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Psychology Applications & Developments VIII

Edited by Clara Pracana & Michael Wang

Advances in Psychology and Psychological Trends

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Advances in Psychology and Psychological Trends Series

Edited by: Prof. Dr. Clara Pracana and Prof. Dr. Michael Wang

Edited by:

Prof. Dr. Clara Pracana
Portuguese Association of Psychoanalysis and Psychoanalytic Psychotherapy
Portugal

Prof. Dr. Michael Wang
Emeritus Professor of Clinical Psychology, University of Leicester
United Kingdom

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FOREWORD

inScience Press is pleased to publish the book entitled *Psychology Applications & Developments VIII* as part of the Advances in Psychology and Psychological Trends series. These series of books comprise authors' and editors' work to address generalized research, focused on specific sections in the Psychology area.

In this eighth volume, a committed set of authors explore the Psychology field, therefore contributing to reach the frontiers of knowledge. Success depends on the participation of those who wish to find creative solutions and believe in their potential to change the world, altogether, to increase public engagement and cooperation from communities. Part of our mission is to serve society with these initiatives and promote knowledge. Therefore, it is necessary the strengthening of research efforts in all fields and cooperation between the most assorted studies and backgrounds.

In particular, this book explores 5 major areas (divided into 5 sections) within the broad context of Psychology: Clinical Psychology, Educational Psychology, Social Psychology, Cognitive and Experimental Psychology and Psychoanalysis and Psychoanalytical Psychotherapy. Each section comprises chapters that have emerged from extended and peer reviewed selected papers originally published in the proceedings of the International Psychological Applications Conference and Trends (InPACT 2022) conference series (http://www.inpact-psychologyconference.org/). This conference occurs annually with successful outcomes, for that reason original papers have been selected and its authors were invited to extend them significantly to once again undergo an evaluation process. Subsequently, the authors of the accepted chapters were requested to make corrections and improve the final submitted chapters. This process has resulted in the final publication of 27 high quality chapters.

The following present a small description of each section and the chapters' abstracts to provide an overall information on the contents of this book.

Section 1, entitled "Clinical Psychology", provides reviews and studies within various fields concerning relationship processes in clinical practice. Each chapter is diversified, mainly addressing topics related to individuals' well-being and improvement of quality of life.

Chapter 1: *Impact of Unilateral Hand Clenching on Cognition and Mood, and Potential Clinical Utility: A Review*; by Shannon Schierenbeck & Ruth E. Propper. Manipulations differentially activating the left or right cerebral hemisphere influence behavior in ways congruent with known theories of hemispheric lateralization of function. Determining under what conditions, and to

what extent, simple techniques can be used to alter mental and emotional state holds considerable appeal because methods might be used as adjuncts to other tactics to mitigate negative affect in clinical situations, or to improve cognition in neurocognitive impairment. One method demonstrating promise for altering cognition and emotion, and that could be used in home-settings, is sustained unilateral hand clenching. The goal of the present paper was to analyze the literature to examine i. typical methods used for this manipulation; ii. what types of tasks/domains are impacted and iii. whether one versus the other hemisphere, is particularly affected by manipulation. A literature search was conducted using relevant search terms, resulting in 24 articles. Across the literature, range of domains was examined, including memory, decision making, creativity, language, emotion, and social perception, with many examining more than one. Nine included neurophysiological measures. Results are discussed in terms of potential utility for clinical populations and the need for methodological consistency.

Chapter 2: *The Role of Personality, Contact, Modernization, and Terror Management in Ageism*; by Madison Herrington & Lilly E. Both. Several theories have been postulated as to why ageism towards older adults occurs, such as contact theory (i.e., the quantity and quality of contact with older adults), terror management theory (i.e., aging anxiety and fear of mortality), and modernization theory (i.e., a belief that the skills of older adults are obsolete). These multiple theories were examined by collecting online survey data from 291 undergraduate students. Hierarchical multiple linear regression analyses were conducted predicting ageist attitudes. The overall model was statistically significant and accounted for 63% of the variance. Both age and gender were found to be significant predictors; younger adults and men had higher scores on ageism. In addition, participants who reported lower quality of contact with grandparents during childhood, and lower scores on their current quality of contact with older adults were more likely to endorse ageist attitudes. Of the five personality factors, lower scores on Agreeableness were a significant predictor. Finally, anxiety towards ageing (measuring terror management theory) and perceiving older adults as a burden (measuring modernization theory) predicted ageism. According to these findings, all ageism theories had an impact on ageist attitudes, but modernization theory contributed the most unique variance to the model.

Chapter 3: *A Japanese Version of the Tendency to Forgive Scale - Translation, Reliability and Construct Validity*; by Katsunori Sumi. As a brief measure of trait forgiveness of others, the Tendency to Forgive Scale (Brown, 2003) has been widely used in research. The purpose of the present study was to provide preliminary reliability and construct validity data on the translation of the Tendency to Forgive Scale into Japanese (TTF-J). Data were collected from 320 Japanese college students (38.1% women; mean age 20.82 years, SD = 1.11). The one-factor structure of the TTF-J was confirmed with exploratory and confirmatory factor analyses. Both internal consistency reliability and test-retest

reliability over a 4-week period were acceptable. The construct validity of the TTF-J was supported by the hypothesized correlations with scores for hedonic and eudaimonic well-being, self-esteem, depression, anxiety, trait empathy, and trait anger. The findings of this study generally supported that the TTF-J is a useful measure of trait forgiveness of others.

Chapter 4: *Factors Responsible for the Onset of Depression in Young Adulthood: A Case Study*; by Farheen Nasir. Aim: This case study aimed to determine the factors for depression in young adulthood and design effective remedial measures. It is a single case study based on a male client of 28 years. Methods: The methods used to explore the case included the usage of Beck Depression Inventory (BDI) and projective techniques, namely Human Figure Drawing (HFD), Thematic Apperception Test (TAT) and Rorschach (ROR). Results: The results indicated moderate depression on BDI and various themes on projective analysis linked to parental conflict, strained interpersonal relations, use of defence mechanisms with neurotic personality characteristics leading to depression. Conclusion: The intervention designs were based on Cognitive Behavior Therapy (CBT), Parental Counseling and Supportive Therapy for externalization of interests, which resulted in gradual improvement.

Chapter 5: *Validation of the Czech Version of the Insomnia Type Questionnaire (ITQ)*; by Veronika Ondrackova Dacerova, Katerina Bartosova, & Veronika Vesela. Insomnia is one of the most common health problems patients face today. Nowadays, there are many diagnostic methods aiming to diagnose sleep disorders and insomnia from different aspects, mostly based on sleep characteristics such as sleep duration, time before falling asleep or early morning awakening, etc. Previous studies have shown that the characteristics of insomnia may not be limited to sleep but may be based on more permanent features of the patient's personality and life history. Researchers have identified significant heterogeneity in the clinical and biomarker characteristics of insomnia leading to subtypes without sufficient validity. The Dutch Insomnia Type Questionnaire aims to identify robust subtypes and thus reduce heterogeneity among insomnia. The aim of our research is to adapt the Insomnia Type Questionnaire into the Czech sociocultural environment and verification of its psychometric characteristics and mapping of subtypes of insomnia. Our research sample consisted of 1051 participants who completed ITQ online. The results of the internal consistency analysis indicated predominantly high internal consistency across scales. The obtained variables were included in the cluster analysis, which showed the presence of five different insomnia subtypes. The subtypes were largely equivalent to the subtypes in the original research.

Chapter 6: *Positive and Negative Aspects of the Borderline Personality Label for Transgender Youth*; Janine M. Ray, Olivia Mounet, Christina Cook, & Wallace Wong. Transgender youth experience societal stigma, rejection, and other psycho-social stressors associated with the crisis of their gender identity. Due to these struggles, the youth can present with suicidality, mood swings, fear of

abandonment, and identity disturbances – main features that are similar to borderline personality disorder (BPD) and its traits. We interviewed four transgender youths who were labelled as potentially borderline or were diagnosed with the disorder. The data was analyzed using a thematic qualitative research method resulting in several important themes. One theme across participants was anger at the mislabeling which slowed the investigation into their transgender concerns and affirmation journey. Another emergent theme was the BPD label can be helpful at times to externalize the symptoms for these youth. All participants acknowledged that the symptoms that match with BPD subsided with gender-affirming treatment and social transition. Findings can inform clinicians about the potential symptom overlap and raise awareness about both the extreme harm and some good that the label of BPD carries for transgender youth.

Chapter 7: *Evidence of Psychological Consequences of Racial-Ethnic Microagressions on College Students Over Time*; by Arthur W. Blume. College students of color face a variety of challenges including overt and covert racism on campuses. Racial-ethnic microaggressions constitute one source of covert racism that may negatively impact the mental health of students. Previous studies have investigated cross-sectional relationships of microaggressions with mental health but the potential longitudinal impact of racial-ethnic microaggressions upon mental health are poorly understood. To investigate the potential long-term mental health effects of microaggressions, a sample of 45 university students of color were recruited to participate in a one-year study examining microaggressions and mental health symptoms with the expectation that a significant positive association would be found for number of microaggressions with anxiety and depressive symptoms. Students completed the College Student Microaggressions Measure (CSMM) at baseline, and the Beck Anxiety Inventory (BAI) and Beck Depression Inventory (BDI) one-year later. Multiple linear regression analyses were conducted to test study hypotheses. Controlling for gender, total CSMM scores were found to be significantly and positively associated with total BAI scores (Full Model $R2 = .247$, $p < .01$) and with total BDI scores (Full Model $R2 = .244$, $p < .01$), supporting study hypotheses. Racial-ethnic microaggressions may constitute a long-term threat to the psychological well-being of students of color.

Chapter 8: *Dance as a Medium of Communication - Psychological and Social Aspects*; by Maja S. Vukadinović. In this chapter, we analyze dance as a medium of communication. Human body is the basic instrument of dance since the dancer communicates with others using his/her movements. As such, dance has a great potential to be a medium of communication of various feelings, needs, ideas, intentions, concepts and bodily sensations. Unlike those who dance spontaneously, professional dancers do not communicate the feeling that they are experiencing at that moment, but their movements show the specific feeling that is connected to the whole story imagined by the choreographer. As a medium of communication, dance articulates creative self-expression, body attractiveness and eroticism as well

as socialization and contact with another person. These aspects of what is communicated using dance are analyzed throughout the chapter. It is concluded that due to its complexity and universality dance represents a very rich and powerful means for those who need to communicate something either just by using rhythmical movement or by mastering a more symbolical system which can be found in dance as a form of art.

Chapter 9: *Risky Behavior in Adults Related to Gender, Age, and Children at Home*; by Janine M. Ray, Polina Kats-Kariyanakatte, Latrease R. Moore, & Kristine M. Jacquin. We predicted that having children at home would reduce risky behavior for women and men, but more so for women than men. More than 450 American adults of different genders, ages and ethnicities were recruited from Prolific. Participants completed a questionnaire to measure engagement in various forms of risky behavior throughout their lifetime, including illegal and risky sexual behavior. Differences in illegal behavior, risky sexual behavior, and other types of risky behavior were found between men and women, $F(3, 441) = 9.09$, $p < .0001$, partial $\eta 2 = .06$, with men reporting more risky behavior of all types. ANCOVAs were used to assess the relationships between gender identity further and having children and total risky behavior and illegal behavior; age was covaried. Significant interactions between IVs revealed that male participants with children at home engaged in significantly more risky sexual behavior, $F(1, 441) = 4.24$, $p = .04$, overall risky behavior, $F(1, 441) = 3.89$, $p = .049$, and illegal behavior, $F(1, 441) = 3.59$, $p = .059$, than those without children at home. For women, there was no relationship between having children at home and risky behavior, illegal behavior, or risky sexual behavior.

Chapter 10: *The Interplay Between Trait Emotional Intelligence and Factors of Distress in Endometriosis: Pain as Mediator*; by Nadia Barberis, Marco Cannavò, & Francesca Cuzzocrea. Introduction: Studies shown the importance of pain-related symptomatology in endometriosis, which has been linked to higher depression, anxiety, and stress. Furthermore, consistent findings revealed that pain symptoms do not always correlate with the severity of endometriosis, showing how psychological and emotional factors may influence pain perception. In this regard, Trait Emotional Intelligence (Trait EI) was found to be relevant for adjusting to chronic conditions. The current study sought to verify whether the association between Trait EI and General distress (GD; depression symptoms, anxiety symptoms, and stress) in people with endometriosis would be mediated by Pain. Methods: 276 women with endometriosis aged between 18 and 40 years old ($M=30.28$; $SD=6.07$) filled a protocol measuring Trait EI, Pain, and GD. Results: Present results showed that Trait EI was negatively related to Pain and GD, whereas GD was positively associated to Pain. Furthermore, Pain showed a mediation role in the relationship between Trait EI and GD. Discussion: Individuals low in Trait EI may have difficulty requesting support from significant others while dealing with pain-related symptomatology, which may favor the onset of internalizing symptomatology. Interventions may foster Trait EI to cope with pain and should screen for internalizing symptomatology to improve their efficacy.

Chapter 11: *Self-Destructive Behaviors in People with Mood and Personality Disorders: Its Role and Implications for Future Functioning in the Light of Repression-Sensitization Variable*; by Angelika Kleszczewska-Albińska. Personality and mood disorders influence everyday functioning throughout interference with situations and impediment of adaptive ways of coping with stress. They cause many problems relating to situations and people, and in many cases stay responsible for self-destructive behaviors. Self-injurious behaviors are related to self-esteem, social approval, and anxiety level. In the presented study the analysis of relations between data on self-destruction, self-esteem, social desirability, and anxiety level was conducted. A group of 100 respondents, including 79 women, and 21 men age 18-60 (M=31.91; SD=8.22) filled in set of questionnaires including Self-Destruction Questionnaire, Self-Esteem Scale, State Trait Anxiety Inventory, and Social Desirability Questionnaire. In the group of respondents there were 43 persons without clinical diagnosis, 22 people with mood disorders, and 35 respondents with personality disorders diagnosed by psychiatrists based on ICD-10 diagnostic criteria. A positive correlation between self-destructive behaviors and anxiety, and negative relationship with self-esteem, and social desirability were discovered. Persons diagnosed with personality disorders were more prone to high anxiety level and sensitization of emotional stimuli than were the people without such diagnosis. People without clinical diagnosis recruited quite frequently from repressors group.

Chapter 12: *The Impact of Happiness and Christian Faith on Youth's Resiliency in Times of the COVID-19 Pandemic*; by Getrude C. Ah Gang & Eric Manuel Torres. Youths with happiness and strong religious faith, it can be assumed, experience increased psychological resiliency when dealing with unforeseen and challenging events, such as the COVID-19 pandemic. To examine this assumption, a study was conducted involving 229 Christian youths, all students at public and private universities in Sabah, Malaysia. Participants had a mean age of 22.09 years (SD = 4.34) and were predominantly female (179; male = 49; undisclosed = 1). The study found that happiness contributed 4.7% of the variance of the participant's resilience, while their religious faith contributed 4.1%. Furthermore, the Christian faith showed a moderation effect on the effect of happiness on resiliency. To wit, youths with high levels of happiness and strong Christian faith demonstrated high resiliency, and this finding supports the abovementioned research assumption. Therefore, it is suggested that when facing life challenges, including the COVID-19 pandemic, young adults ought to create a positive ambience, e.g., promoting happiness, enhancing religious faith via daily prayer, perceiving faith as a source of comfort and life's purpose, and engaging in faith-based/church activities, as a way to strengthen resiliency.

Chapter 13: *The Island of Shame: A Micro-Social Perspective on the Impact of Shame on Maltese Psychotherapists*; by Greta Darmanin Kissaun & Marilyn Clark. Anthropological literature indicates that Malta, by virtue of its central position in the Mediterranean, is somewhat structured by codes of honour and shame (Bradford & Clark, 2012; O'Reilly Mizzi, 1994: Schneider, 1971). Despite the awareness of the potential negative effects of shame on the psychotherapeutic relationship (Gilbert & Procter, 2006; Rustomjee, 2009), shame in psychotherapy has been largely under-researched. The current study aimed to explore how Maltese psychotherapists understand and manage feelings of shame in a particular social context. A qualitative approach was taken to explore the individual perspectives of ten Maltese psychotherapists and data gathered from semi-structured interviews was analysed by means of Interpretative Phenomenological Analysis - IPA (Smith, Flowers, & Larkin, 2009, 2021). The findings indicated that feelings of shame and inadequacy were frequently experienced by Maltese psychotherapists in various professional contexts, including clinical supervision. The perceived impact of these dominant societal codes on therapists' sense of self and professional practice were considered. Supervisory needs of trainee psychotherapists, such as clinical supervisors' sensitivity to affect states and empathy for their shamed identity, were discussed. Suggestions as to how personal therapy and supervision can help psychotherapists deconstruct and normalise feelings of shame and inadequacy by linking them to social and cultural dynamics were put forth.

Section 2, entitled "Educational Psychology", offers a range of research about teachers and students and the learning process, as well as the behavior from a psycho-educational standpoint.

Chapter 14: *Will Psychological Factors Among Parents Affect their Choice of Parenting Style?*; by Yao Song & Raymond Wai-Man Chan. Parenting is vital to children's psychological development. Previous research mainly studied the impacts of parental control over child discipline but not the association between parental perceived controllability and parenting style. The purpose of this study was to fill up this gap. There were three independent variables to measure parental attributes on the control in this study, including self-efficacy, self-control, and perceived controllability over their children. A one-item scale measured parental efficacy: "How much can you do to control the time your child spends. "Parental self-control was measured by the frequency of mobile phone usage with absent-mindedness. Parental perceived controllability was measured by their child's expected time usage of mobile phones minus the child's exact time usage on a mobile phone. The difference indicated the strength of parental perceived controllability over child discipline. Result: Authoritative parenting was predicted by self-efficacy ($\beta=0.255$, $p=0.001$) and perceived controllability ($\beta=0.202$, $p=0.011$). Authoritarian parenting was predicted by a lack of self-control ($\beta=0.433$, $p<0.001$) but not self-efficacy ($\beta=0.024$, $p=0.745$). Permissive parenting was

predicted by both lack of self-control (β=0.488, p<0.001) and lack of parental perceived controllability (β=-0.167, p=0.019). Implication: Authoritarian and permissive parents may have more difficulties in controllability than authoritative parents. Recommendations for future parent education will be discussed.

Chapter 15: *Serial Mediation Models Testing the Effect of a School-Based Prevention Program on Smoking and Alcohol Consumption*; by Oľga Orosová, Beáta Gajdošová, & Jozef Benka. The aim of this study was to investigate the in/direct effect of the Unplugged program on smoking (S) and alcohol consumption (AC) in schoolchildren one year after the implementation of Unplugged within a Solomon four group design. A randomized control trial using the Unplugged program was carried out among schoolchildren (13.5 years, SD = 0.59; 47.5% girls, 1420 schoolchildren in total). The data collection was carried out immediately before implementing the program (T1, experimental and control group with a pre-test), immediately after implementing the program (T2), and a year after program implementation (T3). The direct effect of Unplugged on ACT3 was confirmed and this effect was moderated by the pre-test. However, such effect on S T3 was not found. The effect of Unplugged on ACT3 was serially mediated by meaningful participation in community (ComPart)T3 and satisfaction with oneself T3. Only one shortcut mediation effect of Unplugged on S T3 through ComPart T3 was confirmed. Teachers and school psychologists can promote schoolchildren's 'health-related behavior by encouraging them to do activities that are not limited to the school domain which allows them to experience success, belonging, developing satisfaction with oneself through the successful implementation of the Unplugged program.

Chapter 16: *Social-Emotional Competences, Positive Experience at School and Future Orientation: Development and Relationships in Primary School Children*; by Teresa Maria Sgaramella, Lea Ferrari, & Margherita Bortoluzzi. Studies on Social-Emotional Learning (SEL) have shown the benefits of acquiring these competencies on academic performance and current wellbeing and life success. The chapter aims to deepen the understanding on how these developmental assets may vary in primary school children together with the relationship of these patterns with positive experience at school. Additionally, studies on future time perspective show the relevance and impact of a positive orientation towards future throughout adolescence. A second study question will investigate what the possible role of Social-Emotional Competences (SECs) on attitudes and expectations towards future in primary school children. One hundred and fifty-four, 8 to 11 years old, primary school students participated in the study. Specific patterns seem to characterize younger and older primary school students. Specific relationships and patterns of association emerge between main dimensions of Social-Emotional Competences, Positive Experiences and belonging at school, and Future Orientation. The need to address these issues and dimensions early in primary school emerge, to identify vulnerable patterns and promote educational and prevention actions.

Chapter 17: *Preliminary Study on the Educational Effects of Online Moral Dilemma Discussions for College Students in Japan*; by Aya Fujisawa. This study focused on Japanese moral education for students in the teaching profession and empirically examined the educational effect of using online moral dilemma discussion (OMDD). As a pre-test, the participants filled up a questionnaire survey comprising the standard for public space (SPS) scales and communication skills (CS) by way of Microsoft Forms. Participants were then assigned to one of the following categories: paired OMDD, OMDD with five participants, and OMDD with five participants and a facilitator. Two Heinz dilemmas were used in OMDD as a topic of discussion. After the completion of OMDD, the post-test was carried out in the same way as the pre-test was. Accordingly, in the post-test for SPS, the score for "care for others" was significantly high, and the score for "egocentric" was significantly low. Regarding the result of multiple comparisons using the Bonferroni method, the OMDD score with five participants was determined to be higher than that of OMDD with five participants and a facilitator. Regarding CS, nonverbal, assertion, and discussion were significantly higher in the post-test. These results were discussed.

Chapter 18: *Clinical and Etiopathogenic Perspectives in Bipolar Affective Disorder*; by Mirela Dinică, Dan Alexandru Grigore, Ana Maria Cojocaru, & Simona Trifu. Bipolar affective disorder (BAD) represents a psychiatric pathology defined by changes in mood and voluntary activity, with a marked resonance on role functionality. Although it is relatively common, BAD is still an under-diagnosed disorder, mainly due to the misdiagnosis of unipolar depression. The diagnosis and treatment of BAD are two aspects of real importance, due to the high morbidity and mortality rates of this pathology, so an early identification of the symptoms and an individualized therapeutic approach improve the prognosis of the disease and, implicitly, the quality of life of the patients. Although the attitude of the general population in relation to psychiatric pathologies has had a positive evolution during the last years, towards the acceptance of these patients, the stigmatization is still present in the society. Along with stigmatization, the fluctuating awareness of the disease, the low adherence to treatment, the predisposition to engagement in activities with potentially negative consequences and the use of psychoactive substances represent factors that contribute to the decrease in the quality of life of patients with bipolar affective disorder.

Chapter 19: *Is Telecommuting for Everyone? - Telecommuting Attitudes and Personality: The Moderating Role of Education*; by Luís Andrade, Liliana Faria, & Ana Beatriz Marques. This study seeks to understand the impact of personality on attitudes towards telework, analyzing the moderating role of education in this relationship. The proposed hypotheses were tested by a linear regression model using data collected from 253 individuals of both sexes, aged between 18 and 75 years. It is concluded that there are personality traits that seem to make it easier to adapt to telework. The importance of applying the perspective of career construction in the processes of selection and management of individuals in the context of telework is discussed.

Section 3, entitled "Social Psychology", gives a glance on projects from a psycho-social perspective.

Chapter 20: *The Influence of Dependence on Social Networks on the Assertive Behavior of a Person*; by Valērijs Makarevičs & Dzintra Iliško. The requirement of assertive behavior in communicative professions is relevant for the field of medicine, pedagogy, politics and public service. The purpose of the study is to establish a link between assertive and non-assertive communicative behavior and addiction to social networks. For this purpose, Sheinov's tests were used, translated from Russian into Latvian. The results indicate to a high reliability of the translated version. The experiment involved 50 participants of Daugavpils University who study pedagogy. The study showed that the relationship between assertive behavior and social media addiction is non-linear. Statistically significant negative values of this relationship were obtained from assertive respondents in the age group under 30. In the same age group, statistically correct positive results were obtained, confirming the presence of such a dependence of non-assertive respondents of the same age group. The results of the study suggest possible changes in the content of courses intended for teachers and that can be used in trainings of assertive behavior.

