ABSTRACTS FROM THE
1ST BALKANS CLINICAL NEUROSCIENCE SYMPOSIUM

11-12 September, 2021

Organized by

Dr. Pınar Ünal-Aydın

Department of Psychology,
International University of Sarajevo, Bosnia and Herzegovina
(Co-Chair)

Dr. Ayla Arslan

Department of Genetics and Bioengineering,
International University of Sarajevo, Bosnia and Herzegovina
(Co-Chair)

Dr. Orkun Aydın

Department of Psychology,
International University of Sarajevo, Bosnia and Herzegovina
(Member of the Organizing Committee)

HOMOLOGY MODELLING OF THE UBA DOMAIN OF SIK2

Korkut Furkan Şahin

Molecular Biology and Genetics Department, Institute of Natural and Applied Sciences, Gebze Technical University, Turkey

Vildan Enisoğlu Atalay

Bioengineering Department, Faculty of Engineering and Natural Sciences, Uskudar University, Turkey

Ferruh Özcan

Molecular Biology and Genetics Department, Institute of Natural and Applied Sciences, Gebze Technical University, Turkey

A subfamily of the AMP-activated protein kinase (AMPK) family, Salt Inducible Kinases (SIKs, SIK1-3) modulate several biological functions and acts as a signal transmitter in various pathways such as lipid metabolism and gluconeogenesis. Recently studies have shown that SIKs play a critical role in many diseases especially diabetes, cancer, and obesity, notably SIK2 overexpressed in various tumor types while compared with those adjacent tissues. Moreover, it modulates several subtle cellular signaling pathways including the Hippo-YAP pathway, cAMP-PKA axis, PI3K-Akt-mTOR pathway, and the LKB1-HDAC axis. Therefore, it currently seems that SIK2 may be a novel therapeutic target for cancer therapy. Recently studies have shown that SIKs have many roles in the brain includes depression, sleep/wake regulation, epilepsy and circadian rhythms.

The first member was identified in the adrenal cortex when rats fed on a high salt diet by Wang etc. in 1999. Indeed, SIK1 gene expression is mostly in renal tissues. Conversely, SIK2 is abundantly expressed in the adipose tissue and neurons. Similarly, SIK3 gene expression is highly in the brain.

Like other AMPK family members, SIKs acquires two common domain kinase domain (KD) followed by a ubiquitin-associated (UBA) domain in C-terminal. Phosphorylation of a threonine residue (Thr182, Thr175, Thr221 respectively) in the activation loop of each SIKs by liver kinase B1 (LKB1) is essential to be catalytically active. SIKs also contain multiple protein kinase A (PKA) phosphorylation sites in N-terminal.

In the human genome, only ten AMPK members possess the UBA domain without poly ubiquitin-binding motifs. Among these, although SIKs contain hydrophobic residues that are vital to the binding of ubiquitin, no interaction between ubiquitin oligomers to the UBA domains in SIKs. Thus the main function of the UBA domain is not yet clear in SIKs. Previous studies claim that the UBA domain aid in the binding LKB1 to the activation loop in the kinase domain of SIKs. Furthermore, a mutation in the UBA domain decreased SIKs phosphorylation and enzyme activity. However, compared with other AMPK kinases, the UBA domain and its role in SIKs functions are not known yet. On the other hand, protein databanks (PDB, PDBe, PDBj, RCSB) do have not the crystal structure of SIKs.
Here, we proposed to assess the role of UBA domain on SIK2 catalytic activity. Initially Basic local alignment search tool (BLAST) search was performed to identify the most reliable template. Human crystal structures of MARK1 (2HAK and 6C9D) showed the maximum sequence identity with SIK2 (53%, 51% respectively). We generated two homology models to SIK2 using MARK1 as a template via Swiss-Model. Consequently, these models were validated by ProSA web-based tool used to find any possible errors. These models will share open access on the Swiss-Model library for aid in knowledge of the UBA domain functions in SIK2.

