effects, both personal and work-related, of the recovery intervention were discussed by the participants in paper IV. It was described how the implemented recovery activities contributed to a workplace climate perceived as more positive and open than before intervention start-up. This was represented by a feeling of familiarity, that is, a concern for each other with solidarity and trust. The co-workers could collaborate as professionals interspersed with laughing together as friends. Trust and mutual respect are mentioned as core elements for a well-functioning and collaborating work group, in a literature review on teamwork in health care [180]. A similar result was shown in a study on hospital nurses, where trust and open communication were

highlighted [181]. For the individual employee to feel secure enough to communicate openly with co-workers and manager, the work climate requires a feeling of trust and safety [182]. It seems to be of value to integrate activities for strengthening workplace relationship into ordinary work, as was shown in the intervention study presented in this thesis.

Methodological considerations

Each study performed in this thesis emerged from the results of the previous study. Different approaches regarding data collection and data analysis were used depending on the study aims. As my research interest began with a wish to explore salutogenic work factors, a decision was made to start with a qualitative design using individual and focus group interviews (not reported here). To further explore salutogenic work factors in connection with employee health, a quantitative design was used where the findings from the interviews, in parallel with theoretical considerations, formed the basis of a questionnaire (paper I). The next step was to identify factors of importance for experiencing recovery during the workday, and therefore, a qualitative method with focus group discussions was used (paper II). Based on the results from the previous study, a workplace intervention was planned, to further explore how recovery-enhancing activities can be implemented into the workday and how these activities affect the employees. To evaluate the intervention process, it was decided to apply a quantitative methodology with questionnaires to all participants before and after the intervention (paper III). Last, we wanted to deepen the quantitative evaluation by conducting focus group interviews with intervention participants (paper IV). A qualitative approach was most appropriate to explore the participants' experiences of the intervention process and its outcome.

The methodological considerations of the four papers will be discussed in terms of strengths and limitations, with a division into the quantitative (papers I and III) and qualitative (papers II and IV) methods. The participatory approach, the intervention, and the mixed method design of the thesis will also be discussed.

Papers I and III

Data were collected via two separate questionnaires on three occasions during the project periods, which all had high participation rates: 84 (paper I), 88, and 83 (paper III) percent. This signifies a strength due to decreasing the risk of possible dropout effects, and enables legitimate conclusions to be drawn. Several motivational

considerations were made to facilitate a high participation, including the anchoring work, the close communication with all managers and owners, the personal distribution of the questionnaires, and the promise to all participating PHCCs to have their individual results reported back to them. Also, the salutogenic perspective, with questions focusing on the positive side of work, is believed to have influenced the high participation.

Both questionnaires were developed based on findings in individual and focus group interviews with employees from the participating PHCCs exploring the subject areas. This was necessary due to the lack of established questionnaires containing questions on recovery during the workday from a salutogenic perspective. Still, the self-construction can be considered a limitation since no extensive validation was made. As a complement, two previously validated instruments were included in the questionnaires: SHIS [135] and WEMS [136], which strengthened the internal validity. In addition, pilot studies using the think-aloud method [183] were carried out with primary health care personnel (not study participants), to ensure high content and face validity of the two questionnaires.

The reliability of the questionnaires could not be tested by a test-retest survey due to the anonymity of the participants, which can be considered a limitation. However, the supplementary established instruments were previously tested and the internal consistency of the indices from the newly constructed questions was estimated by CA. All the indices used had a CA coefficient higher than 0.7 [137]. This indicates that the included questions of each index reflected the same phenomenon and could therefore be combined.

The time of the year matters when performing a questionnaire study, due to possible seasonal effects on the participants' answers [184]. This was considered in both studies by distributing all three questionnaires during the autumn, which also increases the possibility to compare the results. The cross-sectional design of the studies is a limitation since it precludes the possibility of drawing causal conclusions. However, the research on recovery during the workday and workplace interventions focusing on recovery is almost non-existent, which makes it feasible to illuminate important results even if causality cannot be assessed.