Chapter 21: *A Cross-Cultural Competency Scale for International Assignees*; by Yoshitaka Yamazaki & Michiko Toyama. The aim of this study was to develop a cross-cultural competency scale based on perspectives from the experiential model of cross-cultural learning skills for successful adaptation of international assignees. The study involved 134 participants from 41 countries who studied at a graduate school in Japan, specializing in international relations and international management. Maximum likelihood exploratory factor analysis was conducted with varimax rotation, extracting three latent components of cross-cultural competency: building relationships, translation of complex information, and conflict management. To validate those components, confirmatory factor analysis was conducted with the same group of participants. Results showed acceptable levels of model fit, and the reliability of the three components ranged from 0.83 to 0.87. Accordingly, the cross-cultural competency scale developed in this study seems to be an effective measurement model to analyze cross-cultural competencies.

Section 4, entitled "Cognitive Experimental Psychology", delivers chapters concerning, as the title indicates, studies and research in the area of behavior regarding cognitive aspects.

Chapter 22: *Effects of Rotational Representation of Spatio-Temporal Cubes and Spatial Ability on Information Search*; by Hironori Oto, Kazuo Isoda, & Ichiro Hisanaga. The purpose of this study was to explore which rotational representation, viewpoint rotation or object rotation, is more useful in search task where perceptual interaction with the data being manipulated exists using a spatio-temporal cube displaying cultural collection data. The horizontal data plane of the cube

represented a geographical map, and the vertical axis represented time as an upward spatial dimension. Users manipulated the cube to identify the country and time period in which certain artworks with the characteristics specified in question items, i.e., coins or pottery, were most commonly used. In the viewpoint rotation condition, the background flowed along with a horizontal rotation, as if the users were moving around a stationary cube. In the cube rotation condition, the cube was rotated in front of the user's eyes, and the background did not change. Using spatial reference frame theory, we predicted that the advantage of viewpoint rotation, as described in imagery studies, holds true for the use of a visualization system in which the trajectory of the cube's rotation during manipulation was visible. Users were able to locate information more accurately when using viewpoint rotation. This was true for both users with high and low spatial abilities.

Chapter 23: *Reality in the Sphere of Meaning*; by Shulamith Kreitler. The paper deals with the issue of reality and especially with the conditions under which a sense of deviation from reality is likely to occur. Following a presentation of the major involved issues, two studies are described. Both are based on the Kreitler system of meaning which serves as the theoretical and methodological framework for the two empirical studies. Study 1 describes the dimensional questionnaire of reality which enables assessing the meaning assigned to reality and its components. Study 2 examines the impact of stimuli characterized by different combinations of contents on the sense of deviation from reality. The hypothesis about the matching of content distances and the evoked sense of deviation from reality was supported as well as the expected impact of the observer's conception of reality. It was found that the broader it is the higher is one's tolerance of deviations from reality and readiness to accept them as real.

Chapter 24: *The Impact of Enactment and Imagery Encoding on False Memory*; by Frédérique Robin & Canelle Garnier. The standard DRM task (Roediger & McDermott, 1995) has been adapted in order to generate memory errors for everyday life action lists (i.e. daily routines like "to make a coffee"). Therefore, the associated word lists have been replaced with thematically-related action lists. Each action list refers to a temporally-connected action routine, i.e. a script. In addition, we examined the effects of enactment and motor imagery encoding on false memories. Compared to the numerous studies on imagination effects on false memories, the enactment effect on the creation of false memories of thematically-related actions has not yet been tested. Therefore, we compared three experimental conditions: (1) a control condition, in which participants were asked to listen to all lists attentively; (2) an imagery condition, where participants were instructed to visualize themselves performing each action, presented orally; (3) an enactment condition, in which participants had to mime each action heard as if they were really performing it. The results confirmed the creation of false memories for associated action lists (scripted actions). Nevertheless, false memories were high and of the same magnitude under all encoding conditions. These findings are discussed in the light of the classical models of memory and embodied cognition theory.

Section 5, entitled “Psychoanalysis and Psychoanalytical Psychotherapy”, presents a chapter concerning Health Psychology.

Chapter 25: *Bipolar Affective Disorder: The Psychodynamic Approach of Etiology*; by Mariana Băncilă, Ana Maria Cojocaru, & Simona Trifu. This chapter represents an attempt to review recent studies on the etiology of bipolar affective disorder from a psychodynamic perspective. The multifactorial etiology of bipolar disorder, although recognized and empirically demonstrated, continues to generate difficulties in understanding because the individual contribution of these factors is generally low, most of them being not specific to bipolar disorder. During the last years, more and more studies focused on investigating the impact that environmental factors have in triggering bipolar disorder. Among these, traumatic childhood events seem to influence the risk of developing bipolar disorder, but the way this occurs remains unclear and needs further examination. The psychodynamic approach of etiology of bipolar disorder does not exclude the impact of genetic and biological factors, but the emphasis is placed on the unique significance that these stressors have for each patient. Exploring, from a psychodynamic perspective, the relational patterns and the defensive and adaptive processes that the patient calls upon can facilitate the understanding of the etiology and related therapeutic implications.

Chapter 26: *Socio-Emotional Competencies Across Adulthood: Stability, Changes, and their Role on Wellbeing Dimensions*; by Teresa Maria Sgaramella & Laura Foresta. Social and emotional learning is an integral part of human education and development and is the process through which everyone, children, and adults develop the skills, attitudes, and values necessary to acquire social and emotional competence. The main objective of the study was to observe how the different stages of the adult life are characterized by social and emotional skills. A second goal was to understand the relationships holding between Social and Emotional Competences (SECs), wellbeing experienced, and future time perspective. A total of 212 adults living in Northeast of Italy were surveyed for their Socioemotional skills, future time perspective, and wellbeing. According to their age, three groups were identified, including young adults, adults and middle adults. Results confirm the specificity of SECs across adult development. Regression-based mediation models evidence the role of SECs as mediator in the relationship between future time perspective and psychological wellbeing. Social and Emotional Learning (SEL) reveal as an integral part of adult education and lifelong learning and a guide in prevention and support actions.

Chapter 27: *Anxiety Disorders*; by Ionela-Anca Lungu, Ionuț-Stelian Popa, Florentina Mădălina Petcu, Ilinca Vlaicu, & Simona Trifu.
In modern society characterized by conflicts and crises, almost every person experience anxiety which is most often characterized by a diffuse, unpleasant feeling of fear, accompanied by symptoms such as headaches, sweating, digestive

discomfort, palpitations. Anxiety disorders are widely spread among the population, with a predilection for women in a ratio of 2:1 In most cases, anxiety disorders begin in childhood, becoming exacerbated in adulthood if not properly treated. Anxiety disorders differ from normal, everyday anxiety in that they involve anxiety that is much more intense (e.g., panic attacks), lasts longer (anxiety that persists for months or more, instead of fading after the stressful situation passes), or leads to phobias that affect your life. Being among the most common mental disorders that are associated with significant individual and social costs, this chapter aims at the theoretical and scientific approach to anxiety disorders.

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Prof. Dr. Clara Pracana
Portuguese Association of Psychoanalysis and Psychoanalytic Psychotherapy
Portugal

Prof. Dr. Michael Wang
Emeritus Professor of Clinical Psychology, University of Leicester
United Kingdom

CONTRIBUTORS

Editorial Advisory Board

Reviewers

Jennifer Bathaus, *São Francisco University, Brazil*
Lilly Both, *University of New Brunswick, Canada*
Maja Vukadinović, *Novi Sad School of Business, Serbia*
Raymond Wai-Man Chan, *City University of Hong Kong, Hong Kong*
Teresa Maria Sgaramella, *University of Padova, Italy*
Tetiana Zinchenko, *International association for the study of game addictions (IASGA), Switzerland*
Yoshitaka Yamazaki, *Bunkyo University, Japan*

Section 1
Clinical Psychology

Chapter #1

IMPACT OF UNILATERAL HAND CLENCHING ON COGNITION AND MOOD, AND POTENTIAL CLINICAL UTILITY: A REVIEW

Shannon Schierenbeck & Ruth E. Propper
Psychology Department, Montclair State University, USA

ABSTRACT
Manipulations differentially activating the left or right cerebral hemisphere influence behavior in ways congruent with known theories of hemispheric lateralization of function. Determining under what conditions, and to what extent, simple techniques can be used to alter mental and emotional state holds considerable appeal because methods might be used as adjuncts to other tactics to mitigate negative affect in clinical situations, or to improve cognition in neurocognitive impairment. One method demonstrating promise for altering cognition and emotion, and that could be used in home-settings, is sustained unilateral hand clenching. The goal of the present paper was to analyze the literature to examine i. typical methods used for this manipulation; ii. what types of tasks/domains are impacted and iii. whether one versus the other hemisphere, is particularly affected by manipulation. A literature search was conducted using relevant search terms, resulting in 24 articles. Across the literature, range of domains was examined, including memory, decision making, creativity, language, emotion, and social perception, with many examining more than one. Nine included neurophysiological measures. Results are discussed in terms of potential utility for clinical populations and the need for methodological consistency.

Keywords: hemispheric lateralization, unilateral hand clench, emotion, cognition.

1. INTRODUCTION

Delineating under what conditions, and to what extent, simple techniques can be used to alter mental and emotional state holds considerable appeal; for example, such methods might be used as an adjunct to other tactics to mitigate negative affect in clinical situations, or to improve cognition in neurocognitive impairment. Even slightly effective methods that could be easily initiated and sustained in private and as needed by individuals, rather than only within a laboratory or clinical setting, could potentially dramatically improve mental health in some populations.

If simply clenching and unclenching one versus the other hand can effectively alter emotion and cognition, this technique could offer patients an opportunity for non-pharmaceutical self-regulation, and potentially to increased self-efficacy, which is known to positively impact treatment effects. The goal of the present paper was to analyze the literature to examine i. typical methods used for this manipulation; ii. if and in what manner such movements alter cognition and/or emotion; iii. whether one versus the other hemisphere, and resultant alterations in behavior, are particularly amenable to such manipulation.

2. BACKGROUND

Manipulations that differentially activate the left or right cerebral hemisphere influence behavior in predictable ways. For example, increasing left, relative to right, hemisphere activity results in increased language ability, memory encoding, approach motivations, risk-taking, and attention to local details. Conversely, increasing right, relative to left, hemisphere activity is associated with superior spatial navigation, memory retrieval, withdrawal motivational states, risk-avoidance, and attention to global aspects of information. Some methods used to differentially activate the left or right hemisphere include mood induction (e.g.; Gable & Harmon-Jones, 2010) dichotic or monaural listening (e.g.; McCormick & Seta, 2012), unilateral gaze (e.g.; Propper, Brunye, Christman, & Januszewski, 2012), bilateral alternating gaze (e.g.; Christman, Garvey, Propper, & Phaneuf, 2003), unilateral finger tapping (e.g.: McElroy & Seta, 2004), unilateral hand clenching (e.g.; Goldstein, Revivo, Kreitler, & Metuki, 2010), unilateral nostril breathing (e.g.; Jella & Shannahoff-Khalsa, 1993) and sidewards body orientation (Drake, 1991).

For example, previous work has reported that unilateral nostril breathing might effectively alter cognitive processing in a manner consistent with hemispheric lateralization (e.g.: Jella & Shannahof-Khalsa, 1993; Niazi, Navid, Bartley, Shepherd, Pedersen, Burns, Taylor, & White, 20222022; Block, Arnott, Quigley, & Lynch, 1989; Saucier, Tessem, Sheerin, & Elias, 2004). Yogis in Ancient India initially proposed unilateral forced nostril breathing as a technique for somatic and psychological practices (Niazi, Navid, Bartley, Shepherd, Pedersen, Burns, Taylor, & White, 2022). Both Yogi practices and research reports have demonstrated that right nostril breathing results in higher arousal states, while left nostril breathing is associated with a more stress relieving state (Niazi, Navid, Bartley, Shepherd, Pedersen, Burns, Taylor, & White, 2022). Works from both Jella and Shannahof-Khalsa (1993) and Block, Arnott, Quigley, & Lynch (1989) reported that unilateral nostril breathing impacts spatial task performance, such that unilateral forced nostril breathing may enhance right hemispheric lateralized functions (Saucier, Tessem, Sheerin, & Elias, L., 2004). While unilateral nostril breathing may be a promising method for improved mood and cognitive task performance, it has not been sufficiently examined to determine its likely efficacy for home-based, clinical treatments, and comes with several limitations. For example, unilateral nostril breathing requires participants to breathe at a specific speed, and may be uncomfortable. Additionally, those with allergies, a deviated septum, or other common issues may not be able to participate in this method.

Although unilateral nostril breathing is not appropriate for self-administration at in-home use, another method that has demonstrated promise for altering cognition and emotion, and that could theoretically be used in the home-setting, is sustained unilateral hand clenching. Via increased activity of one versus the other hemisphere, sustained unilateral hand clenching may result in a processing bias toward the more activated, contralateral, hemi-cortex, and to a hemisphere-concordant change in behavior. Neurophysiologically, it has been proposed that unilateral hand clenching increases contralateral activity of cortical motor areas. This cortical activity has been suggested to spread beyond motor cortex, to frontal areas involved in emotion and cognition (e.g.: Harmon-Jones, 2006), resulting in a bias in performance and experience aligned with known lateralization of hemispheric functions associated with a given (more active) hemisphere (and the one that is contralateral to the hand that is engaging in unilateral clenching).

3. METHODS

A literature search was conducted using the search terms: “unilateral hand clench*” in conjunction with “cognit*”, “emotion*”, "perception", "behavior*" brain*, neuro* and “emotion* and cognit*” in various databases. 47,989 non-duplicate studies were found. The earliest article found was from 1993, and end date was 2021. Articles referencing single unilateral forced nostril breathing, facial contractions, or contractions of other muscles or body parts, or that did not discuss the effects of unilateral hand contractions on cognition or/and emotion were excluded. Hand clenching must have been in neurotypical individuals, and articles had to have been written in English. Articles must have described empirical research, not be a review article, and must have been peer-reviewed. Articles were further screened by reading the abstract and looking for mention of domains of cognition such as perception, memory, decision making, learning, language ability and/or attention, or references to emotion, affect, or mood. Twenty-one articles were removed after a full text screen. Three articles were excluded during data extraction, as their research orientation was ambiguous, and they were ultimately excluded. A total of 47,941 articles were removed for relevance, with the final article count 24 (See Figure 1 for Prisma [Liberati, Altman, Tetzlaff, Mulrow, Gãtzsche & Ioannidis, 2009]) exclusion and inclusion application. Populations included in this review consisted entirely of adults over the age of 18, as no studies are currently available with children or older adults.

4. RESULTS

Across the literature, a wide range of cognitive, perceptual, and emotional tasks were used, over many different areas. The majority of studies examined more than one domain. Nine included neurophysiological correlates of hand clenching: Six used electroencephalograph (EEG), 1 used EEG and evoked response potentials, 1 used Functional Near-Infrared Spectrography (fNIRS), and 1 used Functional Magnetic Resonance Imaging (fMRI). Hand clenching typically resulted in contralateral hemispheric activity (6 studies), though some studies reported ipsilateral activity as well (3).

Specific techniques/instructions for unilateral hand clenching included squeezing/clenching an item (most frequently a ball, 21 studies). Participants were most frequently instructed to ‘clench as hard as you can’ (13 studies), though there were deviations in this instruction. Most commonly, participants squeezed the object for 45 seconds, followed by 15 seconds of rest, in a series of repetitions that varied from 2- 4 times per condition being examined (16 studies), though some seemingly idiosyncratic methods were also used (see Table 1).

Twenty-one of the 24 studies controlled for handedness by including only right-handed individuals. Eleven of the 24 studies included an explicit control group, while the others compared various forms of clenching against each other.

In order to examine effects of hand clenching, 20 studies using various tasks tested performance with between-subjects designs, while 4 studies utilized within-subjects. Of the between-subjects studies 18 (90%) reported significant impacts of clenching on performance. Of the within-subjects designs, 3 (75%) reported significant effects.

Regarding emotion, 12 studies placed their findings within the context of affect. All significant findings were framed within known theories of hemispheric lateralization of emotion. Eight reported increased positive/approach emotions following right unilateral hand clenching, and 5 reported increased negative/withdrawal emotions following left unilateral hand clenching.

Regarding cognition, a wide range of domains were examined, including memory (4), attention (7), sports performance (3), language (1), creativity (3), social perception (4), and 2 that were unable to be classified. Much research examined more than one domain in a given article. Changes in these areas were consistent with known theories of lateralization of cortical functions.

Overall, 4 studies reported an impact of only unilateral right-hand clenching and 5 of only unilateral left-hand clenching, on behavior. Twelve reported an impact of both hand clenching conditions. Three reported no impact of hand clenching on performance.

Table 1.
Methodology as a Function of Study.

Authors	What was Clenched	How long they clenched
Andreau & Batán, (2018).	Two foam rubber balls (5 cm diameter)	45 seconds, relax for 15 seconds and then squeeze again for another 45 seconds. No instructions for squeeze strength
Baumann, Kuhl & Kazén (2005).	Soft ball	Experiment 1: Squeeze the ball for 1 minute Experiment 2: Squeeze 3 minutes. No instructions for squeeze strength
Beckmann, Fimpel, & Wergin (2021)	Racket grip or tennis ball	Squeeze racket or ball for 10-15 seconds Instructed to twice a second for 10–15 seconds with submaximal strength
Cross-Villasana, Gröpel, Doppelmayr & Beckmann (2016)	6 cm diameter soft rubber ball	45 seconds, relax for 15 seconds and then squeeze again for another 45 seconds. Instructed to squeeze the ball completely with all fingers.
Gable, Poole, & Cook (2013)	2.8-inch diameter rubber ball	45 seconds, relax for 15 seconds and then squeeze again for another 45 seconds. Instructed to squeeze as hard as they could
Goldstein, Revivo, Kreitler, & Metuki (2010).	7-cm diameter rubber ball	45 seconds, relax for 15 seconds and then squeeze again for another 45 seconds. Instructed to squeeze as hard as they could
Harlé & Sanfey (2015).	2-in. diameter rubber ball	45 seconds, relax for 15 seconds and then squeeze again for another 45 seconds. Instructed to squeeze as hard as they could
Harmon-Jones (2006)	5-cm diameter ball	45 seconds, relax for 15 seconds and then squeeze again for another 45 seconds. Instructed to squeeze as hard as they could
Hoskens, Masters, Capio, Cooke, & Uiga (2021).	Stress ball	45 seconds pre-task, ten blocks of 30 seconds during the task Instructed to firmly contract a stress ball at a self-paced rate
Mirifar, Cross-Villasana, Beckmann, & Ehrlenspiel (2020)	6 cm diameter soft rubber ball	Squeeze for 45 seconds Instructed to squeeze the ball completely with all fingers.
Moeck, Thomas & Takarangi (2020)	A moderately hard stress ball 6.37 cm diameter	45 seconds, 15-second rest Instructed to "squeeze the ball on-and-off, as hard as you can"
Nicholls, Bradshaw, & Mattingley (2001).	Just hand	2.5 – 3.5 seconds, during presentation of each stimulus No instructions for squeeze strength
Peterson, Shackman, & Harmon-Jones (2008)	Ball	45 seconds, relax for 15 seconds and then squeeze again for another 45 seconds. Instructed to squeeze as hard as they could
Peterson, Gravens, & Harmon-Jones (2010)	Toy ball	45 seconds, 15-second rest Instructed to squeeze as hard as they could
Propper, McGraw, Brunyé & Weiss (2013)	5cm diameter rubber ball	45 seconds, relax for 15 seconds and then squeeze again for another 45 seconds. Instructed to squeeze as hard as they could
Propper, Dodd, Christman, & Brunyé (2017)	Two pink, 5 cm diameter rubber racquetballs	45 seconds, relax for 15 seconds and then squeeze again for another 45 seconds. Instructed to squeeze as hard as they could
Prunier, Christman, & Jasper (2018)	Hand dynamometer	45 seconds, relax for 15 seconds and then squeeze again for another 45 seconds. Randomly assigned to squeeze the hand dynamometer at 0%, 25%, 50%, 75%, or 100% of their baseline maximum squeeze strength.
Rominger, Papousek, Fink, & Weiss (2014).	Customary training gripper	60-seconds total, followed by 60-second relaxation period No instructions for squeeze strength
Schiff & Truchon (1993)	2.5in diameter Rubber ball	45 seconds, relax for a few seconds, four times. No instructions for squeeze strength
Schiff & Lamon (1994)	2.5in diameter sponge ball	45 seconds, then relax, four times with intervals of 10 to 15 seconds between each contraction. Instructed to squeeze as hard as they could.
Schiff, Guirguis, Kenwood & Herman (1998)	5.08-cm diameter rubber ball	45 seconds, relax for 15 seconds and then squeeze again for another 45 seconds. Instructed to squeeze as hard as they could
Stanković & Nešić (2020)	Dynamometer	45 seconds, relax for 15 seconds and then squeeze again for another 45 seconds. Instructed to squeeze "as firmly as possible"
Turner, Hahn, & Kellogg (2017)	Tennis ball	45 seconds, relax for 15 seconds and then squeeze again for another 45 seconds. Instructed to squeeze as hard as they could
Walz, Doppl, Kaza, Roschka, Platz, & Lotze (2015)	Rubber ball	Instructed to press the ball with a target force of 33% MVC and 1 Hz clenching rate.

Figure 1.
Prisma inclusion/exclusion application.

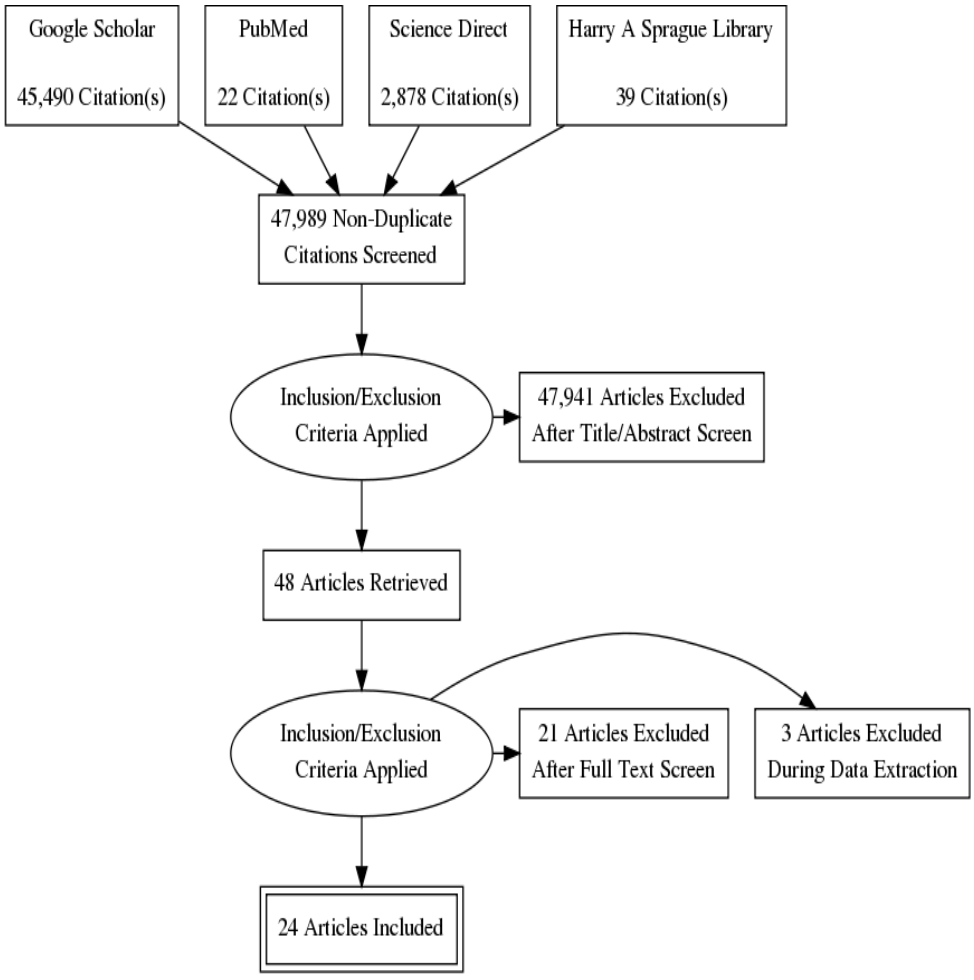

Table 2.
Effect Sizes and Control Groups.