Keywords: Salt Inducible Kinase-2; ubiquitin-associated domain

THE HIDDEN PANDEMIC IN THE SHADOW OF THE COVID-19 VIRUS OUTBREAK: FACTORS CONTRIBUTING TO THE INCREASE OF DOMESTIC VIOLENCE AND ABUSE DURING THE COVID-19 PANDEMIC IN BOSNIA AND HERZEGOVINA

Selvira Draganović

Faculty of Arts and Social Sciences,
International University of Sarajevo,
Bosnia and Herzegovina

The terrifying global increase in domestic violence (DV) was recorded during the COVID-19 virus pandemic worldwide, in Bosnia and Herzegovina too. Female victims of DV generally live in isolation, are controlled by violent partners, are economically dependent, and have weakened social support. This intensified even more during the pandemic due to recommended safety measures of the Local Crisis Center to stay home, maintain physical distance, and isolation measures, trapping victims of DV with abusers. COVID-19 prescribed measures contributed to and increased the risk of all forms of violence, including online and cyber abuse. On top of this all, already crowded local women shelters had to suspend the accommodation of new beneficiaries due to COVID-19 measures. Besides, disrupted social and justice services and an overloaded healthcare system struggling to respond to the health crises left victims and those at risk of DV neglected and forced them to remain with their abusers. The study aims to explore the link between COVID-19 measures and DV by analyzing who, how, and why failed and neglected victims or those at risk during COVID-19 virus outbreak. I use publications by the local health entities (e.g., Federal Ministry of Health, Health Crises Center), orders and press releases, and official data on the number of DV cases reported during COVID-19 to analyze the association between the two.

Generally, almost one in every two women in B&H experiences violence and only under 5% of them report it. Compared to March, in April 2020, during the total lockdown in

B&H, the calls to the local SOS hotlines tripled, indicating the increase of DV during the COVID-19 outbreak. With no social support and limited contact women and children at risk of domestic violence have a hard time being locked in a place that is supposed to be safe but not so for victims of DV during COVID-19 restrictive measures. Local authorities in charge of COVID-19 measures should consider and offer adequate solutions to victims and those at risk of DV in a form of institutional and other forms of support, ensure victims are able and encouraged to seek protection even during curfews. The coronavirus health emergency is no excuse for not acting and helping women and children. It is extremely important to provide information relevant to preventing and tackling the violence against women and children, such as online and in-person services, and providing alternative and additional shelters for the victims during COVID-19 measures.

Keywords: domestic and violence and abuse; COVID-19 measures; Bosnia and Herzegovina

VALIDITY AND RELIABILITY OF THE INTERNALIZED STIGMA OF MENTAL ILLNESS SCALE–ADOLESCENT FORM

Gül Dikeç

University of Health Sciences, Hamidiye Faculty of
Nursing, Department of Psychiatric Nursing, Istanbul, Turkey

Öznur B**ilaç**

Manisa Celal Bayar University Medical School,
Department of Child and Adolescent Psychiatry, Turkey

Gülçin Uzunoğlu

Manisa Mental and Neurological Hospital, Manisa, Turkey

Erol Ozan

Manisa Celal Bayar University Medical School,

Department of Psychiatry, Turkey

The goal of this study was to assess the validity and reliability of the Turkish version of the Internalized Stigma of Mental Illness Scale–Adolescent Form (ISMI-AF).

A total of 145 adolescents (12–18 years of age) who were diagnosed with at least 1 mental disorder according to DSM-5-TR participated in the study. Data were collected at a mental health hospital between October 2017 and 2019 using a sociodemographic information form, the ISMI-AF, and Beliefs towards Mental Illness Scale (BMI). Reliability (Cronbach's alpha, Split–Half, Spearman–Brown, Hotelling T2 Test) and validity analyses of the ISMI-AF were performed. SPSS 26.0 and LISREL 8.80 software were used for statistical analyses.