The potential limitations regarding the effects of the intervention (paper III) should also be highlighted, by considering differences between the composition of the intervention group and the control group as well as the possible Hawthorne effect [185], i.e. that the effects were a response to the attention the study generated and not an effect of the intervention itself. Even though there is a risk concerning selection bias

when performing a quasi-experimental study, the use of a control group with prospective follow-up of both groups can be considered a strength.

The questionnaires were limited to factors at work, which means that lifestyle factors outside the workplace were not taken into consideration. However, sex, age, and working time were adjusted for in the analyses. Reports on self-rated health and the employees' perceptions on work factors and recovery were obtained, which may imply self-reporting biases such as information and recall bias [186]. The risk is considered small, however, since the recall time was rather short in these cross-sectional studies. With regard to the questionnaire carried out after intervention ending (paper III), the possibility of expectancy bias should be acknowledged. In other words, the intervention group could have a more positive attitude towards experienced recovery, in line with the outcome expected by the researchers.

Papers II and IV

The focus group participants were a broad purposeful sample of primary health care employees, with different professional backgrounds, lengths of working experience, and gender. This diversity can be considered a strength for the transferability of the results. Additionally, the variety of perceptions, attitudes, and opinions of the participants can create a dynamic leading to a more fundamental understanding of the research area [187]. The ambition of the studies was to look at all the participants as one unit representing primary health care, without making a distinction between the various professions. Therefore, it was important to use mixed groups, to get as broad a picture as possible of the different discussion points.

The interviews were conducted in secluded rooms at the participants' own workplaces, as an attempt to create a calm atmosphere where the participants could speak freely about the subject in question. The problem with power dynamics in focus groups should still be mentioned, since it can inhibit the participants from expressing their opinion. Still, this risk is considered small as participation was voluntary and did not concern very sensitive topics. Also, managers and owners did not take part in the group discussions. It can be assumed that the persons who volunteered to take part were engaged and open to talk. The researchers performing the interviews had spent a considerable amount of time at the participating PHCCs, which could mean that trust had been built and that the participants therefore felt more comfortable sharing their experiences. However, social desirability could introduce a bias in their responses.

Since participation in the focus group discussions was voluntary for the employees, the possibility of selection bias and missing out on important perspectives needs to be

mentioned as a limitation. The employees who took part in the interviews might have been the ones who were more dedicated to the project, while the uncommitted employees chose not to participate, which can affect the credibility of the findings. Not conducting exclusive interviews with managers and owners is also an important issue to highlight as we missed out on capturing their experiences, based on their roles as leaders.

The pre-understanding of the researchers is of significance when conducting interviews and qualitative data analysis. The researcher acting as a moderator and leading the analyses has a background in public health, while the other four researchers are general practitioners. This differences in discipline skills are strengths for the confirmability of the findings [188]. In addition, all five researchers have experience of working in primary health care, which further broadens the interpretation of the qualitative data. The material was viewed and discussed by the researchers in every step of the analysis to complement each other's interpretations and lower the risk of bias due to individual pre-understandings. This course of action can also enhance the credibility and trustworthiness of the results [189].

Participatory approach

All the studies presented in this thesis were permeated by a participatory approach, with the participants' experiences in focus. The basis of participatory research is that the research is conducted with people, instead of on them [190]. Cornwall and Jewkes [191, p. 1667] stated that "the key difference between participatory and conventional methodologies lies in the location of power in the research process", which means that it is important for the power to be owned by both the researchers and the participants [192]. Participatory research has also been described by highlighting the engagement of the participants in the design, execution, and evaluation of the study [193]. Hence, the participatory approach can help to foster an understanding of the study process and empower the participants to use this knowledge to accomplish maintainable changes [194, 195].