Authors	Effect Size (Cohen's d, unless otherwise stated)	Controlled for Handedness of Participants
Andreau & Torres Batán, (2018).	● Experiment 1: ○ R/L vs R/R: .94[1] ○ R/L vs. L/R: 1.9 ○ R/L vs. N/N: 1.39 ● Experiment 2 ○ R/R vs. R/L: .81 ● Experiment 3 ○ No differences among conditions ● Experiment 4 ○ R/L vs L/R: 1.21 ○ R/L vs. L/L: 1.9 ○ R/L vs. N/N: .9	[1]*Right-handed participants only (assessed via Edinburgh Handedness Inventory[3])
Baumann, Kuhl & Kazén (2005).	● Experiment 1: ○ Source discriminability x left-hemispheric activation: .79 ○ Source discriminability x right-hemispheric activation: .69 ● Experiment 2: ○ Source discriminability x left-hemispheric activation: .79 ○ Source discriminability x right-hemispheric activation: .95	*Right-handed participants only (assessed via Edinburgh Handedness Inventory)
Beckmann, Fimpel, & Wergin (2021)	● Homogeneity of groups: .31 ● Cognitive Anxiety left and right hand group ○ Pre-test: .76 ○ Post-test: .41 ● Somatic Anxiety left and right hand group ○ Pre-test: .6 ○ Post-test: .18 ● Accuracy left and right hand group ○ Pre-test: .32 ○ Post-test: .5	*Right-handed participants only (assessed via self-report)
Cross-Villasana, Gröpel, Doppelmayr & Beckmann (2016)	● Alpha amplitudes before contractions vs during contractions: .74 ● Alpha amplitudes before contractions vs after contractions: .92 ● Alpha amplitudes during contractions vs after contractions: 1.27	Right-handed participants only (assesse via Edinburgh Handedness Inventory)
Gable, Pool & Cook (2013)	● Errors to local targets after left vs. right hemisphere activation: .51 ● Errors to global targets after left vs. right hemisphere activation: .3	Right-handed participants only (assessed via self-report)
Goldstein, Revivo, Kreitler, & Metuki (2010)	● Line bisection index following right vs. left hand contractions: .74 ● Post-test line bisection trials: .83 ● Left hand contraction group vs. right hand contraction group: .59 ● Left hand contraction group vs. control group: .032	*Right-handed participants only (assessment not stated)

Authors	Effect Size (Cohen's d, unless otherwise stated)	Controlled for Handedness of Participants
Harlé & Sanfey (2015).	● Effect size, mean, SD not listed.	*Right-handed participants only (assessment not stated)
Harmon-Jones (2006)	● Asymmetry following left vs. right hand contractions ○ Mid-frontal: .51 ○ Lateral frontal: .004 ○ Anterior temporal: .39 ○ Central: .53 ○ Parietal: .51 ○ Posterior temporal: .27 *Effect size, r	Right-handed participants only (assessment not stated)
Hoskens, Masters, Capio, Cooke, & Uiga, (2021)	● Self-report technique change ○ Left vs. Right: .11 ○ Left vs. Control: .18 ○ Right vs. Control: .28 ● Recall accuracy ○ Left vs. Right: .38 ○ No listed SD for control group.	[2]*Right-handed participants only (assessed via self-report)
Liu, Shan, Zhang, Sahgal, Brown, & Yue (2003)	● Effect size, mean, SD not listed.	*11 right-handed and 1 left-handed (assessment not stated)
Mirifar, Cross-Villasana, Beckmann, & Ehrlenspiel (2020)	● Left dynamic handgrip pre- to post-test[4] ○ Frontal right- hemisphere: −0.41 ○ Frontal left-hemisphere: −0.47 ○ Temporal right-hemisphere: −0.56 ○ Temporal left-hemisphere: −0.62 ○ Sensorimotor right hemisphere: −0.50 ○ Sensorimotor left-hemisphere: −0.47 ○ Parietal Occipital-right-hemisphere: −0.60 ○ Parietal Occipital-left-hemisphere: −0.58 ● Right dynamic hand grip pre- to post-test ○ Frontal Right-hemisphere: 0.28 ○ Frontal Left-hemisphere: 0.17 ○ Temporal Right-hemisphere: 0.06 ○ Temporal Left-hemisphere: 0.08 ○ Sensorimotor right-hemisphere: 0.01 ○ Sensorimotor left-hemisphere: 0.08 ○ Parietal occipital-right-hemisphere: −0.21 ○ Parietal occipital left-hemisphere: 0.19 ● Electrodes pre- to post- test (left hand) ○ P2 - P1:−0.45 ○ F6 - F5: −0.43 ○ AF8 - AF7: 0.03 ● Electrodes pre- to post- test (right hand) ○ C6 - C5: 0.56 ○ T8 - T7: 0.43	Right-handed participants only (assessment not stated)
Moeck, Thomas & Takarangi (2020)	● Effect size, mean, SD not listed.	Right-handed participants only (assessed via Flinders Handedness Inventory)

Authors	Effect Size (Cohen's d, unless otherwise stated)	Controlled for Handedness of Participants
Nicholls, Bradshaw, & Mattingley (2001).	● Effect size, mean, SD not listed.	Right-handed participants only (assessed via Edinburgh Handedness Inventory)
Peterson, Shackman, & Harmon-Jones (2007)	● Effect on Aggression x Right Hand Clench: 3.05 ● Effect on Aggression x Left Hand Clench: 1.05 ● Left vs. Right Hand Contraction x Region ○ Frontal-polar: .09 ○ Midfrontal: .35 ○ Lateral-frontal (F7/8): .40 ○ Central (C3/4): .62 ○ Frontal-central (Fc3/4): .36 ○ Frontal-temporal (Ft7/8): .48 ○ Central-parietal (Cp3/4): .53 ○ Anterior temporal (T3/4): .43 ○ Posterior temporal (T5/6): .03 ○ Parietal (P3/4): .31 ○ Occipital (O1/2): .11 *Effect size, r	Right-handed participants only (assessment not stated)
Propper, McGraw, Brunyé & Weiss (2013)	● Written ○ Renc/Lrec vs. Lenc/Lrec: 1.19[5] ○ Renc/Lrec vs. Renc/Rrec: .84 ○ Renc/Lrec vs. Lenc/Rrec: 1.08 ○ NENR vs. Lenc/Lrec: .85 ○ NENR vs. Lenc/Rrec: .74 ● Hits ○ Renc/Lrec vs. Lenc/Lrec: 1.12 ○ Renc/Lrec vs. Lenc/Rrec: .98 ○ Renc/Lrec vs. Renc/Rrec: .64 ○ NENR vs. Lenc/Lrec: .90 ● Corrected scores ○ Renc/Lrec vs. Lenc/Lrec: .98 ○ Renc/Lrec vs. Lenc/Rrec: .81 ○ NENR vs. Lenc/Lrec: .82	*Right-handed participants only (assessed via Edinburgh Handedness Inventory)
Propper, Dodd, Christman, & Brunyé (2016)	● Left hemisphere O2Hb left vs. right clench: .71 ● Left hemisphere O2Hb Post clench: .9 ● Left vs. Right hemisphere O2Hb - Left hand clench: .32 ● Post-Left Clench: Left vs. Right hemisphere O2Hb: .2 ● Left vs. Right hemisphere O2Hb - Right hand clench: .53 ● Post-Right Clench: Left vs. Right hemisphere O2Hb: .67 ● Sadness - Baseline vs. Post-Left Clench: .45 ● Sadness - Baseline vs. Post-Right Clench: .25 ● Nervousness- Left hand vs. Right hand Post-Clench: .94 ● Calmness - Baseline vs. Post-Clench: .47	Right-handed participants only (assessed via self-report and Edinburgh Handedness Inventory)
Prunier, Christman, & Jasper (2017)	● Effect size, mean, SD not listed.	*Consistent vs Inconsistent handers (assessed via Edinburgh Handedness Inventory)
Rominger, Papousek, Fink, & Weiss (2014).	● Global figural creativity index x Pre and Post- Left-hand Contractions: .22 ● Global figural creativity index x Pre and Post- Right-hand Contractions: .1	Right-handed participant only (assessed via standardized hand skill test)

Authors	Effect Size (Cohen's d, unless otherwise stated)	Controlled for Handedness of Participants
Schiff & Truchon (1993)	● Left negative ○ Left vs. right hand: .69 ○ Left hand vs. control: .17 ○ Right vs. control: .51 ○ Left vs. overall: .34 ○ Right vs. overall: .36 ○ Control vs. overall: .16 ● Left Positive ○ Left vs. right hand: .2 ○ Left hand vs. control: .25 ○ Right vs. control: .04 ○ Left vs. overall: .15 ○ Right vs. overall: .06 ○ Control vs. overall: .08 ● Overall ○ Left vs. right hand: .25 ○ Left hand vs. control: .13 ○ Right vs. control: .38 ○ Left vs. overall: .03 ○ Right vs. overall: .02 ○ Control vs. overall: .17	*Right-handed participants only (assessed via six-item hand-usage questionnaire modeled after Porac and Coren (1981))
Schiff & Lamon (1994)	● Effect size, mean, SD not listed.	*Right-handed participants only (assessed via six-item hand-usage questionnaire modeled after Porac and Coren (1981))
Schiff, Guirguis, Kenwood & Herman (1998)	● Experiment 2 ○ Puzzle 1 - Left vs Right: .7 ○ Puzzle 1 - Left vs Control: .87 ○ Puzzle 1 - Control vs Right: 1.25 ○ Puzzle 2 - Left vs. Right: .89 ○ Puzzle 2 - Left vs Control: .88 ○ Puzzle 2 - Control vs Right: 1.29 ○ Puzzles 1&2- Left vs. Right: .89 ○ Puzzles 1&2 - Left vs Control: .99 ○ Puzzles 1&2 - Control vs Right: 1.43 ● Experiment 2 ○ Puzzle 1 - Left vs Right: .62 ○ Puzzle 2 - Left vs. Right: .88 ○ Puzzles 1& 2- Left vs. Right: .83	*Right-handed participants only (assessed via six-item hand-usage questionnaire modeled after Porac and Coren (1981))
Stankovic & Nesic (2019)	Intrahemispheric Condition: Match Trials ● Perception accuracy on the face-matching task ○ Happy vs. sad faces: 10.0 ○ Happy vs. neutral faces: 2.0 ○ Sad vs. neutral faces: 8.0 ● Reaction times on the face-matching task ○ Happy vs. sad faces: 3.09 ○ Right visual field vs. Left visual field: 1.50 Intrahemispheric Condition: Mismatch Trials ● Perception accuracy on the face-matching task	Right-handed participants only (assessed via Edinburgh Handedness Inventory)

	○ Left visual field vs. Right visual field: 2.0 Interhemispheric Condition: Match Trials ● Perception accuracy on the face-matching task ○ Happy vs. sad faces: 9.0 ○ Happy vs. neutral faces: 3.0 ○ Sad vs. neutral faces: 6.0 ● Reaction times on the face-matching task ○ Happy vs. sad faces: 5.09 ○ Happy vs. neutral faces: 6.2 ○ Sad vs. neutral faces: 1.0 Interhemispheric Condition: Mismatch Trials ● Visual field accuracy on the face-matching task ○ Across field vs. within field: 2.53	
Turner, Hahn, & Kellogg (2016)	● Line bisection task - Experiment 1 ○ Left vs. Right: .41 ○ Left vs. Control: .27 ○ Right vs. Control: .17 ● Line bisection task - Experiment 2 ○ Left vs. Right: 2.47 ○ Left vs. Control: 1.47 ○ Right vs. Control: 1.08 ● Line bisection task - Overall ○ Left vs. Right: 1.32 ○ Left vs. Control: .76 ○ Right vs. Control: .64	*Mixed-handed individuals and right-handed individuals (assessed via Edinburgh Handedness Inventory)
Walz, Doppl, Kaza, Roschka, Platz, & Lotze (2015)	● Effect size, mean, SD not listed.	Right-handed participants only (assessed via Edinburgh Handedness Inventory)

5. DISCUSSION

Sustained unilateral hand clenching demonstrates an impact on cognition and emotion in a manner aligned with known hemispheric lateralization of functions. Via increased activity of one versus the other hemisphere, sustained unilateral hand clenching may result in a processing bias toward the more activated, contralateral, hemi-cortex, and to a hemisphere-concordant change in behavior.

Three of the 24 studies (12.5%) found no effect of UHC. Several different rationales for these discrepant findings have been proposed, and include the possibilities that hemispheric activation was not achieved, or that the processes investigated used tasks that do not demonstrate sufficient lateralization. For example, Nicholls, Bradshaw, and Mattingley (2001) proposed that it may be possible that the general weakness of right hemisphere lateralization of spatial functions (here, measured via line bisection and discrimination of brightness), combined with the strong leftward bias for gray scales may have partly been responsible for null effects.

After completing six experiments, Moeck, Thomas, and Takarangi (2019) found that intermittent UHC had no effect on visuospatial attention asymmetries, as measured by a landmark test during and after UHC. Moeck, Thomas, and Takarangi (2019) argued there were no effects of UHC because the landmark test could be insensitive to changes in hemispheric activation that result from UHC. Thus, task characteristics could result in Type II error. Moeck, Thomas, and Takarangi (2019) further suggested muscle innervation itself could impact performance as a function of contralateral versus ipsilateral hand clench.

Finally, Hoskens, Masters, Capio, Cooke, and Uiga (2021) reported no effect of UHC on self-report or objective measures of verbal-analytical engagement. In fact, unlike other studies performance for hand contraction groups was worse than control groups. It was suggested that the UHC did not induce hemispheric asymmetry, a suggestion supported by findings from the line bisection results, which demonstrated no effect of hand clenching condition. Therefore, null findings in the three unilateral hand clenching studies may reflect, at the least, lack of hemispheric activation or lack of lateralization of functions examined.

Overall, there is some degree of consistency between studies in methodological instructions for clenching. The majority used a ball and required participants to squeeze it as hard as possible, for varying amounts of time, for varying numbers of repetitions. The idiosyncratic nature of other instructions makes between-study comparisons difficult; however it is notable that despite these inconsistencies in methodologies there is remarkable agreement between the reported results. Neurophysiological mechanisms underlying the impacts of unilateral hand clenching on performance have been proposed, and different techniques have been supportive of the hemispheric activation theory of UHC action.

It is notable that most of the literature reviewed here used both some form of control group and additionally controlled for other potential confounds, such as hand-use preference. Additionally the effect sizes within the literature for the impacts of hand clenching are, overall, very high. Taken as a whole, the research supports an impact of hand clenching on emotion, cognition, and performance, and has potential as a therapeutic adjunct.

6. FUTURE RESEARCH DIRECTIONS

Future research should examine the utility of unilateral hand clenching on cognition and emotion in clinical settings and populations. Sustained unilateral hand clenching might be a useful adjunct to traditional therapies in these circumstances. Future work should consider using a standardized method of hand clenching in order to further compare results between studies. One limitation of generalizing previous findings is that research mainly addresses young adults between the ages of 18 and 50. Future work should consider studying the effects of UHC on both younger and older populations. Older adults demonstrate greater inter-hemispheric interaction, which is generally thought to combat the effects of aging on cognitive processes (Fling, Peltier, Bo, Welsh, and Seidler, 2011). Children younger than age 10, on the other hand, tend to have decreased inter-hemispheric interaction (Banich, Passarotti, & Janes , 2010). How, and if, unilateral hand clenching would interact with these different cortical organizations could help to elucidate not only the impact of hand clenching on performance, but also brain mechanisms involved in lateralization generally (e.g., inhibitory versus excitatory colossally mediated hemispheric interaction).

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AUTHORS' INFORMATION

Full name: Shannon Schierenbeck
Institutional affiliation: Montclair State University
Institutional address: 1 Normal Avenue, Montclair, New Jersey, 07043, United States
Email address: schierenbecs1@montclair.edu
Short biographical sketch: Shannon recently graduated from Montclair State University with her Master of Arts in Clinical Psychology with a concentration in child and adolescent therapy. She is interested in research related to interventions for children who have experienced trauma. In her free time, she enjoys going for hikes with her dog, Riley, and volunteering with various mental health organizations.

Full name: Ruth E. Propper, Dr.
Institutional affiliation: Montclair State University
Institutional address: 1 Normal Avenue, Montclair, New Jersey, 07043, United States
Email address: propperr@montclair.edu
Short biographical sketch: Dr. Propper holds a Ph.D. in Cognitive Psychology, with specialization in Neuroscience, from the University of Toledo, Toledo, Ohio. She conducted her Postdoctoral Research

Fellowship under Drs. Alan Hobson and Robert Stickgold at Mass. Mental Health Center, Harvard Medical School, Department of Psychiatry, Laboratory of Neurophysiology. She is a Full Professor at Montclair State University, Montclair, NJ, where she is also the Director of the MSU-Kessler Internship Program and the Cerebral Lateralization Laboratory. Her research generally focuses on individual differences in lateralization of fronto-cortical functions, as well as in corpus callosum-mediated interhemispheric interaction. In addition to peer-reviewed publications and presentations, she has also written two fiction mystery books to teach the scientific method to children.

ENDNOTES

[1]Right Encoding/Right retrieval [R/R], Right Encoding/Left retrieval [R/L], Left Encoding/Left retrieval [L/L], Left Encoding/Right retrieval [L/R], None Encoding/None retrieval [N/N]
[2]Studies with a * denote the inclusion of a control condition in addition to controlling for hand dominance.
[3]The Edinburgh Handedness Inventory and Flinders Handedness survey are assessments intended to measure hand dominance in everyday activities.
[4]Effect sizes calculated by Mirifar, Cross-Villasana, Beckmann, & Ehrlenspiel (2020)
[5]Right Encoding/Right recall [Renc/Rrec], Right Encoding/Left recall [Renc/Lrec], Left Encoding/Left recall [Lenc/Lrec], Left Encoding/Right recall [Lenc/Rrec], None Encoding/None recall [NENR]

Chapter #2

THE ROLE OF PERSONALITY, CONTACT, MODERNIZATION, AND TERROR MANAGEMENT IN AGEISM

Madison Herrington & Lilly E. Both
University of New Brunswick, Canada

ABSTRACT
Several theories have been postulated as to why ageism towards older adults occurs, such as contact theory (i.e., the quantity and quality of contact with older adults), terror management theory (i.e., aging anxiety and fear of mortality), and modernization theory (i.e., a belief that the skills of older adults are obsolete). These multiple theories were examined by collecting online survey data from 291 undergraduate students. Hierarchical multiple linear regression analyses were conducted predicting ageist attitudes. The overall model was statistically significant and accounted for 63% of the variance. Both age and gender were found to be significant predictors; younger adults and men had higher scores on ageism. In addition, participants who reported lower quality of contact with grandparents during childhood, and lower scores on their current quality of contact with older adults were more likely to endorse ageist attitudes. Of the five personality factors, lower scores on Agreeableness were a significant predictor. Finally, anxiety towards ageing (measuring terror management theory) and perceiving older adults as a burden (measuring modernization theory) predicted ageism. According to these findings, all ageism theories had an impact on ageist attitudes, but modernization theory contributed the most unique variance to the model.

Keywords: ageism, terror management, modernization theory, contact theory, personality.

1. INTRODUCTION

Currently, the world is experiencing a rapidly ageing population (United Nations, 2019; World Health Organization, 2021). Between 2020 and 2050, the global population of people aged 60 and older is projected to approximately double from 1 billion people to 2.1 billion (World Health Organization, 2021). As population ageing continues, researchers have focused on understanding ageism. Butler (1969) defined ageism as a prejudicial bias by one age group towards another age group. Ageism can be present in different forms, such as discrimination, avoidance of older adults, and antilocution (i.e., spoken abuse such as statements of dislike, hostility, and opposition; Fraboni, Saltstone, & Hughes, 1990). Recently, a survey of 83,034 individuals in 57 countries found that one in every two people had moderate or high ageist attitudes, suggesting that ageism is a prevalent global concern (Officer, Thiyagarajan, Schneiders, Nash, & De La Fuente-Nunez, 2020). Several theories have been postulated as to why ageism occurs, such as contact theory (i.e., the quantity/quality of contact with older adults), terror management theory (i.e., anxiety and fear of mortality), and modernization theory (i.e., skills of older adults are seen as obsolete). Each of these theories will be examined in the current study.

2. BACKGROUND

According to the literature, contact theory suggests that contact with older adults is negatively associated with ageist attitudes and emphasizes the importance of intergenerational contact (Boswell, 2012; Chonody, Webb, Ranzijn, & Bryan, 2014). This theory stems from the contact hypothesis (Allport, Clark, & Pettigrew, 1954) and suggests that attitudes towards outgroup members can be improved by increasing contact with members of that group. Therefore, increasing intergenerational contact is suggested to improve ageist attitudes. However, other researchers have suggested that the quality of intergenerational contact may be a more important predictor of ageist attitudes compared to the frequency of intergenerational contact (Schwartz & Simmons, 2001).

Terror management theory suggests that ageist attitudes arise when individuals have greater anxiety towards ageing (Allan, Johnson, & Emerson, 2014; Boswell, 2012) and fear of death (Chonody et al., 2014; Galton, Hammond, & Stinchcombe, 2020). Becker (1997) highlighted that humans have the awareness that death is inevitable and manage their anxieties associated with death and dying by investing in a cultural worldview, preserving self-esteem, and pushing the thoughts and anxieties about death to the back of their mind. Since older adults are associated with greater susceptibility of disease and death, they can serve as reminders of death and can contribute to death anxieties (Martens, Greenberg, Schimel, & Landau, 2004). Therefore, individuals may psychologically distance themselves from older adults and adopt ageist attitudes to relieve their death anxieties. In addition, older adults can serve as reminders of the ageing process itself without being directly associated with the meaning of death (Lasher & Faulkender, 1993). Therefore, individuals with ageing anxiety may also adopt ageist attitudes.

Modernization theory suggests that older adults can be viewed as unimportant and of lower status in modernized societies (Yoon, Witvorapong, & Pothisiri, 2017). Therefore, individuals who view older adults as obsolete and as a burden are more likely to engage in ageist attitudes compared to individuals who do not (Huang, 2013; Yoon et al., 2017).

Other research on ageist attitudes has focused on demographic, personality, and individual characteristics. For example, gender differences are noted in ageism research; cisgender men score higher on ageist attitudes than cisgender women (Boswell, 2012; Chonody et al., 2014; Galton et al., 2020). In addition, researchers have shown that ageist attitudes are most negative and prevalent among younger adults, including college and undergraduate students (Gellis, Sherman, & Lawrance, 2003; Kimuna, Knox, & Zusman, 2005). In terms of personality, some researchers have found agreeableness and openness are significant predictors of less ageist attitudes (Allan et al., 2014; Galton et al., 2020), whereas other researchers have found that extraversion (Galton et al., 2020) and conscientiousness (Allan et al., 2014) are significant predictors of less ageist attitudes. In addition, significant negative correlations have been found between dispositional gratitude and ageist attitudes, and between gratitude and ageing anxiety (Allan et al., 2014). Given the global prevalence of ageism and the rapidly ageing population, it is important to identify predicters of age-related attitudes so that it may be possible to reduce ageism through intervention and education.

The current study aimed to examine ageist attitudes among undergraduate students towards older adults. Previous research in this area has selectively tested theories of ageism among undergraduate and college students (i.e., contact theory, terror management theory, and modernization theory). However, these studies have failed to examine the multiple different theories of ageism in one model. The current study investigated three proposed theories of ageism, along with the influence of personality factors and gratitude, to facilitate a comprehensive understanding of the predictors of ageism towards older adults among undergraduate university students.

3. METHOD

3.1. Participants

A convenience sample from undergraduate psychology classes at a Canadian east coast university was recruited via in-class announcements. A total of 291 participants completed the online survey, which was administered using Qualtrics, an online survey platform. The sample consisted of 214 women (73.5%), and 68 men (23.4%). The remaining 3.1% of participants identified as non-binary, transgender female, other, or chose not to disclose this information. Ages ranged from 18 to 48.58 years (M = 21.90; SD = 6.09). The majority of the sample reported being born in Canada (88.3%), whereas 11.7% of participants reported being born in another country. In addition, 70.8% of participants reported being born in a city, and the remaining participants reported being born in the countryside.

3.2. Measures

Demographic Questionnaire. Demographic variables (such as age, gender, religiosity) were measured using a self-developed questionnaire.

Contact. Participants were asked to indicate their past and present frequency of contact with grandparents and non-related older adults on a scale from 0 (*never*) to 8 (e*veryday*). They then rated the quality of their interactions on a scale from 1 (*not good at all*) to 10 (ex*cellent*). For example, if participants indicated that they currently had grandparents, they were asked, "*Currently, how often do you interact with your grandparents?*" and "*Currently, how would you rate the quality of interaction between you and your grandparents?*" Similar questions were asked about their past relationships with grandparents, and these questions were repeated for non-related older adults.