The Cronbach's alpha coefficient for the total score was 0.88, Split–Half score was 0.84, and the Spearman–Brown factor score was 0.85. Confirmatory factor analysis showed that the scale confirmed the 5-factor structure in adolescents, but factor loadings and reliability coefficients were

low in the "stigma resistance" subscale. There was a positive and weak correlation between ISMI-AF and BMI (r=0.37, p=0.00).

The ISMI-AF is a valid and reliable measurement tool that can be used in adolescents. This scale can help psychiatric nurses who work in this field identify and address internalized stigma, which is one of the key factors affecting adherence to treatment, especially in adolescents.

Keywords: adolescents; stigmatization; reliability and validity; mental disorders; psychiatric nursing

THE RELATIONSHIP BETWEEN PROSPECTIVE AND RETROSPECTIVE MEMORY FAILURES AND COGNITIVE TEST ANXIETY AMONG UNIVERSITY STUDENTS

Mehmet Akif Elen
International University of Sarajevo,
Bosnia and Herzegovina

Orkun Aydın
International University of Sarajevo,
Bosnia and Herzegovina

Pınar Ünal-Aydın
International University of Sarajevo,
Bosnia and Herzegovina

Previous research demonstrated that memory failures may play a prominent role in reflecting test anxiety, as anxiety impedes the information processing system and working memory. Test anxiety is a multidimensional construct with two components: emotionality and worry. Emotionality component refers to the physical reactions, whereas worry component refers to the interfering thoughts about test performance. The latter term was recently labelled as cognitive test anxiety (CTA). Prospective memory (PM) is related to remembering to carry out future activities, and retrospective memory (RM) is related to recalling events or information in the past. The present study sought to investigate the relationship between CTA, PM and RM failures among university students.

645 university students participated in the study. Sociodemographic Information Form, The Prospective and Retrospective Memory Questionnaire (PRMQ), Cognitive Test Anxiety Scale-Revised (CTAR) were administered.

Independent samples t-test analyses demonstrated that females score higher in PM, RM, and CTA scores compared to males. High CTA group scored significantly higher than low CTA ($p < .001$) and moderate CTA ($p < .05$) groups in PM failures. Additionally, high CTA group had significantly scored higher in RM failures compared to low CTA group ($p < .001$). Regression analyses showed that CTA predicted both PM and RM failures.

Findings of this study may contribute to the treatment of test anxiety. Importance of PM and RM failures may guide future studies considering these two aspects as the correlates of cognitive test anxiety.

Keywords: cognitive test anxiety; prospective memory; retrospective memory

THE RELATIONSHIP BETWEEN VOLUNTARY-INVOLUNTARY MIND WANDERING AND COGNITIVE EMOTION REGULATION STRATEGIES BASED ON THE CONTEXT OF ANXIETY LEVELS OF TURKISH COLLEGE STUDENTS

Dalya Eda Akbalık
Faculty of Arts and Social Sciences, Department of Psychology, International University of Sarajevo, Bosnia and Herzegovina

Buğrahan Yılmaz
Faculty of Arts and Social Sciences, Department of Psychology, International University of Sarajevo, Bosnia and Herzegovina

Maria Avramidou
Faculty of Arts and Social Sciences, Department of Psychology, International University of Sarajevo, Bosnia and Herzegovina

Orkun Aydın
Faculty of Arts and Social Sciences, Department of Psychology, International University of Sarajevo, Bosnia and Herzegovina

People experience both pleasant and unpleasant emotions when their minds wander. Many studies have found a link between mind wandering and anxiety. However, we still do not know what additional factors contribute to mind wandering and we are far away to understand the role of our cognitive and emotion regulation strategies on the outcomes of mind wandering. In this study, we aimed to understand the effects of anxiety and cognitive emotion regulation strategies on predicting voluntary-involuntary mind wandering among Turkish college students.

Three hundred fifty college students completed an online survey which includes Beck Anxiety İnventory (BEI), Cognitive Emotion Regulation Questionnaire (CERQ)-short version, Deliberate Mind Wandering (MWDQ) and Spontaneous Mind Wandering Questionnaire (MWSQ).