The participatory approach in this thesis started with the anchoring process during the build-up of the initial project, where the researchers had close contact with all managers and owners of the PHCCs in the current health care district. They were given information about the project and had the chance to reflect on the content and progress of the studies, including the data collection at their own centre. All PHCCs were then invited to be represented in individual and focus group interviews, which provided the basis for the forthcoming questionnaire study. This led to consent from all 26 centres in the district to participate in the initial project. In the next step two of the researchers

attended workplace meetings, where information on the project was given and discussed with the staff. This enabled the employees to be part of the process and was maintained in all studies. In total, three separate qualitative data collections were made with the participating employees (whereof one not reported in this thesis). This gave them the chance to make their voices heard, both by influencing the content of the following questionnaires and by sharing their experiences on the subject areas being discussed.

The most prominent use of a participatory approach was in the intervention, where the employees were involved in planning, implementation, and evaluation. Even though it was the members of the inspiration groups that were given the responsibility to act, all employees working at the participating centres had the opportunity of influence and participation throughout the intervention process by making suggestions for recovery activities and their further development.

Intervention

A strength that should be acknowledged is the customized design of each of the six interventions, which was required to achieve the desired breadth of the implemented activities, that is the activity range and activities being integrated in ordinary work throughout the workday. Also, the intervention activities reached and affected all three levels of a WHP intervention: the individual employee, the individual-organization relationship, and the organization at large [112]. However, this setup can be seen as a limitation from a research perspective. Because of the customization, together with the voluntary and unregistered participation in various recovery activities, it is not possible to draw conclusions on what effect – and in what amount – each component of the intervention had. The intervention should therefore be regarded as one package, which can have various positive effects on employees and the workplace.

Mixed method design

By combining quantitative and qualitative methods, a deeper and broader understanding of the research area can be reached [196]. Bryman [197, p. 106] described mixed method research by referring to "uncovering relationships between variables through quantitative research while also revealing meanings among research participants through qualitative research". Since recovery during the workday was a virtually unexplored concept, the choice of using a mixed method design was made to attain a more complete picture of the phenomenon [198]. The findings in each study were confirmed and further developed in the subsequent studies, a pattern that shows

the benefits of using a mixed method design for strengthening and expanding research conclusions.

Conclusion and implications

The findings presented in this thesis indicate that experiencing recovery is the most significant predictor for employees' self-rated health. Considering that this is a novel finding, there is a need to acknowledge the importance of recovery during the workday when planning and implementing WHP strategies and interventions. In a first attempt to delineate the concept of recovery during the workday, factors of importance for experiencing recovery were identified. The result showed that variation can give recovery. This illustrates that recovery can be achieved independently of the possibility to rest. Also, factors such as having influence and control over the work situation, and a feeling of companionship in the work group were highlighted as important. The possibility for self-reflection and reflection with others seem to be essential determinants for experiencing recovery. This finding indicates that activities encouraging reflection should be included when planning workplace interventions to enhance employee recovery.

Further, the results led to the conclusion that workplace interventions focusing on recovery during the workday can be successful. In addition to an enhanced recovery experience among the participating employees, positive effects on workplace climate and employee well-being can also be achieved. It seems that the customized intervention models, i.e. taking each workplace's initial working conditions into consideration together with their own abilities, needs, and wishes, had an impact on the positive results. It is suggested that the breadth of the implemented intervention was also beneficial for the outcome.

The importance of strong social relationships permeated the results of this thesis, with key factors such as helpfulness, appreciation, laughter, encouragement, familiarity, openness, and support. Social support was recognized as a promoting factor for enabling the intervention process. This thesis suggests that social interaction and efforts to strengthen workplace relationships should be promoted at work, by employees, managers, and organizations.

This thesis contributes to the hitherto scarce research on recovery during the workday and how to develop workplace interventions focusing on recovery. In addition, knowledge of how to use recovery as a health-promoting resource for the individual employee is provided.

Future research

It is suggested that future research should verify and validate the factors and activities that were shown to be of importance for experiencing recovery. In order to accomplish this, the questionnaire and intervention model can be used and implemented in other settings, such as other health care districts, but also in different work contexts. In addition, future research could further develop strategies for strengthening workplace relationships and collegial support, in relation to recovery during the workday.

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