Big-Five Inventory-2 (BFI-2; Soto & John, 2017). Personality factors were measured using the BFI-2. The BFI-2 includes 60 items in total and uses a 5-point Likert scale ranging from 1 (*disagree strongly*) to 5 (*strongly agree*). The BFI-2 demonstrated good reliability for the five personality factors, including Extraversion (α = .87), Agreeableness (α = .75), Open Mindedness (α = .81), Conscientiousness (α = .85) and Negative Emotionality (α = .89).

Gratitude Questionnaire-6 (GQ-6; McCullough, Emmons, & Tsang, 2002). Gratitude was measured using the GQ-6. This measure contains 6 items that are scored using a 7-point Likert scale ranging from 1 (*disagree strongly*) to 7 (*strongly agree*). The GQ-6 demonstrated good reliability (α = .80).

Terror Management. The Collett-Lester Fear of Death Scale Version 3.0 (Lester & Abdel-Khalek, 2003) and the Anxiety About Aging Scale (AAS; Lasher & Faulkender, 1993) were used to measure terror management theory. The Collett-Lester Fear of Death Scale Version 3.0 contains 28 items and was modified to be scored using a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*very*). This scale demonstrated excellent reliability (α = .95).

In turn, the AAS contains 20 items which are scored using a 5-point Likert scale ranging from 1 (*disagree strongly*) to 5 (*agree strongly*). Several items on the AAS were reverse coded to indicate that higher scores meant more anxiety. This coding was a modification from the AAS scale (Lasher & Faulkender, 1993) because higher scores indicated lower anxiety on the original measure. Also, one other item was reverse coded because it appeared to us to be necessary for the direction of the scale and it improved the total reliability of the scale from .78 to .83.

Modernization Theory. The Survey of Knowledge and Attitudes on Elderly Issues (NSO, 2011 as cited in Yoon et al., 2017) was used to measure modernization theory. Items on this measure were gathered in accordance with Yoon and colleagues' (2017) research. This measure consists of 18 items, including 9 positively phrased statements and 9 negatively phrased statements about older adults. Positively phrased items were reverse coded to indicate that higher scores mean more modernization (i.e., the belief that the skills of older adults are outdated or obsolete). One item was re-written from "Older people belong in temples" to "Older people belong in institutions" to accommodate for cultural relevance. The overall scale demonstrated good reliability ($\alpha = .80$).

The Fraboni Scale of Ageism (FSA; Fraboni et al., 1990) was used to measure ageist attitudes. The FSA contains 29 items divided into 3 subscales: Antilocution (i.e., verbal expressions of dislike, hostility, and opposition), Discrimination, and Avoidance. The scale was originally scored using a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*); The current study retained the original 4-point Likert scale. Some items are reverse coded and higher scores indicate more ageist attitudes. The current study also reverse-coded one other item as it seemed appropriate for the direction of the scale and improved total reliability from .89 to .91. The overall FSA demonstrated excellent reliability ($\alpha = .91$), and the subscales were also acceptable (Antilocution $\alpha = .80$; Discrimination $\alpha = .72$; Avoidance $\alpha = .83$).

3.3. Procedure

Students were directed to the online survey platform if they wished to participate in the study. Before completing the survey, participants were given detailed information about the study (e.g., purpose and procedure), their rights (e.g., voluntary participation and confidentiality), their incentive (e.g., receive a half bonus mark in an eligible psychology class of their choosing), and were then asked to provide informed consent. Following informed consent, participants completed the demographic and contact measures, followed by the remaining measures in random order. The survey took about 20 minutes to complete and was anonymous.

4. RESULTS

Data were examined for outliers. One outlier was identified and was re-coded in keeping with Field (2018). A series of hierarchical multiple linear regression analyses was conducted predicting overall ageist attitudes, and each of the ageism subscales of Antilocution, Avoidance, and Discrimination. On the first step age and gender (men and women only as there were too few members in other gender groups) were added to control for their effects. On the second step religiosity, quantity and quality of interactions with grandparents and with older adults in both the present and the past were added. On the third step, personality factors including Extraversion, Agreeableness, Open Mindedness, Conscientiousness, and Negative Emotionality were added. On the fourth step, gratitude, fear of death, ageing anxiety, and modernization scores were added. Tolerance and variance inflation factors were within acceptable limits for all regression analyses.

Overall Ageism. The first regression analysis was conducted with the above variables predicting overall ageist attitudes. The model was statistically significant ($F_{(20,210)} = 17.94$, $p \leq .001$) and accounted for 63% of the variance.

The first step was statistically significant (R^2 = .12; $F_{(2, 228)}$ = 15.77, $p \leq .001$). Both age and gender were significant predictors of ageism. Younger adults were found to have higher overall ageism scores compared to older adults (β = -.20, sr^2 = 0.04). In addition, men had higher ageism scores compared to women (β =.28, sr^2 = 0.08).

The second step was statistically significant (ΔR^2 = .17, $Fchange_{(9, 219)}$ = 5.69, $p \leq .001$). The significant predictors at this step were quality of contact with grandparents during childhood (β = -.25, sr^2 = 0.03) and current quality of contact with older adults (β = -.18, sr^2 = 0.02). Therefore, participants who reported lower quality of contact with grandparents during childhood and participants who reported lower current quality of contact with older adults scored higher on ageist attitudes.

On the third step, personality factors were added and made a statistically significant contribution to the model (ΔR^2 = .10, $Fchange_{(5, 214)}$ = 6.81, $p \leq .001$). The significant predictor at this step was the personality factor Agreeableness (β = -.280, sr^2 = 0.05). Participants who scored lower on Agreeableness scored higher on ageist attitudes.

The final step of the model was statistically significant (ΔR^2 = .25, $Fchange_{(4, 210)}$ = 34.87, $p \leq .001$). Significant predictors at this step were anxiety about ageing (β = .29, sr^2 = 0.04) and modernization (β = .48, sr^2 = 0.14). Therefore, participants who scored higher on anxiety about ageing and participants who scored higher on modernization scored higher on ageist attitudes.

The adjusted R^2 of .596 suggests that approximately 60% of the variance in ageism is attributed to being younger, cisgender male, having lower quality of contact with grandparents during childhood, having lower current quality of contact with older adults, lower Agreeableness, higher anxiety about ageing, and higher degree of modernization.

Antilocution Ageism. Antilocution refers to spoken abuse that is rooted in misconceptions, misinformation, and/or myths about older adults (Fraboni et al., 1990). When Antilocution ageism was used as the dependent measure, the overall model was statistically significant ($F_{(20,210)}$ = 9.85, $p \leq .001$) and accounted for 48% of the variance. Each step of the model was statistically significant, but for brevity, only significant β and sr^2 will be reported here. Significant predictors of Antilocution ageism were age and gender. Younger adults were found to have higher Antilocution ageism scores compared to older adults (β = -.16, sr^2 = 0.03). In addition, men had higher Antilocution scores compared to women (β =.23, sr^2 = 0.05). Quality of contact with grandparents during childhood (β = -.31, sr^2 = 0.04) was also a significant predictor. Participants who reported lower quality of contact with grandparents during childhood scored higher on Antilocution ageist attitudes. The personality factor Agreeableness was also a significant predictor (β = -.23, sr^2 = 0.04). Participants who scored lower on Agreeableness scored higher on Antilocution ageist attitudes. Finally, both anxiety about ageing (β = .21, sr^2 = 0.02) and modernization (β = .42, sr^2 = 0.10) were significant predictors. Participants who scored higher on anxiety about ageing and participants who scored higher on modernization scored higher on Antilocution ageist attitudes.

The adjusted R^2 of .44 suggests that approximately 44% of the variance in Antilocution ageism is attributed to being younger, cisgender male, having lower quality of contact with grandparents during childhood, having lower scores on Agreeableness, and higher anxiety about ageing, and modernization scores.

Avoidance Ageism. Avoidance represents behaviours or preferences that indicate withdrawal from social contact with older adults (Fraboni et al., 1990). When Avoidance ageism was used as the dependent measure, the overall model was statistically significant ($F_{(20,210)}$ = 12.79, $p \leq .001$) and accounted for 55% of the variance. Again, each step of the model was statistically significant, but for brevity, only significant β and sr^2 will be

reported here. Significant predictors of Avoidance ageism were age and gender. Younger adults were found to have higher Avoidance ageism scores compared to older adults (β = -.21, sr^2 = 0.04). In addition, men had higher Avoidance scores compared to women (β = .22, sr^2 = 0.05). Quality of contact with grandparents during childhood (β = -.19, sr^2 = 0.02) was also a significant predictor. Participants who reported lower quality of contact with grandparents during childhood scored higher on Avoidance ageist attitudes. The personality factor Agreeableness was also a significant predictor (β = -.24, sr^2 = 0.04). Participants who scored lower on Agreeableness scored higher on avoidance ageist attitudes. Finally, both anxiety about ageing (β = .32, sr^2 = 0.05) and modernization (β = .40, sr^2 = 0.09) were significant predictors. Participants who scored higher on anxiety about ageing and participants who scored higher on modernization scored higher on avoidance ageist attitudes.

The adjusted R^2 of .51 suggests that approximately 51% of the variance in avoidance ageism is attributed to being younger, cisgender male, having lower quality of contact with grandparents during childhood, having lower scores on Agreeableness, and higher anxiety about ageing, and modernization scores.

Discrimination Ageism. Discrimination ageism signifies a more extreme and active prejudice including political rights, segregation, and intervention into the activities of older adults (Fraboni et al., 1990). When discrimination ageism was used as the dependent measure, the overall model was statistically significant ($F_{(20,210)}$ = 10.26, $p \leq .001$) and accounted for 49% of the variance. Again, each step of the model was statistically significant, but for brevity, only significant β and sr^2 will be reported here. Significant predictors of Discrimination ageism were age and gender. Younger adults were found to have higher Discrimination ageism scores compared to younger adults (β = -.17, sr^2 = 0.03). In addition, men had higher Discrimination scores compared to women (β =.32, sr^2 = 0.10). Current quality of contact with older adults (β = -.24, sr^2 = 0.03) was also a significant predictor. Participants who reported presently having lower quality of contact with older adults were more likely to score higher on Discrimination ageist attitudes. The personality factor Agreeableness was also a significant predictor (β = -.28, sr^2 = 0.06). Participants who scored lower on Agreeableness scored higher on Discrimination ageist attitudes. Finally, both anxiety about ageing (β = .22, sr^2 = 0.02) and modernization (β = .46, sr^2 = 0.13) were significant predictors. Participants who scored higher on anxiety about ageing and participants who scored higher on modernization scored higher on discrimination ageist attitudes.

The adjusted R^2 of .45 suggests that approximately 45% of the variance in discrimination ageism is attributed to being younger, cisgender male, currently having lower quality of contact with older adults, having lower scores on Agreeableness, and higher anxiety about ageing, and modernization scores.

5. DISCUSSION

The current study investigated multiple predictors of ageism. The influence of demographic characteristics, personality factors, and gratitude were explored in relation to ageist attitudes. In addition, the current study examined multiple theories of ageism (i.e., contact theory, terror management theory, and modernization theory) in one model.

Researchers have found that demographic characteristics are significantly associated with ageist attitudes. For instance, individuals who are younger in age (Gellis et al., 2003; Kimuna et al., 2005) and who identify as cisgender men (Boswell, 2012; Chonody et al., 2014; Galton et al., 2020) are more likely to display ageist attitudes. In accordance with the

literature, the current study found a significant negative correlation between age and ageist attitudes, and cisgender men scored higher on ageist attitudes compared to cisgender women. These results suggest that interventions targeting younger adults would be important to minimize ageist attitudes. In addition, interventions targeting ageist attitudes should consider the role of gender differences when addressing ageism.

Researchers have also found that personality factors and individual characteristics have been associated with ageist attitudes (Allan et al., 2014; Galton et al., 2020). The current study found that lower scores on agreeableness were a significant predictor of ageist attitudes, which is in accordance with the literature. In addition, previous researchers have found that lower scores on gratitude are a significant predictor of ageist attitudes (Allan et al., 2014). On the contrary, gratitude did not predict ageist attitudes in the current study. Future studies should continue to investigate the influence of interpersonal characteristics in relation to ageist attitudes as this may be an important area for intervention.

According to contact theory, intergenerational contact is negatively associated with ageist attitudes (Boswell, 2012; Chonody et al., 2014). The results of the current study support contact theory; however, our results emphasize the importance of the quality of intergenerational interactions as opposed to the frequency of contact. Some researchers have found that perceived quality of intergenerational contact, instead of frequency of intergenerational contact, is a stronger predictor of ageist attitudes (Drury, Hutchison, & Abrams, 2016). Although frequency of contact is highlighted as an important component of contact theory, the current study found no significant predictors of ageist attitudes among frequency of interactions with grandparents or older adults in childhood or currently in adulthood. What appears to be an important factor is the quality of interactions one has with grandparents and older adults. According to our results, lower quality of interactions with grandparents during childhood and with older adults during adulthood were significant predictors of ageist attitudes. These results highlight that having meaningful intergenerational interactions could be important factors to minimize ageist attitudes.

Terror management theory suggests that ageing anxiety (Allan et al., 2014; Boswell, 2012) and fear of death (Chonody et al., 2014; Galton et al., 2020) are positively associated with ageist attitudes. The results of the current study partially support terror management theory. Although no significant results were found between fear of death and ageist attitudes, ageing anxiety was found to be a significant predictor of ageist attitudes. These findings suggest that individuals who have higher anxiety about the ageing process are more likely to display ageist attitudes. These findings are in accordance with current research on terror management theory and ageing anxiety; individuals tend to distance themselves from reminders of mortality that provoke anxiety, such as older adults (Allan et al., 2014). These findings suggest that strategies to minimize ageing anxiety would be important interventions to minimize ageist attitudes.

Modernization theory (i.e., perceiving older adults as outdated, irrelevant, and as a burden) contributed the most unique variance to ageist attitudes in the present study. However, current research surrounding modernization theory and ageist attitudes is relatively understudied using empirical approaches and appears to be complex. For instance, Yoon and colleagues (2017) found that living in a modernized area was associated with both positive and negative perceptions towards the elderly. In turn, Yoon and colleagues' (2017) postulate that living in a capitalistic environment may cause adults to become more opinionated towards the elderly in both directions. With the ageing population and the shift towards modernized societies, modernization theory should be further investigated in relation to ageist attitudes.

6. FUTURE RESEARCH DIRECTIONS

The current study included several limitations, such as an uneven distribution of age and gender. A convenience sample of undergraduate university students was used, and the study was conducted online. These limitations impact the generalizability of the results. Future research should continue to investigate the various ageism theories with a more balanced gender distribution, wider age range, and adults with varying educational backgrounds. Moreover, future studies should employ one-on-one semi-structured interviews and/or focus groups. In addition, the current study found that the personality factor Agreeableness was a significant predictor of ageist attitudes; however, other researchers have found that Conscientiousness (Allan et al., 2014), Extraversion (Galton et al., 2020), and Openness (Allan et al., 2014; Galton et al., 2020) also predict ageist attitudes. Future research should continue to investigate the influence of personality factors and facets on ageist attitudes.

7. CONCLUSION

In conclusion, the current study supports that ageism is a multidimensional construct. Modernization theory contributed the most unique variance to ageist attitudes compared to other theories tested in the model. However, demographic factors (i.e., age and gender), contact theory (i.e., quality of intergenerational contact), terror management theory (i.e., aging anxiety), and Agreeableness were also identified as important significant predictors of ageist attitudes. Overall, this research adds to the growing body of literature that accounts for why ageist attitudes may exist and highlights various avenues for intervention. For instance, results of the current study may be useful for designing undergraduate curricula to better educate students and future employees to combat ageism. Ageing courses may introduce intergenerational contact, such as through volunteer work or field placements for course credit; integrating extended contact theory into educational courses would be recommended (Lytle & Levy, 2019; Wright, Aron, McLaughlin-Volpe, & Ropp, 1997). Extended contact theory states that knowing an in-group member has a close relationship with an out-group member could lead to more positive intergroup attitudes without necessitating in-person contact with out-group members. Therefore, educational programs integrating extended contact theory could potentially serve to minimize ageist attitudes (Drury et al., 2016). In addition, intervention strategies surrounding ageing anxiety would also be beneficial to minimize ageist attitudes. Finally, future research should continue to investigate and test the effects of modernization theory, as well as contact theory and terror management theory, on ageist attitudes.

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AUTHORS' INFORMATION

Full name: Madison Herrington
Institutional affiliation: University of New Brunswick
Institutional address: 100 Tucker Park Road, Saint John, NB E2L 4L5 Canada
Short biographical sketch: Madison Herrington is a Masters of Arts in Psychology candidate at the University of New Brunswick in Saint John, New Brunswick, Canada. She currently is a SSHRC scholar and works under the supervision of Dr. Lilly E Both invesigating predictors of ageist attitudes. Madison received her Bachelor of Science in Biology-Psychology from the University of New Brunswick. Madison has an interest in studying the perceptions and well-being of, and the quality of care provided to, older adults.

Full name: Lilly E. Both
Institutional affiliation: Department of Psychology, University of New Brunswick
Institutional address: 100 Tucker Park Road, Saint John, NB E2L 4L5 Canada
Short biographical sketch: Lilly E. Both is a faculty member in the Department of Psychology at the University of New Brunswick in Saint John, New Brunswick, Canada. She received her PhD in psychology from the University of Waterloo. She teaches courses in developmental psychology. Her current research interests include peer relationships and social skills across the lifespan, the relation between personality and subjective well-being, and coping styles. She has served as Chair of the Psychology Department, Acting Associate Dean of Graduate Studies, and as an elected member of the University of New Brunswick Senate in Saint John.

Chapter #3

A JAPANESE VERSION OF THE TENDENCY TO FORGIVE SCALE
Translation, Reliability and Construct Validity

Katsunori Sumi
Nagoya Institute of Technology, Japan

ABSTRACT
As a brief measure of trait forgiveness of others, the Tendency to Forgive Scale (Brown, 2003) has been widely used in research. The purpose of the present study was to provide preliminary reliability and construct validity data on the translation of the Tendency to Forgive Scale into Japanese (TTF-J). Data were collected from 320 Japanese college students (38.1% women; mean age 20.82 years, *SD* = 1.11). The one-factor structure of the TTF-J was confirmed with exploratory and confirmatory factor analyses. Both internal consistency reliability and test-retest reliability over a 4-week period were acceptable. The construct validity of the TTF-J was supported by the hypothesized correlations with scores for hedonic and eudaimonic well-being, self-esteem, depression, anxiety, trait empathy, and trait anger. The findings of this study generally supported that the TTF-J is a useful measure of trait forgiveness of others.

Keywords: forgiveness of others, trait forgiveness, measure, Japanese translation, reliability, construct validity.

1. INTRODUCTION

1.1. Forgiveness: Definitions and Measures

Forgiveness has been attracting considerable research attention in the field of psychology over the past few decades (Thompson & Snyder, 2019; Thompson et al., 2005; Tsang & Martin, 2021). Within the field of positive psychology, forgiveness is considered as an important character strength (Peterson & Seligman, 2004). Numerous studies have found links between individual health, well-being, and forgiveness and reported various antecedents, including intrapersonal and interpersonal variables as well as situational, especially transgression-related, variables (Tsang & Martin, 2021; Webb & Toussaint, 2020).

The literature abounds with definitions of forgiveness (McCullough & Root, 2005; Thompson & Snyder, 2019; Worthington, 2020). An accepted definition is a prosocial change in interpersonal motivations after a transgression from negative motivations such as avoidance and revenge to positive motivations such as benevolence (Tsang & Martin, 2021; Worthington, 2020). However, most scholars agree that forgiveness refers to a socially functional process and intrapersonal and prosocial change in thoughts, emotions, motivations, or behaviors (McCullough & Root, 2005; Tsang & Martin, 2021; Worthington, 2020). Furthermore, forgiveness is differentiated from pardoning, condoning, excusing, reconciling, and justifying (Thompson & Snyder, 2019; Tsang & Martin, 2021; Worthington, 2020). This inconsistency of definition may be caused by the multifaceted and complex nature of forgiveness, which involves an interpersonal phenomenon, despite being intrapersonally experienced by individuals (Tsang & Martin, 2021; Worthington, 2020). Indeed, there are

multiple perspectives of forgiveness, including not only trait or dispositional forgiveness and state or situational forgiveness but also forgiveness of others, self-forgiveness, forgiveness of situations, and intergroup forgiveness (Thompson & Snyder, 2019; Tsang & Martin, 2021; Worthington, 2020).

Corresponding to the diversity of definitions, many—and various—measures of forgiveness have been developed (Thompson & Snyder, 2019). The most frequently used forgiveness measures are self-report type to assess aspects of forgiveness, including trait and state forgiveness of others and the self (Thompson & Snyder, 2019; Tsang & Martin, 2021). Additionally, non-self-report type measures for behavioral, physiological, and chemical aspects have been used to indirectly assess forgiveness (Thompson & Snyder, 2019; Worthington et al., 2015). Commonly used self-report type measures include the Enright Forgiveness Inventory (Enright & Rique, 2004) to measure state forgiveness, and the Heartland Forgiveness Scale (Thompson et al., 2005), which has three subscales to assess trait forgivingness of self, others, and situations.

1.2. Tendency to Forgive Scale

Among the measures for diverse types and targets of forgiveness, the present study focuses on self-report measures of trait forgiveness of others. One such measure is the Tendency to Forgive Scale (TTF: Brown, 2003; Brown & Phillips, 2005); it is a brief measure of four items (e.g., "I tend to get over it quickly when someone hurts my feelings") designed "to capture individual differences in the tendency either to let go of one's offense experiences or hold on to them" (Brown, 2003, p. 761). The TTF items ask respondents to report on their typical responses to past offenses for assessing forgiveness as a disposition (Brown & Phillips, 2005). Translations of the TTF are available in several languages, including German (Weinhardt & Schupp, 2011), Chinese (Jia, Liu, & Kong, 2020), and Urdu (Javed, Kausar, & Khan, 2014).

The TTF has good psychometric properties; Brown (2003) reported adequate internal consistency reliability (Cronbach's $\alpha = .82$) and high test-retest reliability over eight weeks ($r = .71$). The TTF scores were correlated positively with scores for self-esteem and agreeableness, and negatively with trait anger, neuroticism, and depression for undergraduate students, supporting construct validity (Brown, 2003). Additionally, individuals' self-ratings on the TTF converged with their ratings by their romantic partners, and higher scores on the TTF were associated with lower accessibility of past offense experiences (Brown, 2003). Convergent validity was supported through a significant correlation with scores on the Transgression Narrative Test of Forgivingness, which is a scenario-based scale of dispositional forgiveness (Berry, Worthington, Parrott, O'Connor, & Wade, 2001), a positive correlation with scores for positive attitudes toward forgiveness, and a negative correlation with dispositional vengeance scores. Additionally, the discriminant validity of the TTF was confirmed through low relations with depression, life satisfaction, and state forgiveness, as a result of regression analysis (Brown & Phillips, 2005).

1.3. Purpose of the Study

The purpose of this study was to translate the TTF into Japanese (TTF-J) using a back-translation process and evaluate preliminary reliability and construct validity of the TTF-J. There is yet no sufficient accumulation of knowledge about forgiveness among Japanese people through questionnaire survey. A Japanese version of the TTF as a brief and coherent measure of trait forgiveness (Brown, 2003) is necessary for research of trait forgiveness of others in Japanese contexts; it is a measure that has been anticipated by practitioners and researchers in Japan.

After evaluating the dimensionality of the TTF-J, internal reliability was assessed using Cronbach's α. Based on the construct measured by the TTF (Brown, 2003) and the factor structure observed in the Chinese version of the TTF (Jia et al., 2020), a one-factor structure was hypothesized for the TTF-J. High test-retest reliability of the TTF-J over shorter retest intervals was expected because of the results of the previous study (Brown, 2003).