Correlation analysis revealed that participants' anxiety level was positively correlated with spontaneous mind wandering total score (MWS-T), yet it wasn't correlated with deliberate mind wandering total score (MWD-T). When CERQ subtitles were examined; CERQ-SB (self-blame), CERQ-R (rumination), CERQ-C (catastrophizing), and CERQ-BO (blaming others) were positively correlated with the MWS-T. However, CERQ-PR (positive refocusing) and CERQ-ROP (refocus on planning) were negatively correlated with the MWS-T. Likewise, CERQ-A (acceptance), CERQ-PR (positive refocusing), CERQ-ROP (refocus on planning), and CERQ-PRA (positive reappraisal) were positively correlated with the MWD-T. Hierarchical regression analysis revealed that occupation of participants significantly predicted deliberate mind wandering total score (MWD-T). Also, the study indicated that anxiety independently predicted spontaneous mind wandering total score (MWS-T). In addition, results showed that self-blame (CERQ-SB) which belongs to category of maladaptive CERS significantly predicted spontaneous mind wandering total score while catastrophizing (CERQ-C) which is another subcategory of maladaptive CERS significantly predicted spontaneous mind wandering total score. These findings were thoroughly discussed in the study's following sections.

Keywords: mind-wandering; involuntary-voluntary; cognitive emotion regulation strategies; anxiety

ADULT ATTENTION DEFICIT AND HYPERACTIVITY DISORDER: FOCUS ON GENDER

Özge Kılıç

Department of Psychiatry, Bezmialem Vakif University
Faculty of Medicine, Istanbul, Turkey

Attention deficit and hyperactivity disorder present with inattention, hyperactivity/impulsivity with additional symptoms during adulthood: emotional dysregulation, excessive mind-wandering, and executive dysfunction. While there is a definite male dominance in rates of ADHD in children, sex variations in rates are relatively minor or nonexistent in adult populations. Because of the higher incidence of ADHD in males, available data frequently focuses on primarily male samples. Nonetheless, data support that the large disparity in the ratio of males to females with diagnosed ADHD may be attributable to a lack of awareness and/or referral bias of females. The speaker aims to give a better understanding to enhance practitioners' detection and referral of females with ADHD. This talk will focus on offering practical guidance on the detection, evaluation, and interventions for females with ADHD throughout their lives.

Keywords: adult attention deficit and hyperactivity disorder; female gender

EXAMINING THE RELATIONSHIP BETWEEN PERFECTIONISM, INSOMNIA, AND DARK TRIAD PERSONALITY TRAITS IN ADULTS

Faruk Obuća

Faculty of Arts and Social Sciences, Department of Psychology, International University of Sarajevo, Bosnia and Herzegovina

Previous research has suggested that the dark triad personality traits, insomnia, and perfectionism are associated with various adverse outcomes. The purpose of this study was to assess the relationship between perfectionism, insomnia, dark triad personality traits, and sociodemographic variables, including age, gender, income level, marital status, and educational level. A total of 312 adults participated in the study. A sociodemographic data form, Frost Multidimensional Perfectionism Scale (FMPS), Sleep Condition Indicator (SCI), and The Short Dark Triad questionnaire (SD3) were administered.

The results indicated positive relationships between insomnia and perfectionism, perfectionism and Machiavellianism, and insomnia and psychopathy. Regarding sociodemographic variables, negative associations were observed between age and Machiavellianism, income level and insomnia, and income level and psychopathy. On the other hand, income level and educational level were both positively associated with narcissism. Gender differences have revealed that females scored higher on perfectionism, whereas males scored higher on psychopathy. The research on the associations between perfectionism, insomnia, and dark triad personality traits is still limited. The cross-sectional design of this study prevents stating any robust assumptions about the results. More research on this topic is required to clarify the associations between these variables further.

Keywords: perfectionism; insomnia; dark triad personality traits; psychopathy; Machiavellianism; narcissism