To assess construct validity, correlations of the TTF-J scores with scores on other well-validated measures were examined. In this study, following Cohen (1988) and de Vaus (2014), correlation coefficients were classified as low (.10 to .29), moderate (.30 to .49), and high (.50 to .69). As close relationships between forgiveness and well-being have been supported by previous studies (Tsang & Martin, 2021; Webb & Toussaint, 2020), the relationships were essential for the construct validity of the TTF-J. Building on theoretical traditions, well-being was considered as having two dimensions: hedonic and eudaimonic well-being (Deci & Ryan 2008; Ryan & Deci 2001). Hedonic well-being refers to pleasure and happiness, whereas eudaimonic well-being refers to optimal psychological and social functioning. Hedonic well-being was evaluated by assessing the three components of the tripartite model: life satisfaction, positive affect, and negative affect (Deci & Ryan, 2008; Ryan & Deci 2001). Additionally, self-esteem, which is closely linked to well-being (Diener, Oishi, & Ryan, 2013; Michalos, 2004), was employed to assess construct validity. Based on previous studies (Brown, 2003; Brown & Phillips, 2005) and a meta analytic review (Riek & Mania, 2012), it was expected that the TTF-J scores would be positively and low to moderately correlated with scores for life satisfaction, positive affect, eudaimonic well-being, and self-esteem, and negatively and moderately correlated with negative affect scores.

Depression and anxiety are the most common mental health difficulties (Ridley, Rao, Schilbach, & Patel, 2020); their negative relationships with forgiveness have been well-supported by studies (Tsang & Martin, 2021; Webb & Toussaint, 2020). Based on previous results (Brown, 2003; Brown & Phillips, 2005; Riek & Mania, 2012), the TTF-J scores would be negatively and low to moderately correlated with scores on depression and anxiety measures. Among the related factors of forgiveness, empathy and anger have been most frequently examined for association with forgiveness (Tsang & Martin, 2021; Riek & Mania, 2012). In the present study, trait empathy and trait anger as personality dispositions were assessed to examine construct validity. Based on previous studies (Brown, 2003; Brown & Phillips, 2005; Riek & Mania, 2012), the scores for each personality disposition was expected to have a low to moderate correlation with the TTF-J scores. Additionally, the TTF-J scores were expected to be positively and negatively correlated with scores for trait empathy and trait anger, respectively.

All hypothesized correlations for the construct validity of the TTF-J would support the convergence of the TTF-J and related measures. However, because these correlations were not so high as to show redundancy between the TTF-J and the measures, the correlations would also suggest that the TTF-J discriminates with the measures.

2. METHOD

2.1. Participants

The participants included 320 undergraduate students (38.1% women) from two colleges in two large cities in Japan (mean age 20.82 years, *SD* = 1.11, age range 18–28 years). All participants were informed about the purpose of this study, anonymity, and confidentiality. The participants agreed to voluntarily participate in the test sessions and complete the measures.

2.2. Measures

2.2.1. Japanese Translation of the Tendency to Forgive Scale

The original English version of the TTF was translated into Japanese using a back-translation process conceived by referring to several guidelines (e.g., Brislin, 1986; Beaton, Bombardier, Guillemin, & Ferraz, 2000; Sousa & Rojjanasrirat, 2011) with permission from Dr. Ryan P. Brown (personal communication, March 30, 2022). The items of the original version were translated into Japanese by a bilingual professor, and back-translated into English by another bilingual professor. A detailed comparison between the translation and back-translation was performed by two researchers. By repeating this procedure, acceptable consistency was achieved between them. The final translation of this procedure was confirmed by five Japanese graduate and undergraduate students.

The original TTF comprises four 7-point Likert items, with two reverse-scored items, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The items of the Japanese translation were answered using the same Likert scale as the original measure. All the items were summed after two items were reverse-scored, ranging from 4 to 28, with higher scores indicating greater trait forgiveness of others.

2.2.2. Other Measures

(1) Hedonic well-being

Life satisfaction was assessed using the Japanese version of the five-item Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985; Sumi, 2020; e.g., "I am satisfied with my life" in Japanese). The items are rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Higher scores on this measure indicate greater life satisfaction. The Japanese version had good internal consistency reliability (Cronbach's αs = .78 and .82), test-retest reliability over a 4-week interval (r = .73), factorial validity of the single factor structure, and convergent and discriminant validity based on correlations with scores on other well-being measures (Sumi, 2020).

Positive affect and negative affect were assessed using the Japanese version of the 12-item Scale of Positive and Negative Experience (Diener et al., 2010; Sumi, 2013, 2014). This measure has two subscales: the six-item positive affect subscale and the six-item negative affect subscale. Each subscale comprises a list of 6 adjectives (e.g., happy and sad). All items are rated on a 5-point Likert scale ranging from 1 (*very rarely or never*) to 5 (*very often or always*). Higher scores reflect more frequent experiences of positive or negative feelings. Both subscales of the Japanese version showed good internal consistency reliability (Cronbach's αs = .86 to .93), test-retest reliability over a 1-month interval (rs = .60 and .57), factorial validity of the separate factor structure, and convergent and discriminant validities evidenced by correlations with scores on other well-being and health-related measures (Sumi, 2013, 2014).

(2) Eudaimonic well-being

The Japanese version of the eight-item Flourishing Scale (Diener et al., 2010; Sumi, 2013, 2014) was used to assess eudaimonic well-being (e.g., "I am a good person and live a good life" in Japanese). The items of this measure include broad and important aspects of psychological functioning and are rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Higher scores indicate greater eudaimonic well-being. The Japanese version showed good internal consistency reliability (Cronbach's αs = .94 to .95) and test-retest reliability over a 1-month interval (r = .87), factorial validity of the single factor structure, and convergent and discriminant validities supported by correlations with scores on other well-being and health-related measures (Sumi, 2013, 2014).

(3) Self-esteem

As a measure of self-esteem, the Japanese version of the 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965; Yamamoto, Matsui, & Yamanari, 1982; e.g., "I feel that I'm a person of worth" in Japanese) was used. Each item has a 5-point response format ranging from 1 (*disagree*) to 5 (*agree*). Higher scores indicate greater self-esteem. The Japanese version showed factorial validity supporting the hypothesized one-factor structure (Yamamoto et al., 1982). Additionally, results from an analysis of preliminary data (Sumi, 2015) of 631 Japanese undergraduate students (42.8% women; mean age = 20.13 years, *SD* = 1.41) supported that the Japanese version had good internal consistency reliability (Cronbach's α = .88), test-retest reliability over a 4-week interval (*r* = .82), factorial validity of the single factor structure, and convergent and discriminant validities supported by correlations with scores on the Japanese version of the Satisfaction with Life Scale (*r* = .37), the positive affect subscale (*r* = 37) and negative affect subscale (*r* = -.40) of the Scale of Positive and Negative Experience, the Flourishing Scale (*r* = .58), and the depression (*r* = -.51) and anxiety subscales (*r* = -.35) of the Hopkins Symptom Checklist (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974; Sumi, 1997).

(4) Mental health difficulties

Depression and anxiety were assessed by the Japanese versions of the two subscales taken from the Hopkins Symptom Checklist (Derogatis et al., 1974; Sumi, 1997). The depression (e.g., "Feeling no interest in things" in Japanese) and anxiety subscales (e.g., "Feeling tense or keyed up" in Japanese) comprise 11 and seven items, respectively, and assess the frequency of symptoms during the past seven days on a 5-point Likert scale ranging from 0 (*not at all*) to 4 (*extremely*). Higher scores indicate more severe symptoms. Acceptable internal consistency reliability, factorial validity of the separate factor structure, and positive correlation with perceived stress were supported for both subscales (Sumi, 1997, 2007). Results of the analysis of preliminary data (Sumi, 2015) indicated the test-retest reliability over a 4-week interval of the depression (*r* = .83) and anxiety subscales (*r* = .75).

(5) Personality disposition

Trait empathy was measured using the 10-item scale, which was constructed to measure an individual's disposition to experience emotional empathy in social life in general for Japanese people (Hatanaka, 2003; e.g., "I sympathize easily with others" in Japanese). These items are rated on a 5-point Likert scale ranging from 1 (*disagree*) to 5 (*agree*). The scale comprises eight reverse-scored items. Higher scores reflect greater trait empathy. Good internal consistency reliability (Cronbach's α = .83) and unidimensionality were supported (Hatanaka, 2003).

To assess trait anger, the Japanese version of the 10-item Trait Anger Scale (Spielberger, 1996; Suzuki & Haruki, 1994; "I am a hotheaded person" in Japanese) was used. This scale assesses the overall tendency of an individual to experience anger under different situations. The items of the Japanese version are rated on a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). There are no reverse-scored items. Higher scores indicate greater trait empathy. The Japanese version had good internal consistency reliability (Cronbach's α = .84) and factorial validity of the single factor structure (Suzuki & Haruki, 1994).

2.3. Procedure

After obtaining informed consent from the participants, questionnaires were administered twice, four weeks apart (Time 1 and Time 2). At Time 1, all questionnaires were administered. At Time 2, all participants who participated in the Time 1 survey completed only the TTF-J. Ethical clearance for the study was obtained from the relevant ethics committee.

2.4. Data Analysis

First, the one-factor structure of the TTF-J was examined using factor analyses. For the analyses, participants at Time 1 were randomly, and equally, divided into two subsamples. Using data from one sample, an exploratory factor analysis using principal axis factoring was performed to explore the underlying factor structure of the TTF-J. Thereafter, a confirmatory factor analysis was performed to test the fit of the factor structure using data from the other sample. Second, internal consistency reliability was assessed using Cronbach's α. Third, test-retest reliability was examined through correlations calculated using the data at Time 1 and Time 2. Finally, construct validity was evaluated by examining correlations between scores on the TTF-J and other measures.

3. RESULTS

3.1. Factor Structure

To conduct factor analyses, participants were divided into two subsamples (*n*s = 180): Sample 1 and Sample 2. There was no significant difference between the subsamples in sex, $\chi^2(1, N = 360) = .83$, $p > .05$, and age, $t(407) = .35$, $p > .05$. Exploratory factor analyses were performed on the data for Sample 1 at Time 1 and Time 2. The Kaiser-Meyer-Olkin measures of sampling adequacy were .65 and .68, and Bartlett's tests of sphericity were 138.13 and 127.90 (*p*s < .001) for Time 1 and Time 2, respectively. These results showed that data sets were appropriate for the factor analysis. The results indicated that one factor was extracted with eigenvalues above 1.0, which accounted for 54.75% and 53.94% of the total variance at Time 1 and Time 2, respectively. The eigenvalues of the first three factors were 2.19, 0.79, and 0.66 at Time 1, and 2.16, 0.85, and 0.57 at Time 2. Hence, the one factor solution was also supported by an examination of the scree plot. As shown in Table 1, absolute values of the factor loadings of the four items were all more than .51.

Next, confirmatory factor analyses were performed using data from Sample 2 at Time 1 and Time 2. As showed in Table 2, the goodness of fit indices indicated an acceptable fit of the one-factor model to the data. Table 1 also showed the standardized factor loadings from the confirmatory factor analyses. All absolute values of the factor loadings were more than .49 and statistically significant (*p*s < .001). There was significant difference in the factor loading of Item 4 between Time 1 and Time 2 ($z = 2.12$, $p < .05$).

Table 1.
Factor Loadings for Exploratory Factor Analysis.

Item No.	Exploratory Factor Analysis of Sample 1 (*n* = 160)		Confirmatory Factor Analysis of Sample 2 (*n* = 160)	
	Time 1	Time 2	Time 1	Time 2
1	.75	.80	.65	.81
2	-.70	-.57	-.77	-.56
3	-.57	-.61	-.65	-.59
4	.51	.73	.49	.74

Note. Item 2 and 3 are reverse-scored items. For confirmatory factor analyses, standardized factor loadings are shown. All the factor loadings are significant at $p < .001$.

Table 2.
Goodness of Fit Indices for Sample 2 at Time 1 and Time 2 (n = 204).

	χ^2	df	GFI	AGFI	RMSEA	SRMR	NFI	CFI
Time 1	5.49	2	.98	.92	.06	.03	.96	.97
Time 2	2.88	2	.99	.95	.05	.03	.98	.99

3.2. Internal Consistency and Test-Retest Reliability

Table 3 shows the means, standard deviations, range of scores, corrected item-total correlations, Cronbach's αs, and test-retest correlation for the TTF-J at Time 1 and Time 2. There was little statistical difference between Time 1 and Time 2. Corrected item-total correlations were moderate to high (*r*s = .44 to .62). Cronbach's αs were acceptable (.73 and .75, respectively). There was a high correlation between TTF-J scores at Time 1 and Time 2 (*r* = .76).

Table 3.
Means, Standard Deviations, Range, Corrected Item-Total Correlations, Cronbach's αs, and Test-Retest Correlations.

	M	*SD*	Range	Range of CITC	Cronbach's α	Test-retest *r*	95% CI
Time 1	14.80	4.40	2–28	.44–.57	.73	.76	[.71, .80]
Time 2	15.10	4.36	2–28	.49–.62	.75		

Note: Range of CITC = the range of absolute values of corrected item–total correlations. All correlations are significant at $p < .01$.

3.3. Construct Validity

Table 4 shows the correlations between scores on the TTF-J and other measures at Time 1. In general, the TTF-J scores showed the hypothesized correlations with the scores on them, supporting the construct validity of the TTF-J. The TTF-J scores were moderately positively correlated with the scores on the Satisfaction with Life Scale (*r* = .33). Moreover, the TTF-J scores were low and positively correlated with the scores on the Positive Affect scale, Flourishing Scale, and Rosenberg Self-Esteem Scale (*r*s = .14 to .22) and low and negatively correlated with scores on the Negative Affect scale (*r* = -.19). Scores for depression and anxiety were low and negatively correlated with the TTF-J scores (*r*s = -.14 and -.16, respectively). There were low and positive correlation between scores for trait empathy and the TTF-J scores (*r* = .14). The Trait Anger Scale scores were moderately negatively correlated with the TTF-J scores (*r* = -.36).

Table 4.
Correlations between Scores on the TTF-J and Other Measures at Time 1.

Measure	*r*	95% CI	*M*	*SD*	Cronbach's α
Satisfaction with Life Scale	.33**	[.23, .42]	15.94	5.12	.78
Positive affect scale	.22**	[.11, .32]	21.85	4.52	.94
Negative affect scale	-.19**	[-.29, -.08]	17.41	4.75	.84
Flourishing Scale	.22**	[.11, .32]	35.97	7.17	.83
Rosenberg Self-Esteem Scale	.14*	[.03, .25]	32.02	7.09	.86
Depression scale	-.16*	[-.26, -.05]	25.30	9.90	.90
Anxiety scale	-.14*	[-.25, -.03]	15.05	5.09	.77
Trait empathy scale	.14*	[.24, .03]	33.96	6.52	.81
Trait Anger Scale	-.36**	[-.45, -.26]	22.06	5.57	.86

* $p < .05$. ** $p < .01$.

4. DISCUSSION

This study aimed to develop a Japanese version of the TTF, which is a brief and convenient measure of trait forgiveness of others. The results supported the preliminary reliability and construct validity of the Japanese version for the sample of Japanese university students. The results of the factor analyses support the expected one-factor structure. Although the factor structures have been previously confirmed for the Chinese version of the TTF (Jia et al., 2020), further cross-cultural study is needed to assess measurement invariance across cultures (Dong & Dumas, 2020). Additionally, although there was a difference in the factor loading of Item 4 between the two measurement sessions, the results support the temporal stability of the factor structure over a 4-week period.

Cronbach's αs indicated respectable internal consistency reliability of the TTF-J. The coefficients in the present study were below .80 and somewhat lower than the finding of Brown (2003). This result may be because of a greater influence of the small number of items in the measure (Pallant, 2020). As expected, the correlation between TTF-J scores at Time 1 and Time 2 was high. This test-retest correlation over a 4-week period indicates good test-retest reliability because the correlation is slightly higher than test-retest correlation over an 8-week period reported by Brown (2003).

The construct validity of the TTF-J is generally supported by the hypothesized correlations between the scores on the TTF-J and the other measures in the expected direction. The magnitude of these correlations indicates convergence and discrimination between the TTF-J and the other measures. Most scores for hedonic well-being, eudaimonic well-being, and self-esteem had the hypothesized correlations with the TTF-J scores. However, among the three hedonic well-being, the correlation with scores for negative affect was significant but lower than the hypothesized correlation based on previous studies (Riek & Mania, 2012). There were significant and negative correlations between scores on the TTF-J and the measures of depression and anxiety. As also expected, scores for trait empathy and trait anger as personality disposition were significantly correlated with the TTF-J scores. Like scores for negative affect, the correlations with scores for depression, anxiety, and trait empathy were slightly lower than those expected. It is not clear from the present data why these correlations were slightly lower than the findings of previous studies (Brown, 2003; Brown & Phillips, 2005; Riek & Mania, 2012). A cross-cultural approach would clarify these relationships to trait forgiveness of others (Hanke & Vauclair, 2016; Ho & Worthington, 2020; Karremans et al., 2011).

This study has some limitations. First, the study sample was limited to college students. The psychometric properties of the TTF-J should be further examined by using other groups such as workers, the elderly, and clinical samples. Second, time interval for test-retest reliability was four weeks. It is necessary to examine test-retest reliability over a longer time interval such as eight weeks similar to Brown (2003) and one year. Third, the validity of the TTF-J was assessed by examining convergence and discrimination. Further assessment of the validity, including predictive and concurrent validities, will be needed. Despite these limitations, the findings of the present study provide support for the preliminary reliability and validity of the TTF-J. This Japanese measure is a reliable and valid tool for assessing trait forgiveness of others for Japanese speakers as a simple and brief measure with low respondent burden which is available for wide research settings.

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AUTHOR INFORMATION

Full name: Katsunori Sumi
Institutional affiliation: Nagoya Institute of Technology
Institutional address: Gokiso, Showa, Nagoya, Aichi, Japan
Email address: sumi@nitech.ac.jp
Biographical sketch: Katsunori Sumi is a Professor of the Graduate School of Engineering at Nagoya Institute of Technology (Japan) from 2007. He received his Ph.D. from Nagoya Institute of Technology. He teaches behavioral science, applied psychology, and organizational behavior. He is currently engaged in the research on well-being and academic motivation. ORCID iD: 0000-0002-6395-1650. Researchgate: https://www.researchgate.net/profile/Katsunori-Sumi.

Chapter #4

FACTORS RESPONSIBLE FOR THE ONSET OF DEPRESSION IN YOUNG ADULTHOOD: A CASE STUDY

Farheen Nasir
Dr., Basic Science Dept. King Saud bin Abdulaziz University for Health Sciences, Alahsa, Saudi Arabia

ABSTRACT
Aim: This case study aimed to determine the factors for depression in young adulthood and design effective remedial measures. It is a single case study based on a male client of 28 years. Methods: The methods used to explore the case included the usage of Beck Depression Inventory (BDI) and projective techniques, namely Human Figure Drawing (HFD), Thematic Apperception Test (TAT) and Rorschach (ROR). Results: The results indicated moderate depression on BDI and various themes on projective analysis linked to parental conflict, strained interpersonal relations, use of defence mechanisms with neurotic personality characteristics leading to depression. Conclusion: The intervention designs were based on Cognitive Behavior Therapy (CBT), Parental Counseling and Supportive Therapy for externalization of interests, which resulted in gradual improvement.

Keywords: case study, depression, factors, interventions, young adulthood.

1. INTRODUCTION

Young adulthood, as defined by the Public Health Agency of Canada, is the time between the ages of 18-34, although new demarcation is also being done with the concept of emerging adulthood from 18-25 years of age (Arnett, 2000); where young people know the responsibilities of adulthood but still are in an exploratory phase, this is found more in western industrialized cultures. The transition from adolescence to adulthood (Jekielek & Brown, 2005) is growing into an independent person by completing studies, gaining financial freedom, and gaining an adult role of a worker, citizen, spouse, and parent. The transition can be an experience of growth and accomplishment combined with emotional maturity. However, for some, this transition is not very smooth, and people face various hurdles, especially when their life circumstances do not train them to lead an independent life while dealing with various aspects of life. To achieve this, parents must have a strong bonding with their children to know about their thoughts, fears and desires, thus guiding them appropriately for the real world, where fantasy does not always mingle well with reality and to avoid reality shocks. Many times, adolescents have high aspirations, and they want to please their parents at all costs; in the case where there is no strong understanding between the two children/adolescents start to hesitate in discussing their problems which results in other adverse outcomes. A study by Arnett (1995) on 300 young adults from around the nation with an age range of 18-29 years was done to explore their feelings and emotions while approaching adulthood; he discovered that most of them wanted to achieve independence while still being close to their families to get any support when required.

Depression in adolescence and young adulthood is becoming standard day by day; its causes can vary from person to person, but it is observed that a term college depression is also emerging (Sparks, 2019), it is an adjustment problem with symptoms like that of depression. However, if it remains unaddressed and unchecked, then it can lead to full-blown depression. Newly inducted college students have many anxieties and pressures, like adjusting to a new place, probably living alone for the first time and feeling homesick, dealing with the workload, new friends, and sometimes adjusting to different cultural values. If they do not have proper backup support apart from the financial one, then simple emotional insecurity can also trigger symptoms of depression. Recently British Psychologists have explored the "quarterlife" crisis, between 25-30 years of age, where young adults experience insecurities, disappointments, loneliness and depression (Hill, 2011).

A meta-analysis of a study on the psychological factors for the onset of depression (Fu et al, 2021) states cognitive theories highlight the role of thoughts in the development of major depression and the way a person looks at himself, others around him and the world, whereas psychodynamic perspective emphasizes the importance of attachment and interpersonal relationships. Simultaneously the behavioral perspective speculates a decline in positive feedback results in withdrawal behaviour which leads to depression.

If one looks at the cultural differences than interestingly in Psychology Today (Pogosyan, 2017) it has been stated that in West depression is attributed to biological factors as a result of which people are normally advised to distance themselves from the distressing factors which makes them ignore the environmental factors. Whereas in East social networks are encouraged, another hypothesis is they promote regulation of emotions which can be more functional than others. In western societies there are not enough adaptive strategies like reappraisal; learning to retell a story so that one can have a different set of emotions.

In a research article by Driessen & Hollon (2011) it is stated that Cognitive Behavioral Therapy (CBT) was found to be most effective treatment for depression and can be feasible alternate to antidepressants. CBT may produce more enduring effectiveness after termination because it produces change in thoughts which thus mediate later depression or relapse.

2. BACKGROUND

2.1. Case Introduction

The case is based on a young male adult named Ahmed (pseudonym), of 28years old, belonging to an upper-middle-class family. He was an only child to parents who did not have an excellent understanding between themselves. Mother had blamed the client for not listening to her pieces of advice earlier. Since his mother was a Psychology graduate, he asked her to take him to a psychologist who could help him overcome his problems.

2.2. Presenting Complaints

The young man had completed his studies of medicine but was very low in spirits to practice it. He showed a complete lack of interest in life and work, often being isolated and lazy without productive work. His problems were based on bodily symptoms along with cognitive distortions. He complained of being low in energy, often feeling lethargic, with a sad mood, he hardly practised his previous enjoyable activities, mostly liked to be isolated and avoiding friends and colleagues, with serious complaints against his parents.

2.3. History

Ahmed was an only child whom his mother highly pampered throughout his childhood. However, he has never been close to his father, who used to be more involved with his siblings than his son. His father was previously married but divorced and had a daughter from his earlier marriage which his son came to know later. During most of his childhood and early adolescence, Ahmed's family was financially stable, and he had enjoyed all the perks of that life. He was a studious child, and his mother had always emphasized good education and thus getting good grades. Finally, when the time came to enroll in a professional college, he was unable to get admission in his city. Despite his father's promises that he would try to get him enrolled in his city, he had to leave for a rural city that was quite different from the cultural, social and economic points of view.

He lived in a hostel there, but as he was highly pampered till age 18 and was neither educated nor trained for hostel life, he started developing problems. Initially, he was expected to be transferred back during his stay, but after 4-6 months, he got a reality check, and he was already lacking behind as half of the academic year had passed. Apart from that, he was also suffering from depressive symptoms as he was still unadjusted in that place, with no close friends and family to share anything. By the time he had to give the 1st final professional exams, he was in a panicky situation due to being unprepared; as a result, he failed and had to repeat 1st year of medical studies. When he went to his home on vacation, he did not share this with his parents. However, slowly and gradually, he started to feel low in self-esteem because achieving good grades had always been a sign of prestige and good self-esteem. He started to feel a lack of confidence and did not feel courageous enough to share his problems with his family. Although he had never been a talkative child, he started to become quieter, according to his mother.

Due to his current state, he could not perform well and again failed the 2nd year professional exam. After that, he was given the warning to clear the papers or would be expelled from the medical college. He had made a few friends in his class who were also there with him in the hostel by that time. He was able to clear the papers but not with flying colours. In this way, he continued his studies, and after this, he never failed any year completely, although sometimes there were few retakes of some of the papers, he was able to clear. His parents learned about his academic downfalls through a family friend, and they scolded their son for not telling them firsthand. Due to the lack of understanding within the family, Ahmed could never share his problems and frustration. During his medical studies, he had also tried to switch to computers, but after studying it for a few months, he returned to his previous field.

Once he had completed his five years of medical studies, he was supposed to do 1-year house job/residency; for this, he had the option of selecting the hospital of his own choice; therefore, he opted to return to his city. Nevertheless, he was not very confident about his knowledge as a medical graduate. After returning and meeting some of his old college friends, he realized that they all were working somewhere or had applied abroad for specializations as it had been two years since they had graduated; this further made him feel low. In the meantime, his father had suffered some financial losses, and his family had to give up some luxuries; they had to use public transport due to the non-availability of the family car. After wasting at least, a year, he decided to do his house job, and even in that, he took maximum time. Later, when he completed it, he kept on procrastinating in getting his certificate.

Meanwhile, his parents were worried that he was wasting his time instead of starting his professional life. Since in the East, there is a collectivistic culture, parents depend on their male children in old age, and as he was their only son, they wanted him to enter the work field as his father was retired now and his family was already facing some financial issues.

3. METHODOLOGY

3.1. Study Design

It is based on a single case study design.

3.2. Sample

Sample was based on a male client of 28 years age, unmarried and a medical graduate.

3.3. Assessment Tools

The client was assessed on BDI to assess his depression level and on projective techniques of HFD, TAT and ROR for the thorough exploration of his symptoms and personality traits from a psychodynamic perspective, since outwardly, his situation had improved a little as he had cleared his professional medical exams. However, he still found himself unwilling to do the house job or get involved in any other social interactions.

Beck Depression Inventory (BDI): It is used to screen and measure the severity of depression. It is a 21 items self-report inventory with multiple-choice response options, used for ages 13 to 80.

Human Figure Drawing (HFD): A test in which the person is asked to draw a human figure indicating that it is not a drawing test, and later, the drawing is analyzed for the parts, features and details to assess the personality.

Thematic Apperception Test (TAT): It is based on the concept of free association where the person is asked to make a story based on the ambiguous black and white scenes on cards. The story has to be based on what is happening, how the characters are feeling and what will happen in the end. Later the examiner analyzes the needs, motivation and insecurities/anxieties.

Rorschach (ROR): It is inkblot test based on ten cards; where the person has to respond to what he sees, and his gestures, tone of voice and verbatim is recorded, and the result is scored according to the selected scoring system.

3.4. Ethical Consideration

Informed consent was taken from the concerned client where he was shown the draft of the case study paper and all the identifying information was kept confidential.

3.5. Procedure

Initially, during the assessment and history taking, the client was called a week thrice to finish the assessment process quickly (in one week) with a precise diagnosis to start with the formal therapy sessions.

4. RESULTS

4.1. Case Conceptualization

Ahmed was given a safe environment for catharsis, free association and cognitive emotive exploration to reveal his current mental, physical and emotional status. He had the realization that he was suffering from depression and had asked his mother to take him to a psychologist as he wanted to overcome his problem. Thus, he showed some level of motivation which is highly important in treating psychological disorders. His main concern was the lack of emotionality for things, and he mostly felt numb and lethargic. He had several complaints against his parents as a result of which he felt angry with them. He was in a constant sad mood and had lost the sense of positive self-confidence. On initial assessment in BDI, his score was in the moderate level of depression, and his Global Assessment of Functioning (GAF) level was 61-70.

4.2. Outcome of the Projective Analysis

The assessment through projective techniques of Human figure Drawing, Thematic Apperception Test and Rorschach revealed a neurotic depressive personality with low energy and inadequate virility. His perception of the environment appeared to be strict, where parental figures were seen as highly controlling. He showed parental conflict, feelings of loneliness, with a need for affection. He showed proneness to introversiveness, where he used his inner life for basic gratification, resulting in emotional distancing and communication gap with significant others.

In order to deal with his anxieties and conflicts, he used the defences of internalization, fantasy and intellectualization. He felt guilt with a cry for help, where he linked with a higher authority (God). He also showed aggressive tendencies.

The overall personality structure was based on the need for perfectionism and high aspirational ideas with low behaviour output, resulting in a sad mood and low energy for work. The person had shown excessive imagination based on his past and expected future outcomes whereas, on the contrary, the present was not according to his internal desires. Therefore, instead of realistically facing the reasons and their consequences to work out for a better outcome, he had given in to his depressed mood and pessimism.

5. DISCUSSION

5.1. Course of Treatment and Assessment of Progress

The targeted symptoms were sad mood, parental conflict, low confidence and lack of energy for work. The applied interventions included Cognitive Behavior Therapy, Parental Counseling and Supportive Therapy for externalization of interests. Thesis research by Sharma (2002) showed that patients who received CBT showed more improvement in their depressive symptoms as compared to those who were just receiving the medications. *CBT*: The client was helped to make the fundamental connections between his assumptions/expectations and reasons behind his problems to overcome his feelings of negativity, isolation, low mood and low self-esteem. *Parental Counseling*: He was encouraged to build a healthy communication style with his parents to convey his concerns and listen to theirs. Both the parents were called separately with his informed consent to listen to their side of the story and make Ahmed's condition understood by them. *Supportive Therapy*: He was given small tasks of physical exercises to gain some energy through activity to overcome his lethargy. After getting positive results, he was asked to

make a list of doable tasks that he could manage to build up his confidence in his working ability. As he believed in the higher authority of Allah (God) as a Muslim and wanted to restart on prayers, therefore from spirituality/religiosity perspectives, he was encouraged to start prayers 1-2 times a day in the start and gradually go towards all the five-time prayers of the day. Since one of the used defence mechanisms was intellectualization, he was encouraged to read books; when he showed interest in doing it, he was guided towards some aimed to increase his psychological growth. The positive energy was further directed towards more demanding tasks like completing his house job, getting his certificate of successfully finishing his medical education, and later finding a job.

5.2. Follow-Up (How and How Long)

Once the initial phase of therapy had started, he used to come twice a week. Later after a gap of three months, gradually, the sessions were reduced to once a week for two months, and after noticeable progress in his symptoms and complaints, the client used to have a follow-up session first twice a month (for two months) and later once a month till one year. All sessions were of 45 minutes each. Gradually the client was terminated from the therapy with mutual consent as he was adjusting adequately with positive future aspirations. At the time of termination, his BDI score was in the range of ups and downs being considered as normal.

6. FUTURE RESEARCH DIRECTIONS

It is generally recommended for building a healthy parent-child relationship; from an early age, parents should try to build a strong bond with their children; simply by being available for the child's needs and making him feel secure. Bonding generates a close, safe connection between the two parties where no one should feel isolated in times of need or some emotional crisis. In the modern world, where people are already relatively isolated, especially after the Covid-19 pandemic, people need human connections to feel safe and secure both physically and emotionally.

When children are growing up parents, need to keep them realistic in dealing with different practical situations rather than creating dependency where children feel traumatized without the availability of their parents. At the same time, every child's personality strengths should be explored, and he/she should be motivated for those potentials of his/her to make important life decisions. All these ideas can be highlighted with practical examples through parental workshops in schools or clinics. Longitudinal research can be designed where childhood patterns and parental relationships can be explored and later rechecked in adolescence and young adulthood for any anxiety or mood disorders plus life satisfaction/adjustment.

7. CONCLUSION

In the light of the case mentioned above, it is determined that parents need to understand the personality aspects of their children from the growth and development viewpoints. Children need to be seen as separate entities of beings that need to get mature and adjusted in their chosen lives, and parents need to prepare them gradually in different phases starting from childhood to adolescence and then to young adulthood. However, parents need to establish bonding which is an attachment phenomenon and adequately happens only during the initial five years of life; if for some reason that time is lost, and then a close attachment between the parents and the child cannot be expected to be very

strong. Children need to be raised with realistic expectations so that the bridge between the expectations/aspirations can be crossed with realistic achievements. A healthy communication pattern among the family members is also something crucial for good parenting with optimistic outcomes.

Relationships in a family are built brick by brick early in life, and if one does not lay a sturdy foundation, then the built building will not sustain the rough weather of life circumstances and will collapse under just a few storms.

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AUTHOR INFORMATION

Full name: Farheen Nasir, Dr.
Institutional affiliation: King Saud bin Abdulaziz University for Health Sciences
Institutional address: King Abdullah Military City, Alahsa, Saudi Arabia

Short biographical sketch: Dr. Nasir is a PhD Clinical Psychologist from Karachi, Pakistan. Currently working as an Assistant Professor of Psychology in Saudi Arabia. She had worked as a psychologist in private practice for few years before getting engaged in full time teaching and research activities. She has numerous publications in various journals. She supervises the graduate and PhD level researches of the students.

Chapter #5

VALIDATION OF THE CZECH VERSION OF THE INSOMNIA TYPE QUESTIONNAIRE (ITQ)

Veronika Ondrackova Dacerova, Katerina Bartosova, & Veronika Vesela
Faculty of arts, Department or Psychology, Masaryk university, The Czech Republic

ABSTRACT
Insomnia is one of the most common health problems patients face today. Nowadays, there are many diagnostic methods aiming to diagnose sleep disorders and insomnia from different aspects, mostly based on sleep characteristics such as sleep duration, time before falling asleep or early morning awakening, etc. Previous studies have shown that the characteristics of insomnia may not be limited to sleep but may be based on more permanent features of the patient's personality and life history. Researchers have identified significant heterogeneity in the clinical and biomarker characteristics of insomnia leading to subtypes without sufficient validity. The Dutch Insomnia Type Questionnaire aims to identify robust subtypes and thus reduce heterogeneity among insomnia. The aim of our research is to adapt the Insomnia Type Questionnaire into the Czech sociocultural environment and verification of its psychometric characteristics and mapping of subtypes of insomnia. Our research sample consisted of 1051 participants who completed ITQ online. The results of the internal consistency analysis indicated predominantly high internal consistency across scales. The obtained variables were included in the cluster analysis, which showed the presence of five different insomnia subtypes. The subtypes were largely equivalent to the subtypes in the original research.

Keywords: insomnia, sleep, insomnia type questionnaire, subtyping.

1. INTRODUCTION

We can approximately determine insomnia prevalence in the population, which varies according to the diagnostic criteria used. We know that insomnia is to some extent heritable and we can identify genes that increase the risk for developing symptoms (Hammerschlag et al., 2017). Despite all the knowledge we have about insomnia, it can still be difficult to characterize it in a unified way because its picture is inconsistent in different domains, e.g., with respect to cognition, mood, personality, life history, imaging, etc. This diversity of manifestations suggests that there could be yet undefined subtypes of insomnia, each with its own specific profile of characteristics.

The identification of insomnia subtypes could be a potential benefit for clinical practice, as it could allow the selection of high-risk individuals for early preventive intervention. Reducing previously unrecognized insomnia heterogeneity through subtyping can then help elucidate the mechanisms of insomnia and the development of personalized insomnia treatment.

2. BACKGROUND

Previous efforts to define the different types of insomnia have been defined in a top-down fashion, focusing exclusively on sleep characteristics. Categories such as initial, intermediate, late, and mixed insomnia emerged, based on the most common patient complaints. The most widely used classification of subtypes distinguishes between sleep onset insomnia/difficulty initiating sleep (SOL/DIS), wake after sleep onset/difficulty maintaining sleep (WASO/DMS) and early morning awakening (EMA). This classification was used by Bjorøy, Jørgensen, Pallesen and Bjorvatn (2020) who divided insomnia into seven subtypes based on type of sleep difficulty reported: sleep onset insomnia (SOL-insomnia), sleep maintenance insomnia (WASO-insomnia), early morning awakening insomnia (EMA-insomnia) and combinations of these. They found that there are major differences between the insomnia subtypes, both regarding demographics, but also in terms of how the complaints may affect daily life. These common sleep problems are also reflected in some psychometric scales estimating the severity of problems, such as the Insomnia Severity Index (ISI) which has been shown to be a valid and reliable clinical tool to assess perceived sleep difficulties and to detect changes during treatment (Bastien, Vallières, & Morin, 2001). Hohagen et al. (1994) investigated the temporal stability of these subtypes of insomnia in a longitudinal study design. The results of this study indicate that subdividing insomnia into sleep-onset insomnia, sleep-maintaining insomnia and EMA probably may not be a useful tool for assessment of diagnosis for clinical and scientific purposes. The different patterns of insomnia showed low stability in the course of 4 months.

A different perspective on insomnia subtyping offers study of Vgontzas and Fernandez-Mendoza (2013). They found, that increased levels of cortisol and catecholamines were observed in those insomniacs with objective short sleep duration but not in those with "normal" sleep duration. These findings led to the hypothesis that there are two types of insomnia—the first associated with physiological hyperarousal (i.e., short sleep duration and activation of the stress system), and the second not associated with physiological hyperarousal or activation of the stress system (Vgontzas & Fernandez-Mendoza, 2013).

A review study by Benjamins et al. (2017) showed that the characteristics of insomnia need not be limited to sleep. Through a meta-analysis of previous research, they attempted to show that some subtypes of insomnia sufferers may differ from those who do not experience sleep difficulties, especially in terms of demographic characteristics, mental and physical health, the impact of childhood trauma, life events, fatigue, sleepiness, overexcitability, hyperactivity, also with regard to lifetime sleep history, chronotype, depression, anxiety, moods, quality of life, ability to regulate emotions, coping strategies, etc. The researchers hypothesized that clearer subtypes of insomnia disorder could emerge if they were developed with a bottom-up design, and were based on an analysis of the data collected, with a multidimensional set of stable, biologically based insomnia-related characteristics. Previous genome-wide association studies (Hammerschlag et al., 2017; Jansen et al., 2019) suggested that insomnia was genetically more closely associated with mood, personality, and life satisfaction attributes than with sleep-related phenotypes. Blanken et al. (2019) set out to investigate whether insomnia manifests in different subtypes that are reflected in a multidimensional pattern of stable characteristics such as life history, traits of positive and negative affect, and personality.

The Dutch Insomnia Type Questionnaire (Blanken et al., 2019) aims to identify robust subtypes and thus reduce heterogeneity among insomniacs. When developing the questionnaire, the authors set two main conditions, firstly they wanted the ITQ to be

applicable to the general population and therefore included the Insomnia Severity Index (ISI) so that individuals showing features of insomnia could be identified. Secondly, the authors wanted the ITQ to contain as few items as possible. The questionnaire was developed using a large sample (N=4,322) of which 2,224 individuals met the ISI score (cut of score 10) for insomnia. The remaining individuals served as a control group. The results of the questionnaire were then validated on an independent sample (N=251). Both samples showed clinical relevance (developmental etiology, health risks, response to pharmacological and non-pharmacological treatments, and neurophysiological markers) for each subtype. A follow-up phase was also conducted for the questionnaire, in which 215 participants from the original cohort of 2224 insomniacs were re-administered the ITQ. Individuals were followed up after 4.8 years (SD=1.6) and were found to have a 0.87 probability of retaining their original subtype. The questionnaire identifies 5 subtypes of insomnia: highly anxious, moderately anxious but sensitive to rewards (with intact reactions to pleasant emotions), moderately anxious insensitive to rewards, moderately anxious with higher reactivity (to the environment and life events), moderately anxious with low reactivity. Subtyping was stable over time, clinically relevant, and biologically meaningful.

3. OBJECTIVES

The aim of this article is to validate the psychometric characteristics of the Czech adaptation of the Insomnia Type Questionnaire (Blanken et al., 2019) and to map insomnia subtypes in the Czech population.

4. METHODS

The ITQ consists of 14 questionnaires looking at various personality characteristics that are likely to contribute to the development of insomnia. Namely: ISI (Insomnia severity index), CTQ (Childhood Trauma Questionnaire), FSS (Fatigue severity scale), FIRST (Ford Insomnia Response to Stress Test), PSAS (Pre-Sleep Arousal Scale), ACS (Action Control Scale), BISBAS (Behavioral Inhibition/Activation Scale), MIPIP (Mini-IPIP), PI (Perfectionism Inventory), RPA (Response to Positive Affect), RRS (Ruminative Response Scale), PANAS (Positive and negative affect scale), SHS (Subjective Happiness Scale), TEPS (Temporal Experience of Pleasure Scale). Original questionnaire is part of the supplement of Blanken et al. (2019). An automated scoring script for the Insomnia Type Questionnaire can be found online: https://tfblanken.shinyapps.io/itqapp/.

The entire ITQ battery has been translated using standard double translation into Czech language. Subsequently, the adequacy of the translation was assessed by independent assessors. The resulting final version was then used for data collection. Items of our questionnaire were the same as the original test. Data was collected using an online questionnaire that was distributed via social media. The collection was open to both males and females and the only requirement for participation in the research was that probands were of legal age and had access to the internet. The selection of respondents was casual non-random. Respondents were recruited either by direct approach (in person, private messages) or indirectly through social media posts and reshares.

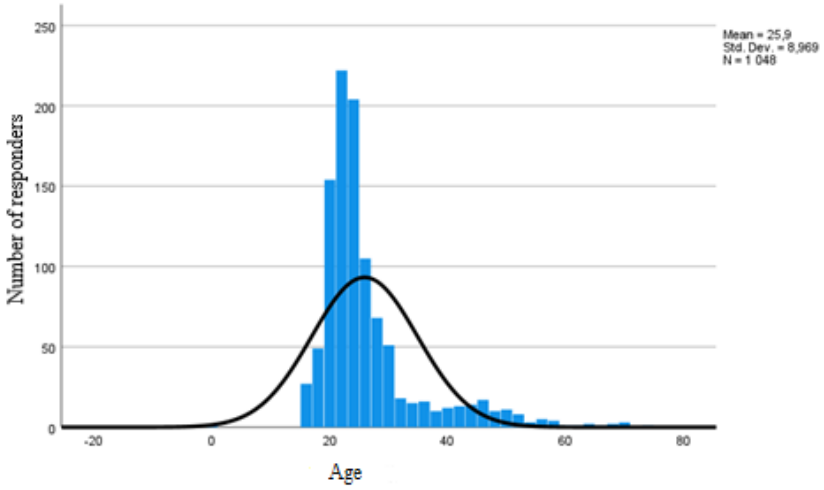
A total of 1,051 respondents completed the questionnaire, including 613 persons in the first wave and 438 persons in the second wave of data collection.

The research sample included a total of 1051 people, of whom 839 were women (79.8%), 211 were men (20.1%) and one respondent who did not indicate gender (0.1%). The largest number of respondents was in the 20-25 age group (N = 607; 57.8%), see Table 1. The age distribution of the population is shown in Figure 1.

Table 1.
Overview of age groups of respondents.

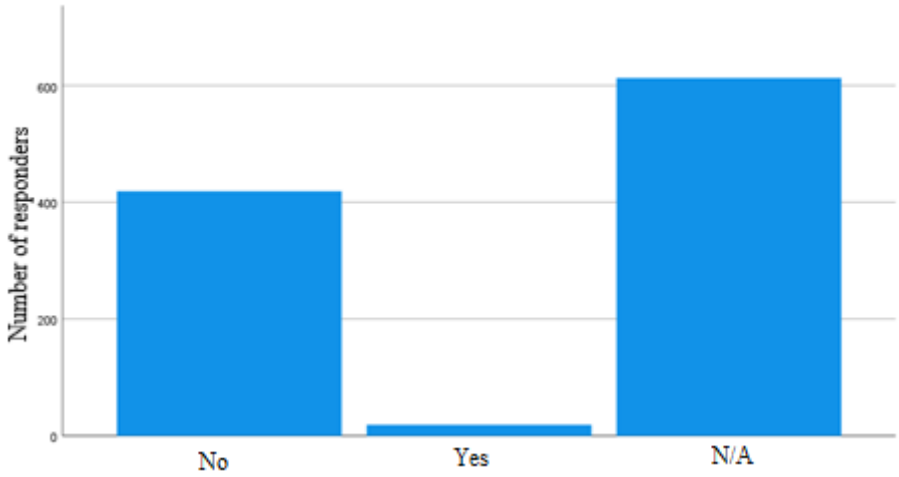
Age	**N**	**%**	**Average**	**Mod**	**Med**
< 20	113	10,8 %	25,9	23	23,0
20 – 25	607	57,8 %			
26 – 30	161	15,3 %			
31 – 35	46	4,4 %			
> 36	121	11,5 %			
unlisted	3	0,3 %			

Figure 1.
Age distribution of the population.



In the second wave of data collection, respondents were also asked whether they took any sleeping pills. The majority of respondents (N = 419; 95.7%) claimed not to take any medication, see Figure 2.

Figure 2.
Graphical representation of responses regarding the use of sleeping pills.



4.1. ITQ Reliability Verification

We checked the internal consistency of the items of the sub-questionnaires that make up the ITQ. These results could contribute to estimating the reliability of the questionnaire. The resulting internal consistency of the items for the Mini-IPIP scale indicated lower reliability of this scale. This could be due to the attempt to measure broad characteristics with only four items. For the FIRST questionnaire, we discarded item 5 ("After watching a scary movie or show") because only a half of probands responded to this item. After discarding this item, the internal consistency value of the FIRST scale did not change. Other results showed relatively high internal consistency across scales.

In the next step, we tested the reliability of the scales using the split-half method. Table 2 provides an overview of the results of the internal consistency and split-half reliability analyses.

The value of McDonald's omega for the CTQ scale ($\omega > 1$) could indicate that the items of this scale are over-correlated with each other. This could mean that some of the items in the scale are likely to be redundant.

Table 2.
Verification of reliability as internal consistency of individual scales and split-half reliability.

Scale	Cronbach's α	McDonald's ω	Spearman-Brown Formula	Guttman Split-half coefficient
ACS	0,80	0,79	0,80	0,79
BAS	0,80	0,79	0,75	0,75
SHS	0,87	0,87	0,84	0,84
RPA	0,87	0,86	0,79	0,79
RRS	0,84	0,83	0,82	0,83
MIPIP E	0,84	0,84	0,79	0,79
MIPIP N	0,68	0,68	0,60	0,60
MIPIP A	0,74	0,73	0,66	0,66
PANAS PA	0,80	0,81	0,75	0,75
PANAS NA	0,86	0,86	0,86	0,86
TEPS	0,80	0,79	0,73	0,72
PI	0,86	0,83	0,88	0,88
FIRST	0,82	0,82	0,80	0,78
PSAS	0,91	0,91	0,77	0,77
FSS	0,88	0,88	0,81	0,81
ISI	0,83	0,83	0,77	0,75
CTQ	0,91	1,08	0,87	0,83

4.2. The correlation Analysis of the Variables

Table 3 shows very close positive correlations between action control and the experience of satisfaction, as well as between feelings of happiness, extraversion, positive rumination and positive attunement. A close positive correlation was found between neuroticism, negative attunement, and perfectionistic rumination. Variable severity of insomnia was moderately positively correlated with pre-sleep arousal, fatigue, insomnia as a response to stress, rumination, and humiliation.

Table 3.
Correlations between variables.

	AC	BA	H	PR	D	R	E	A	N	PA	NA	EP	O	PPP	PerR	IRS	PSA	F	IS	CT
AC	1																			
BA	-,19**	1																		
H	,45**	-,36**	1																	
PR	,33**	-,46**	,55**	1																
D	-,42**	,11**	-,49**	-,37**	1															
R	-,43**		-,45**	-,11**	,54**	1														
E	,28**	-,41**	,40**	,30**	-,22**	-,24**	1													
A	-,07*	-,16**	,10**	,12**		,16**	,17**	1												
N	-,52**	,14**	-,59**	-,36**	,48**	,50**	-,28*	,08*	1											
PA	,34**	-,52**	,49**	,58**	-,18**	-,11**	,36**	,11**	-,29**	1										
NA	-,46**	,18**	-,51**	-,29**	,55**	,51**	-,30**		,60**	-,07*	1									
EP	,70*	-,43**	,34**	,40**	-,13**		,22**	,28**	-,09*	,37**	-,12**	1								
O	,22**		,12**	,12**			-,08**	,09**	-,09**	,13**	-,10**	,10**	1							
PPP	-,18**		-,24**	-,13**	,25**	,24**	-,01**		,22**	-,08**	,23**			1						
PerR	-,52**	,07*	-,46**	-,24**	,52**	,54**	-,31**	,09**	,53**	-,15**	,53**		,12**	,42**	1					
IRS	-,35**		-,25**	-,13**	,28**	,30**	-,14**	,19**	,39**		,34**	,11*		,20**	,39**	1				
PSA	-,38**	,12**	-,39**	-,23**	,46**	,47**	-,20**		,43**	-,14**	,52**		-,08**	,26**	,47**	,54**	1			
F	-,41**	,09**	-,33**	-,26**	,31**	,39**	-,24**		,36**	-,25**	,38**		-,10**	,18**	,36**	,21**	,40**	1		
IS	-,29**		-,32**	-,23**	,35**	,35**	-,14**		,32**	-,15**	,34**	-,06*		,22**	,35**	,44**	,61**	,45**	1	
CT	-,10**	,16**	-,26**	-,20**	,18**	,18**	-,14**	-,15**	,14**	-,16**	,23**	-,19**	-,09**	,27**	,16**	,15**	,32**	,17**	,32**	1

** < 0,001; * < 0,05
AC = AC = Action Control, BA = Behavioral Activation, H = Feelings of Happiness, PR = Positive Rumination, D = Humiliation, R = Rumination, E = Extraversion, A = Agreeableness, N = Neuroticism, PA = Positive Attunement, NA = Negative Attunement, EP = experiencing satisfaction, O = organized, PPP = experiencing parental pressure, PerR = perfectionistic rumination, IRS = insomnia in response to stress, PSA = pre-sleep arousal, F = fatigue, IS = insomnia severity, CT = childhood trauma

According to the results, there was a close negative relationship between neuroticism, action control and feelings of happiness, and a weakly close relationship between extraversion and neuroticism. Medium-tight negative correlations emerged between behavioral activation, positive rumination, extraversion, and experiencing satisfaction.

Results indicated that there were weakly close negative correlations between insomnia severity, positive attunement, positive rumination, feelings of happiness, and action control. These relationships indicated that the aforementioned variables were unlikely to contribute to the development of insomnia symptoms. Conversely, variables that were strongly positively correlated with insomnia severity, such as pre-sleep arousal, fatigue or rumination, may promote the development of insomnia.

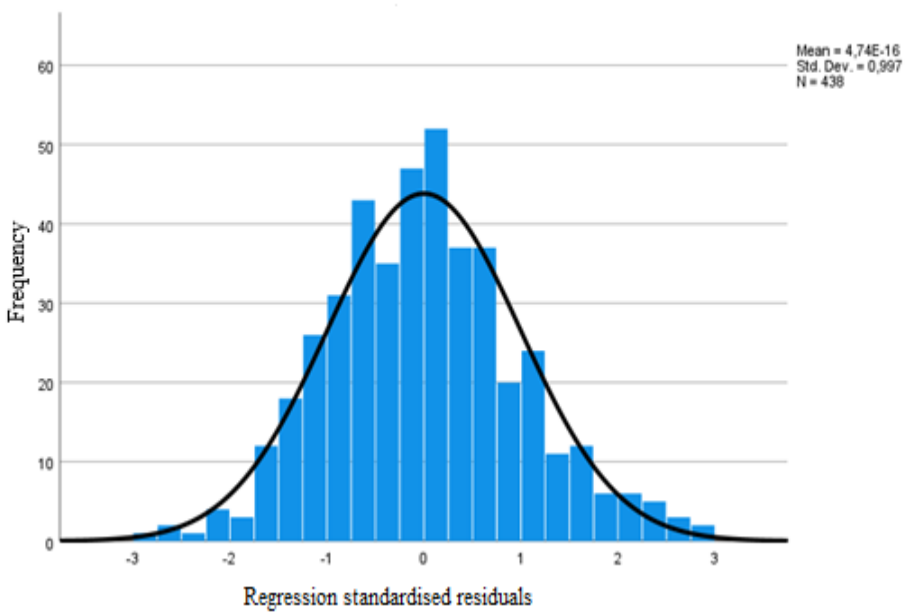
Based on the results of the correlation analysis, we were interested in what a model predicting insomnia severity from the variables pre-sleep arousal, fatigue or insomnia in response to stress would look like. Together, these three predictors explained 48.5% of the variability in insomnia, which was 6.9% more than for pre-sleep arousal as a single predictor. The regression model is summarized in Table 4. The histogram of the residuals suggests an approximately normal distribution of values (see Figure 3).

Table 4.
Regression analysis of predictors of insomnia severity.

	B	***SE*$_B$**	**β**	***P***
MODEL 1:				
PA	,30	,02	,64	< ,001
MODEL 2:				
PA	,27	,02	,58	< ,001
IRS	,42	,04	,13	< ,05
MODEL 3:				
PA	,23	,02	,48	< ,001
IRS	,13	,04	,42	< ,05
F	,14	,02	,26	< ,001

PA = pre-sleep arousal, IRS = insomnia in response to stress, F = fatigue

Figure 3.
Histogram of residues.



4.3. Factor Analysis

By calculating the resulting scores of each questionnaire, we obtained a total of 20 variables for which we were interested in their factorial affiliation. We converted the resulting variables into Z-scores.

By determining the inclusion criterion according to the final ISI score (ISI ≥ 10), we obtained a large group of subjects, which we included in further measurements. Of the 543 persons who met the inclusion criterion, 438 were women (80.7%) and 105 were men. Exploratory factor analysis, a principal components method with non-orthogonal Oblimin rotation, identified five components that explained 58.8% of the variance in the original variables. The factor loadings of each variable are summarized in Table 5.

Table 5.
Factor distribution of variables.

	Component				
	1	**2**	**3**	**4**	**5**
Perfectionistic rumination	,792	-,148		,298	,463
Negative affect	,789	-,191	,131		,418
Neuroticism	,780	-,306			,394
Rumination	,757				,454
Humiliation	,752	-,210			,388
Happiness	-,691	,599	-,192	,104	-,331
Control of action	-,667	,348	,191	,225	-,414
Positive attunement	-,210	,816		,189	-,190
Behavioral activation	,122	-,787	,139		
Positive rumination	-,357	,747	-,138	,195	-,241
Experiencing pleasure		,606	-,484	,145	,109
Extraversion	-,370	,584	-,101	-,283	-,159
Childhood trauma	,192	-,159	,651		,433
Agreeableness		,251	-,628	,111	,195
Experiencing parental pressure	,426		,464	,198	,284
Organization				,904	
Severity of insomnia	,382	-,113	,159		,838
Pre-sleep arousal	,573	-,129	,149		,788
Insomnia in response to stress	,451		-,156	,203	,737
Fatigue	,457	-,220	-,123	-,132	,626

Extraction method: principal component analysis
Rotation method: Oblimin with Kaiser criterion

The factor analysis yielded five components that divide the outcome variables into their respective groups. The first component is strongly characterized by clinging thinking, neuroticism, rumination, and overall negative attitudes. It is negatively correlated with feelings of happiness and control of action (activity). Symptoms of insomnia in this case may be related to the experience of stress, increased fatigue, but also increased pre-sleep arousal. We have labeled it generally as "Negative Experiencing" for the purpose of further analysis.

According to the factor structure, the second component corresponds to experienced feelings of happiness, positive attunement and positive clinging. It is positively correlated with extraversion and very closely negatively correlated with behavioral activation and weakly correlated with neuroticism. We have labeled it as "Positive Experiencing."

The third component shows a strong association with childhood traumatization and experienced parental pressure. Negative moderate relationships were found in relation to agreeableness, experiencing satisfaction, feelings of happiness and positive rumination. We labeled this component as "Childhood trauma, parental pressure."

The fourth component, named "Organization, Perfectionism", is characterized by high organization and control of activities. It may also be related to experiencing feelings of happiness, friendliness, positive rumination, and overall positive attunement.

The fifth component is characterised by very close relationships between severity of insomnia, pre-sleep arousal, and fatigue, as well as moderately close positive relationships of perfectionistic rumination, humiliation, and overall negative attunement. There were weakly close positive relationships with agreeableness and experienced pleasure.

Correlational analysis showed that the components were barely correlated or negatively correlated with each other, supporting the assumption that they could be separate categories of variables representing a particular group of characteristics. An overview of the analysis of the tightness of the relationships between the components is provided in Table 6.

Table 6.
Correlation between the obtained five components.

Component	1	2	3	4	5
1	1,000	-,247	,050	,037	,496
2	-,247	1,000	-,135	,118	-,091
3	,050	-,135	1,000	-,003	,019
4	,037	,118	-,003	1,000	,005
5	,496	-,091	,019	,005	1,000

4.4. Cluster Analysis

Using factor analysis, we obtained five groups of variables. These groups of variables were tested by cluster analysis, which showed that respondents could be classified into five different groups, or subtypes, based on their responses and characteristics. We compared these subtypes with the results of the original research.

We named the obtained groups on the basis of their predominant characteristics:

1) Subtype 1: traumatized with higher levels of control
2) Subtype 2: tired with low level of control
3) Subtype 3: happy with traits of perfectionism
4) Subtype 4: highly stressed and unhappy
5) Subtype 5: highly organised with higher levels of control

For the obtained subtypes, we observed their demographic characteristics. In subtype 1, 105 individuals were represented, 13.4% of whom were women and 37.1% men. The average age of this group of persons was around 23 years. The largest group of probands was subtype 3 with 142 followed by subtype 2 with 109 probands. Conversely, the smallest number of subjects (n = 89) represented the fifth subtype. In subtypes 1 and 5, males outnumbered females.

From the data obtained additionally using the Pittsburgh Sleep Quality Questionnaire (PSQI), we compiled a summary of the sleep characteristics of the subtypes studied. We focused on sleep induction time and duration, subjectively perceived sleep quality, occurring sleep difficulties, and level of disruption to daily functioning. We observed the least difficulty in any of the domains studied in subtype 5: highly organized with higher levels of control. Conversely, the greatest problems across all sleep characteristics occurred in subtype 2: tired with low levels of control. The shortest sleep durations occurred for those in subtype 4: highly

stressed and unhappy. The longest average sleep duration was observed in subtype 5. The most common sleep-related difficulties reported by the subjects included stress, excessive noise, nightmares, health problems (illness, toothache), physiological manifestations of anxiety (heart palpitations, sweating), natural phenomena (full moon, thunderstorm) and physiological needs (hunger, thirst, urge to go to the toilet). There were also very frequent responses describing various thoughts about work, school or other responsibilities that "can't be got rid of" or that "can't be switched off".

4.5. Validity

To test validity, we compared our results with those of the original research by Blanken et al. (2019), to determine whether the ITQ questionnaire battery could be a reliable indicator of insomnia subtypes.

Evidence 1: The factor structure of the variables showed the relationships we would expect between the variables, which could be seen as one evidence of construct validity of the questionnaire.

Evidence 2: Cluster analysis resulted in the probands being classified into five groups approximately corresponding to the distribution of subtypes in the original research.

5. FUTURE RESEARCH DIRECTIONS

In our research, we looked more closely at the relationships between depression, anxiety, insomnia and other variables. Due to the design of our research, we could not examine the assumed bidirectionality of the relationships of these phenomena. Future research with an appropriate design could focus on examining the reciprocal relationships of these disorders and the influence of other variables on this relationship (e.g., the mediating influence of pre-sleep arousal) to strengthen prevention and intervention options for anxiety, depression, and insomnia.

The results of our research have also suggested the need for greater attention to behavioral activation and inhibition systems in relation to personality characteristics, particularly neuroticism and extraversion. The behavioral activation system may also include other components,

that are related to negative experiencing and impulsivity rather than extraversion and motivational behaviour.

Finally, further research could focus on further exploring the characteristics of insomnia subtypes by running more advanced statistical procedures and looking for differences between the demographic groups of respondents represented in these subtypes. Furthermore, it would be useful to monitor the stability of the defined subtypes over time, e.g. through longitudinal research, to provide further evidence of the validity of this questionnaire battery.

6. DISCUSSION

The aim of this study was to validate the psychometric properties of the Insomnia Type Questionnaire developed by Blanken et al. (2019) which consists of 14 standardized questionnaires. The whole ITQ was translated into Czech language. The Czech version of the ITQ has not yet been standardized or psychometrically validated, which also became the aim of our work. The ITQ questionnaire battery defines subtypes in terms of multidimensional profiles of stable human characteristics. Although these characteristics may not be directly related to sleep, they may underlie the development of insomnia. From a clinical perspective,

subtypes provide targets for improving cognitive, emotional, and behavioral interventions in the treatment of insomnia.

This research is based on data collected by self-report questionnaire method. Evidence on the reliability and validity of this questionnaire was presented in a large sample population of mostly young adults, and the different subtypes of insomnia were defined.

To test validity, we compared our results with those of the original research by Blanken et al. (2019) to determine whether the ITQ questionnaire battery could be a reliable indicator of insomnia subtypes.

The factor structure of the variables showed the relationships we would expect between variables, which could serve as one piece of evidence for construct validity of the questionnaire. Cluster analysis resulted in the probands being classified into five groups approximately corresponding to the distribution of subtypes in the original research, which supported the reliability of our measure.

In the first group of probands (traumatized with higher levels of control), childhood trauma and low organization were most prominent. This group resembled the subtype 4 slightly distressed and highly reactive used in Blanken et al. (2019). The second group (tired, low control) was characterized by marked disorganization and the experience of both negative and positive feelings. It was characterized by mild sleep difficulties associated with increased arousal and fatigue. This group resembled the subtype 3: moderately distressed, reward insensitive used in Blanken et al. (2019). The third group (happy with traits of perfectionism) was characterized by predominantly positive experiencing, contentment, and some degree of control. It also showed less pronounced perfectionistic tendencies. Similar characteristics were found in the subtype 2: moderately stressed subtype, reward sensitive used in Blanken et al. (2019). The fourth group (highly distressed and unhappy) could be characterised by predominantly negative experiencing and attunement. Sleep difficulties associated with pre-sleep arousal and fatigue were evident and therefore resembled the subtype 1: highly distressed subtype used in Blanken et al. (2019). The last of the resulting cluster analysis subtypes (highly organised with higher levels of control) was characterized by positive attunement, but also by negative rumination, high organization and perfectionism, which predominated. This group could probably correspond to the subtype 5: slightly distressed and low reactive used in Blanken et al. (2019).

In terms of the representation of demographic characteristics such as age and gender, males outnumbered females in subtypes 1 and 5. In the original research, males outnumbered females in subtypes 3 and 5, which was therefore only partially consistent with our findings. Subtype 4 in our research was strongly represented by females (21.9% of females and 8.6% of males), whereas in subtype 1 in the original research, the representation of males and females was fairly balanced (20% of females and 16% of males). The subtypes with the lowest average age were subtypes 1 and 4, where the average age ranged from 22 to 25 years. Conversely, the group with the highest average age was subtype 3 (25 to 28 years), followed by subtype 5, where the average age was up to 27 years. The age distribution in the original subtypes also varied with respect to the population studied. The group with the highest mean age (57 years) was subtype 5, followed by subtypes 3 and 4 with a mean age of 54 years. The youngest group was represented by subtype 2, where the mean age was around 49 years.

The obtained subtypes were also compared with the original groups in terms of sleep problems and other characteristics. The greatest problems were observed in subtype 2, where the subjects described the most significant difficulties in daily functioning, and in subtype 4, which was characterized by the lowest average sleep duration, long falling asleep times, and dissatisfaction with sleep quality. Our observations were consistent with the characteristics of the original subtypes 3 and 1, to which our described subtypes roughly corresponded. The least difficulty with falling asleep and sleep quality occurred in subtype 5, which was not very consistent with the original findings.

In terms of incremental validity, which describes the extent to which a method adds something new to existing methods, there is currently no tool available that maps insomnia subtypes based on biologically based personality traits and life history similar to the ITQ. Therefore, it can be considered as a method that enriches scientific knowledge from a new perspective and offers a different way of observing insomnia than other tools used so far. Given the satisfactory internal consistency of the items of the scales comprising the ITQ battery, the expected factor structure, and the equivalence of the groups we identified with the subtypes of the original research, we can conclude that the psychometric properties of this instrument are good.

Therefore, the limitation may be intentional or unintentional distortion of data by respondents due to fatigue or other subjective factors. Among the limitations, we should mention some errors that occurred during data collection. In the first wave of the survey, which involved 613 respondents, the FIRST scale included eight questions instead of nine. A ninth question was added after the error was discovered. For the PI (perfectionism) scale, responses were incorrectly collected on a 4-point Likert scale instead of a 5-point Likert scale. All errors were corrected before the second wave of data collection.

In the second wave, which involved 438 respondents, the survey was expanded to include the BFI-44 (personality characteristics), PSQI (sleep difficulties), and Zung's SDS (depression) and SAS (anxiety) questionnaires. An error with the online interface of the questionnaire resulted in some questions of the Zung questionnaire being repeated, so respondents had to answer these questions repeatedly, which may have made the questionnaire difficult to complete. This error was rectified on 11/12/2021 when the number of respondents was 1034.

Among the limitations of this research, we could also include the use of cluster analysis instead of latent class analysis, which would have provided more accurate and detailed results about the characteristics of each practice.

The absence of a control group reduce the “power” of the results.

We are not aware that the psychometric properties of the questionnaire have been validated in a different population than in the original study by Blanken et al. (2019).

7. CONCLUSION

The research focuses on the psychometric properties of the Czech version of the ITQ. A large sample population of predominantly young adults is used to demonstrate the reliability and validity of this questionnaire and to define the different subtypes of insomnia. The obtained subtypes corresponded to some extent to the subtypes defined in the original research, although we were not able to describe their detailed characteristics and typical features based on the chosen method. The subtyping of insomnia based on enduring personality traits and patients’ life history may help to improve the quality of treatment and care for patients with insomnia.

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AUTHORS' INFORMATION

Full name: Veronika Ondráčková Dacerová, Mgr.
Institutional affiliation: Faculty of arts, Department or Psychology, Masaryk university, the Czech Republic
Institutional address: Arna Novaka 1, Brno, 602 00 Czech Republic
Short biographical sketch: Graduate of a single-subject master's programme in psychology at the Faculty of Philosophy of Masaryk University. For three years she worked in the outpatient clinic for clinical psychology for children and adults, where she mainly dealt with individual psychotherapy and diagnostics. Currently she works in a private therapeutic practice and works as an assistant at the Department of Psychology at the Faculty of Education of Masaryk University, where she teaches psychology. As part of her doctoral studies, she is working on sleep research. She is a graduate of a five-year psychotherapeutic training in cognitive behavioural therapy. She is a full member of the Czech Society for Cognitive Behavioural Therapy.

Full name: Veronika Veselá, Mgr.
Institutional affiliation: Faculty of arts, Department or Psychology, Masaryk university, the Czech Republic
Institutional address: Arna Novaka 1, Brno, 602 00 Czech Republic
Short biographical sketch: In 2022, she received a master's degree in single-subject psychology from the Faculty of Arts of Masaryk University.

Full name: Kateřina Bartošová, Ph.D., PhDr.
Institutional affiliation: Faculty of arts, Department or Psychology, Masaryk university, the Czech Republic
Institutional address: Arna Novaka 1, Brno, 602 00 Czech Republic
Short biographical sketch: After completing her master's degree, she worked as a school psychologist for three years. In 2014, she received her doctorate in clinical psychology. She is currently in private therapeutic practice and works as an assistant professor in the Department of Psychology, where she teaches psychology and conducts research. She has five years of psychotherapeutic training in cognitive behavioural therapy. She is a member of executive council of European Federation of Psychologist's Associations.

Chapter #6

POSITIVE AND NEGATIVE ASPECTS OF THE BORDERLINE PERSONALITY LABEL FOR TRANSGENDER YOUTH

Janine M. Ray[1], Olivia Mounet[1], Christina Cook[2], & Wallace Wong[3]
[1]Clinical Psychology Practicum student, Diversity and Emotional Wellness Centre, Richmond, British Columbia, Canada
[2]Counselling Psychology Practicum student, Diversity and Emotional Wellness Centre, Richmond, British Columbia Canada
[3]Registered Psychologist and Clinical Director, Diversity and Emotional Wellness Centre, Richmond, British Columbia, Canada

ABSTRACT
Transgender youth experience societal stigma, rejection, and other psycho-social stressors associated with the crisis of their gender identity. Due to these struggles, the youth can present with suicidality, mood swings, fear of abandonment, and identity disturbances – main features that are similar to borderline personality disorder (BPD) and its traits. We interviewed four transgender youths who were labelled as potentially borderline or were diagnosed with the disorder. The data was analyzed using a thematic qualitative research method resulting in several important themes. One theme across participants was anger at the mislabeling which slowed the investigation into their transgender concerns and affirmation journey. Another emergent theme was the BPD label can be helpful at times to externalize the symptoms for these youth. All participants acknowledged that the symptoms that match with BPD subsided with gender-affirming treatment and social transition. Findings can inform clinicians about the potential symptom overlap and raise awareness about both the extreme harm and some good that the label of BPD carries for transgender youth.

Keywords: borderline personality disorder, transgender experiences, misdiagnoses, mislabeling.

1. INTRODUCTION

A small body of recent research indicates that there is a higher prevalence of borderline personality disorder among trans, gender diverse and sexual-preference minorities (Goldhammer, Crall, & Keuroghlian, 2019; Rodriguez-Seijas, Morgan, & Zimmerman, 2020). Extant literature suggests that types of mental illness and stress, like post-traumatic stress disorder, can also present as BPD when referencing the symptomology found in the DSM-5 (Mizock, Harrison, & Russinova, 2014). It follows that the high prevalence of BPD traits among trans populations is concerning. Indeed, trans youth experience psychosocial stressors and minority stress that can inspire strong reactions, sensitivity, fear of abandonment, and identity confusion, among other BPD traits from the DSM-5 (Puckett, Cleary, Rossman, Mustanski, & Newcomb, 2018). Given that trans youth are often flagged from hospital visits, we wanted to learn about youth's experiences with clinicians regarding the presentation of BPD.

The clinical assessment and treatment of gender-variant children and youth can prove complex, due to their developmental stage, and is further complicated by minority pressures (Meyer, 2003). Many trans youth are struggling with mood swings, suicidality, and

irritability when trying to cope with internalized transphobia, social stigma, marginalization, and feeling that their experienced gender does not match their expressed gender (Bockting et al., 2020). Due to the complexity, the nuances of the lived experience of trans youth should be explored to appreciate how they feel about their BPD-like traits or diagnosis. To our knowledge, there no studies to date that qualitatively address the clinical needs, perspectives, and experiences of gender variant-youth with an active or contested diagnosis or the suspected traits of BPD. To offer effective clinical services for the population, it is critical to appreciate insider perspectives and lived experience of the group. The present qualitative inquiry provides insight into trans youth's thoughts about BPD or BPD-like symptoms.

2. PARTICIPANTS AND METHODS

We hypothesized that trans youth would reject their label or diagnosis of BPD. In lieu of IRB-approval, a third-party licensed psychologist reviewed the research project and methods for ethical and legal compliance, and approved the proposed study. Four participants who identified as trans or gender variant were recruited from a community-based, private mental health clinic in the Lower Mainland of British Columbia, Canada. Each participant had either a diagnosis of borderline personality disorder currently, in the past, or were suspected of the disorder, and they were aware of these labels. Information about their relationship to BPD was accessed through medical records sent to the clinic. These records were primarily received from hospitals that treated the participants for suicidal behaviors. Informed consent was obtained from each participant and their legal guardian (if relevant) to take part in the study.

Table 1.
Participant Demographics.

Participant	**Age**	**Gender Identity**	**Diagnosis**
Participant 1	21	Transgender Female	Former Borderline Personality Disorder (contested)
Participant 2	17	Transgender Male	Borderline Personality Disorder
Participant 3	20	Transgender Male	Autism Spectrum Disorder, Borderline Personality Disorder (contested)
Participant 4	16	Transgender Male	Suspected Borderline Personality Disorder

This study was conducted in December, 2021 through March, 2022, using a qualitative semi-structured individual interview format. The prompt for the interview was, *how have things changed for you as a result of your gender affirmation journey?* The interviewer also asked about how they felt about their BPD label. All interviews were one hour in length, audio recorded (stored locally on the researcher's hard drive), transcribed, and analyzed by each of the authors for emergent themes using qualitative thematic analysis (Braun & Clarke, 2006). Ten subthemes emerged from the analysis (see results figure 1) with five broad themes that capture the participants words and the meaning of their experiences. The headings are included in the table below along with the participants' words to contextualize and give voice to the findings.

3. RESULTS

3.1. Testing True Positive for BPD can be Beneficial for the Youth

When the youth welcomed the diagnosis, it helped externalize their symptoms. Two of the participants welcomed the diagnosis because it felt like they and others validated them, and they were more receptive to treatment as a result. The participants that felt they truly related to the BPD diagnosis developed more self-understanding of the struggles that they experienced. Participant 2 discussed that, *"In the past (before the BPD diagnosis), I felt like a bad person and I didn't have the best personal relationship skills. But now I tell myself that [it] was the best that I could, so I can forgive myself. I can't say that what I did was right. But I can say I forgive what I did. And I just understand a lot of things [now]."* He went on to state, *"I reject the stigma, and things are improving for people with personality disorders."*

Those that accepted the BPD diagnosis found DBT helpful in conjunction with their gender affirmation journey (not in its absence). For those that have an accurate positive BPD diagnosis, they will be more accepting of the BPD treatment. Participant 4 said, *"I wasn't upset about it [the BPD diagnosis]…I actually felt like happy …because I finally felt like it made sense like, why I was feeling the way I was … for me…it was like finally it just seemed like everything just sort of made sense."* Participant 2 discussed how he does not feel stigmatized by the BPD label, and it is part of his identity now. He shared, *"I reject the stigma, and things are improving for people with personality disorders."* The participant further found social connections and formed friendship through BPD support groups and DBT-skills groups.

3.2. Testing False Positive for BPD can be Harmful for the Youth

When the youth rejected the diagnosis, they found it invalidating and stigmatizing. The practice of being assigned a diagnosis that does not fit with one's experience can be an invalidating, negative experience. Youth are less likely to work collaboratively with staff or other clinicians in the hospital given their negative experiences. Participant 1 stated, *"it felt like [the psychologist] was really trying to get me a diagnosis so that she could push me off onto someone else. Rather than actually addressing the reasons …like why I wanted to commit suicide and work out why I was feeling this way, and why I was feeling bad, and why unless something changed in my life I wasn't going to stop trying to do this."*

Participant 1 stated, *"psychologists and doctors were convinced that I just had a borderline-personality-disorder thing"* and they neglected her gender dysphoria as a result. Participant 3 stated, that he felt "*manipulated to believe that he was borderline"* and like his trans identity or *"what I was going through wasn't real."* The comments suggest that as

a result their gender dysphoria- their distress- was not treated or addressed, and instead the focus shifted to BPD. Ultimately, the distraction of BPD delayed access to the treatment that they needed.

Creates doubt in caregivers and parents about trans identity. Two of the participants in our sample noted that, at the time they received the BPD label (during early adolescence) it created doubt for the caregivers to provide affirmative support for the youth's gender identity. Participant 1 stated that "*the rest of the world can give you … hollow validation of who you are [referring to the BPD label and viewing her as cis gender] when the person that you see and experience and live as is not strictly speaking accurate. After my suicide attempt and hospital visit…they [parents] were very against the idea of me medically transitioning."* This resistance on the part of her parents during early adolescence when she came out to them contributed to much suffering for the participant.

3.3. Clinician Lack of Understanding of Trans Experience Affects Judgement and Timely Intervention

Minority stress of trans youth can overlap with other mental health issues – training is required to be helpful and discerning. Many trans youth can present with multiple issues, such as Autism Spectrum Disorder, trauma and post-traumatic stress disorder, and learning difficulties. Participant 3 explained that, *"it is a double-edged sword, especially in my clinical context because I'm autistic and I have a female phenotype…there's also past experience of trauma in both my childhood and adolescence. And considering the fact that I'm trans, it gives room for a lot of misinterpretation."* Professionals can be unappreciative of the complexity of their symptoms. The untrained clinician may overlook relevant details when a transgender youth presents in their office, clinic, or hospital. There are multiple factors at work and BPD may not accurately explain the situation despite their being some diagnostic overlap.

Participant 3's hospital psychologist diagnosed him with BPD rather quickly. He stated, *"considering the fact that I was diagnosed within two sessions of seeing the psychiatrist and then immediately…discharged by him…I should have noticed that was a red flag."* Participant 3 went on to state, *"I'm so exhausted and tired of having to deal with this, and I'm tired of having to advocate [for] myself and be an advocate for myself every single time."* When clinicians have a lack of training and experience in working with transgender youth, sometimes with good intentions, they may have a biased clinical approach with the potential of damaging future relationships the youth have with clinicians.

Delays in helpful treatment and intervention can lead to increased self-harm and suicidality. Participant 3's gender affirming treatment was delayed due to his unwelcomed BPD diagnosis until he was an adult. He stated, *"It was heartbreaking because, here I am struggling, and I'm still struggling now, because I've had a lot of problematic symptoms that weren't addressed properly, that weren't even understood correctly. And I have had to deal with this over the years."* Three youth in our sample expressed suicidal ideation at some point due to their symptoms of gender dysphoria being invalidated by professionals that focused on BPD rather than gender dysphoria. In fact, one participant expressed multiple attempts due to this.

Participant 1's treatment was delayed due to the BPD diagnosis since it was determined that her coping behavior symptoms should be addressed first. During this period, she was hospitalized three times for suicide attempts. She described how she felt at the time; *"I would rather just call it quits now cut my losses and get out…I'm not sure if I want to live with this suffering and then the lifelong suffering because of this [remaining in a body and gender that did not match her experience]."* Clinicians can be overly focused

on BPD or they fail to understand the gender dysphoria symptoms and these are both invalidating experiences. Further, professionals may neglect to understand that some of the BPD-like symptoms stem from gender distress and minority stress. Ultimately this can delay appropriate intervention.

3.4. Youth Feel Best when they are Treated Like the Expert in their Own Experience

Including youth in their assessment and asking them about whether a BPD label fit their experience is helpful. From the research, participants who were a false positive (who met BPD criteria yet did not feel it was a BPD-related issue), had expressed more distress due to the ensuing confusion. Participant 1 described how belittling it felt to be treated that they were not part of their diagnosis and psychological evaluation, "*I saw a doctor ..[at a local hospital] who I would describe as antagonistic …[and] she had a very set idea of what was up and anything that I said that conflicted with what she believed was really taken as further evidence that she was right and that I was wrong. It was that approach in medicine where it's 'I am the doctor and I know things and you are the patient and therefore stupid and don't know anything. So please listen, while I tell you what is wrong with you*.'"

Damage to the youth's faith in medical and mental health services when not listened to. The youth feel less positive about the experience and less trusting of hospital staff as a result of feeling mislabelled. They felt the narrative of their experiences is not fully understood with simply a BPD diagnosis. Further, participant 3 felt invalidated and like they did not matter when they were assigned a BPD diagnosis and were deemed unable to make decisions about their gender due to this. The youth expressed feeling not heard and undermined. He stated that clinicians would imply that, "*maybe you don't have the mental capacity to make decisions for yourself,"* rather than asking him about his experience.

3.5. Regardless of BPD Diagnoses, Gender Affirmation Treatment Improved BPD Traits and Symptoms

Treatments that affirm gender identity, such as medical intervention, alleviated BPD-like presentations in each of the participants. In being able to address their gender distress and help them be more gender congruent by accessing treatment for their affirmed gender reduced various BPD-like symptoms. Participant 1 stated, *"all of the external validation in the world is not going to help the trans kid who is dysphoric at the end of the day when they're alone at night."* The participant stated that socially transitioning was like *"a band aid over like a large wound across your chest. It doesn't do much and you need stitches and a band aid might make you feel a little better because someone's trying something but …it's not an adequate support really. There are some people that really need to medically transition because their dysphoria is rather severe."*

Youth that either rejected or accepted the BPD diagnosis felt gender affirmation treatment was a significant instrument of positive change for them. Medically transitioning, in Participant 1's case, was critical to alleviating her gender dysphoria: *"Most of the [BPD] traits that I was described with, they immediately stopped when I finally started the…HRT [hormone] treatment, a little too late [delayed due to suspected BPD], and also eventually getting my top surgery."*

Participant 4 appreciated the BPD label, and he also shared that, *"when I was dysphoric, it would be like the only thing on my mind like I would like…I could do things, but it would always ruin the things that could make me happy potentially. But it would always come back to that, even when I tried to ignore it, and it would just ruin everything pretty much. I can never feel good, because there is always the biggest problem of not feeling comfortable in my own body."*

Figure 1.
Organization of Themes.

Testing true positive for BPD can be beneficial for the youth	**Testing false positive for BPD can be harmful for the youth**	**Clinician lack of understanding of trans experience affects judgement and timely intervention**	**Youth feel best when they are treated like the expert in their own experience**	**Regardless of BPD or not, gender affirmation treatment improved BPD traits and symptoms**
When the youth welcomed the diagnosis, it helped externalize their symptoms.	When the youth rejected the diagnosis, they found it invalidating and stigmatizing.	Minority stress of trans youth can overlap with other mental health issues – training is required to be helpful and discerning.	Including youth in their assessment, and asking them about whether a BPD label fit their experience, was helpful.	Treatments that affirm gender identity, such as medical intervention and social transitions, alleviate BPD-like presentations in each of the participants
Those that accepted the BPD diagnosis found DBT helpful in conjunction with their gender affirmation journey (not in its absence)	Creates doubt in caregivers and parents about trans identity	Delays in helpful treatment and intervention can lead to increased self-harm and suicidality	Damages the youth's faith in medical and mental health services when not listened to.	Youth that either rejected or accepted the BPD diagnosis felt gender affirmation treatment was a significant instrument of positive change for them.

4. DISCUSSION

The voices of trans youth were prioritized in this study to allow for their experiences to dominate the findings and inform the implications of the research. The initial broad themes that false positives of BPD were harmful and true positive of BPD were helpful is an important finding, and was counter to our initial hypothesis. We expected that trans youth would uniformly reject the BPD label as a misdiagnosis of their gender stress symptoms. Two of the participants did not appreciate the BPD label and felt it was not an accurate representation of what they were experiencing. The other two participants felt it was validating because it provided context to describe their intense feelings. These very different perspectives highlight the need to carefully understand the trans youth's experience, involve them in their assessment, and ask them about how a BPD diagnosis resonates with them.

In line with the second broad theme, the youth each experienced clinicians who lacked awareness in trans issues. The biased treatment was harmful, and led to different issues, such as undermining their experience. Youth indicated that clinicians who lacked in cultural competency influenced how parents felt about their coming out. Perhaps this can also affect the attachment between the youth and their parents because the parents might adopt the position of the hospital opposed to siding with what the youth was explaining to parents. The importance of feeling believed by family is in line with ample research that indicates that supportive families foster healthy outcomes for the trans child (Simons, Schrager, Clark, Belzer, & Olson , 2013).

Since a BPD diagnosis can impact the provision of trans support services (Ashley, 2019), it is critical that clinicians be competent in trans issues. The youth were overwhelmed with relief when trans-competent clinicians expressed understanding of the kinds of struggles that they experienced and supported them. They also reported positive mental health improvements as a result of affirming care.

The third broad theme related to including the youth in their care and maintaining a person-centered approach. The participants made it clear that when they felt heard and included in their evaluations, or treated like the expert in their own experiences, they felt empowered, validated, and like the support was more appropriate. The treatment also appeared to help them have a positive working relationship with the clinician once the trust is developed. Thus, the youth are more likely to discuss other mental health challenges that they have once initial trust about their trans experience is established. The opposite was true when clinicians were less understanding of the transgender experience and their unconscious biases undermined the youth's presentation. Encounters like this can create long lasting distrust among transgender youth and other clinicians which may delay the youth in accessing timely interventions from the specialist.

Each of the participants found gender affirmation treatment to be the most helpful in alleviating their BPD or BPD-like symptoms. Thus, clinicians should not delay gender dysphoria intervention to first treat the BPD or BPD-like symptoms with trans youth. Having a detailed assessment that includes bio, psycho, social, and cultural dimensions (American Psychological Association, 2015) will help to understand the complexity and the added stressors that gender and sexual minorities experience, and will help the clinician understand the dynamics involved in the youth's experience before making *any* diagnosis.

4.1. Limitations

The study is limited in that there is a small sample size – even for qualitative standards (N=4) – and thus the experiences shared by the participants may not reflect the general population. Along similar lines, the youth were patients of one clinic, Diversity and Emotional Wellness Centre, and were selected to participate for having met the criteria of both BPD and trans identity. Further, youth that patronize the clinic have means to seek private psychological services, and while the centre does offer sliding scale rates to limit barriers, the participants are of a socio-economic level where they can afford these fees; again, limiting the generalizability. More research with larger sample sizes and perhaps those that include mixed methods or quantitative methods would enrich and add more meaning to these initial findings.

5. CONCLUSION

Trans youth indicated that they want to be included in their psychological evaluations. The participants felt strongly about whether BPD fit them as a label or not, and BPD diagnosis could be helpful if the youth felt that their symptoms matched that label. The BPD diagnosis was harmful if the youth felt that the label did not match their experience and instead their symptoms were mostly associated with their minority stressors and being gender dysphoric. Importantly, provision of gender affirming treatments supported all four of the youth in feeling more comfortable in their bodies, and led to a reduction of BPD or BPD-like symptoms. It is critical that these findings reach clinicians- particularly those working in hospitals that receive suicidal youth.

Further studies should expand these interviews, and perhaps include quantitative data to help substantiate and further provide evidence for these results and conclusions. Clinicians require training in distinguishing between BPD and transgender distress symptoms, and to learn about the complexity of transgender youth experiences and their significant minority stress. Clinicians must examine their biases based on gender binary systems and heterosexism when providing treatment for transgender youth. A thorough assessment should include a bio, psycho, social, and cultural perspective as well as incorporating different sources of information, such as family members or the perspective of other clinicians more experienced with the population. Most importantly, when youth are misdiagnosed with BPD, it can delay the gender dysphoria treatment, and can potentially damage the relationship between the youth, family, and their clinicians.

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AUTHORS' INFORMATION

Full name: Janine M. Ray, MA, RCC, BCATR
Institutional affiliation: Fielding Graduate University
Institutional address: Fielding Graduate University 2020 De la Vina Street | Santa Barbara, CA 93105 USA
Email address: jray@email.fielding.edu
Short biographical sketch: Janine is a clinical psychology doctoral student, clinical counselor and art therapist living in British Columbia, Canada. Her interests are in matters of social justice through a psychodynamic framework, such as how early childhood experiences shape worldview and patterns of behavior within a context of systematic oppression. To date, Janine has completed 16 conference presentations and talks, is a co-author on two published articles, lead author on three publications in press, and contributes to the field through professional services such as committee work and proposal reviewing.

Full name: Olivia O. Mounet, MA
Institutional affiliation: Fielding Graduate University
Institutional address: Fielding Graduate University 2020 De la Vina Street | Santa Barbara, CA 93105 USA
Email address: omounet@email.fielding.edu
Short biographical sketch: Olivia is a clinical psychology doctoral student and school psychologist registered in both BC, Canada and FL, USA. Her professional and research interests center on pediatric psychology, particularly as it relates to issues of inequity and comorbid diagnoses. She approaches all endeavors through a social justice lens and finds joy in working with gender and neuro diverse populations. She is currently working in a lab using the National Survey of Children's Health dataset to explore relationships between childhood neurological disorders and school engagement.

Full name: Christina Cook
Institutional affiliation: University of British Columbia
Institutional address: University of British Columbia, 2329 West Mall
Vancouver, BC Canada V6T 1Z4
Email address: cocook@student.ubc.ca
Short biographical sketch: Christina Cook (she/they) is a Ph.D. student in Counselling Psychology at the University of British Columbia. She is also a registered clinical counsellor and a playwright, and her work explores mental health through inquiry and art. Her play Quick Bright Things was a finalist for the 2020 Governor General's Literary Award for drama. As a therapist, Christina specializes in working youth and adults who are members of LGBTQ2S+ communities. Christina draws on her background as a professional actor and theatre artist to bring drama-based approaches to research and therapy settings. Christina currently serves as the director of research projects for the Research-based Theatre Lab.

Full name: Wallace Wong, PsyD.
Institutional affiliation: Diversity and Emotional Wellness Centre
Institutional address: Diversity and Emotional Wellness Centre, Richmond BC Canada
Emails address: wwong@diversitycentre.net
Short biographical sketch: Dr. Wallace Wong is a registered psychologist in both California and British Columbia. He has been working with transgender clients, especially with children and youth, since 1996. While he continued to work with transgender and other sexual minorities, he has also worked with children and youth who present with different sexual health issues for 24 years. He currently works at the Ministry of Children and Family Development – Child and Youth Mental Health, as a clinical psychologist of the Gender Health Program (GHP), and the Children and Adolescence Sexual Health Program (ACSH) and. He also has a private practice where he sees children and youth with different gender and sexual health issues and has been doing research on topics of transgender children and youth for numbers of years, and they can be found in different professional journals. He is also an author of three sexual health related children books called, When Kathy is Keith, It's So Gay and It's Okay, and My Positive Uncle.

Chapter #7

EVIDENCE OF PSYCHOLOGICAL CONSEQUENCES OF RACIAL-ETHNIC MICROAGRESSIONS ON COLLEGE STUDENTS OVER TIME

Arthur W. Blume
Washington State University, USA

ABSTRACT
College students of color face a variety of challenges including overt and covert racism on campuses. Racial-ethnic microaggressions constitute one source of covert racism that may negatively impact the mental health of students. Previous studies have investigated cross-sectional relationships of microaggressions with mental health but the potential longitudinal impact of racial-ethnic microaggressions upon mental health are poorly understood. To investigate the potential long-term mental health effects of microaggressions, a sample of 45 university students of color were recruited to participate in a one-year study examining microaggressions and mental health symptoms with the expectation that a significant positive association would be found for number of microaggressions with anxiety and depressive symptoms. Students completed the College Student Microaggressions Measure (CSMM) at baseline, and the Beck Anxiety Inventory (BAI) and Beck Depression Inventory (BDI) one-year later. Multiple linear regression analyses were conducted to test study hypotheses. Controlling for gender, total CSMM scores were found to be significantly and positively associated with total BAI scores (Full Model $R^2 = .247$, $p < .01$) and with total BDI scores (Full Model $R^2 = .244$, $p < .01$), supporting study hypotheses. Racial-ethnic microaggressions may constitute a long-term threat to the psychological well-being of students of color.

Keywords: anxiety, depression, microaggressions, racism, students of color.

1. INTRODUCTION

Microaggressions are typically verbal or symbolic acts of insult or dehumanizing putdown that result from subtle and covert racialized attitudes and beliefs (Sue et al., 2007). Microaggressions tend to target members of minoritized (disempowered demographic or identity groups that are treated as second class citizens in society), and follow from implicit biases and group-based stereotypes (Blume, 2016). Microaggressions are verbal or non-verbal acts that convey demeaning stereotyped beliefs that insult or denigrate racial and ethnic minorities. Microaggressions may occur in any environment, including on university campuses, and contribute to a psychologically unhealthy campus environment for students when they occur. Students of color and regularly face the toxic effects of racial-ethnic microaggressions that may negatively impact their mental health. Evidence suggests that microaggressions targeting race or ethnicity occur regularly on college campuses in the US, and have been associated negative psychological consequences in cross-sectional research studies. Although the impact of racial-ethnic microaggressions has been investigated frequently in cross-sectional studies, little is known about the potential long-term consequences to the mental health of minority students in universities. One would reasonably expect that greater numbers of racial-ethnic microaggressions would be

related to greater negative mental health symptoms among university students over time just as those associations have been found in cross-sectional studies.

College students of color are significantly underrepresented on US campuses upon matriculation, and then subsequently face many additional challenges that threaten their persistence to graduation (Schmaling, Blume, Engstrom, Paulos, & De Fina, 2017). Experiencing additional racialized campus stressors as a result of microaggressions tends to compound normal stress faced in college to the potential detriment of students of color. As an example, microaggressions were found to be an independent source of mental health risks beyond the everyday stressors (daily hassles) that students of color face (Blume, 2018). Psychological stressors on campuses have been linked to health and mental health challenges. On US campuses, for example, the incidence of anxiety and depression have been of concern, with evidence that both mental health concerns have the capacity to negatively impact student academic performance and health outcomes (American College Health Association, 2018; Beiter et al., 2015; Lipson, Kern, Eisenberg, & Breland-Noble, 2018; Mackenzie et al., 2011). Racial-ethnic minority university students in particular typically face significant challenges that may be linked to anxiety and depression, such as an unwelcoming campus climate, lack of a campus support safety net, and the regular experience of biases and discrimination, including those associated with racial-ethnic microaggressions (Blume, 2018; Blume, Lovato, Thyken, & Denny, 2012; Fisher & Hartmann, 1995; Lopez, 2005; Suarez-Balcazar, Orellana-Damacela, Portillo, Rowan, & Andrews-Guillen , 2003). Improving the ability to identify and intervene on all sources of anxiety and depression experienced by university students of color, such as the consequences of racial-ethnic microaggressions, would represent a step forward to improving campus climate, enhancing academic performance and student persistence, and student health and mental health.

2. BACKGROUND

Racial-ethnic microaggressions are experienced by victims as acts of personal insults and put-downs. Since microaggressions often contribute to a great deal of ambiguity about whether the act was intentionally or unintentionally carried out, victims often spend a great deal of time reflecting on how to interpret the event (Sue, 2010; Sue et al., 2007). The ambiguity adds complexity to the initial experience that often compounds the level of stress for the victim. In this way, the consequential stress from microaggressions may persist or even lag, suggesting the potential for compounded harm across time

Racial-ethnic microaggressions are commonly experienced on US campuses—many students report they are daily occurrences (Blume et al., 2012; Suárez-Orozco et al., 2015). In cross-sectional research, higher numbers of racial-ethnic microaggressions have been associated with mental health symptoms including anxiety and depression (Blume et al., 2012; Donovan, Galban, Grace, Bennett, & Felicié, 2013; Nadal, Griffin, Wong, Hamit, & Rasmus, 2014; Torres & Taknint, 2015), suggesting the possibility of a cumulative effect to the negative mental health consequences of microaggressions. With both the potential for persistent, cumulative, and perhaps lagged effects, chronic exposure to racial-ethnic microaggressions may have longitudinal associations with mental health symptoms, including anxiety and depression, but to date the research methods examining those relationships have been cross-sectional rather than longitudinal.

This study intended to fill an existing gap in the literature by utilizing a longitudinal examination of the relationship of racial-ethnic microaggression with symptoms of anxiety and depression among university students of color. Given the existing evidence suggesting

the possibility of cumulative, persistent, and lagged impacts of racial-ethnic microaggressions on mental health, self-reported numbers of racial-ethnic microaggressions at baseline assessment were hypothesized to be significantly associated with 1. anxiety and 2. depression symptoms reported at a follow-up assessment one-year after baseline.

3. METHOD

3.1. Participants

Forty-five students of color from a predominantly White student majority university in the Pacific northwest region of the US were recruited to participate in a study examining racial-ethnic microaggressions. The mean age of participants was 23.31 years of age (range of 18-43 years). The study sample included a majority of females (n = 29; 64.4%). The constitution of the sample was racially and ethnically diverse, with 8 students self-identifying as African American, 17 as Asian American, 3 as Indigenous American, 19 as Latinx, and 3 as Pacific Islanders. The overall n > 45 was due to 5 participants identifying with more than one race or ethnicity.

3.2. Measures

Study measures included an assessment of racial-ethnic microaggressions known as the College Student Microaggressions Measure (CSMM). The CSMM assessment has been used previously with racial-ethnic minority university students with good results in cross-sectional research (Blume et al., 2012). Items that were assessed included microaggressions that might be specifically associated with a variety of campus and college experiences, such as interactions with students, faculty, and staff inside and outside of the classroom. Items were assessed in a Likert-like scale from 0-6 asking how often a particular microaggression had occurred over the last month (0 = none; 6 = frequently). The version used in this study included three additional items added to assess microaggressions in the classroom specifically. The slightly modified CSMM included 54 items with the 0-6 Likert type scale responses that demonstrated good internal consistency (α= .944) for the study.

To assess mental health symptoms, the well-known Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988) and Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh , 1961) symptom assessments were used. The BAI and BDI each consist of 21-items assessed by 0-3 Likert type scale responses that examine the symptoms of anxiety and depression respectively. Both the BAI and BDI were administered one year following baseline during a face-to-face follow-up assessment. The BAI and BDI are broadly considered to be gold standard clinical assessments of anxiety and depression symptoms. In this study, both the BAI (α= .833) and BDI (α= .872) were found to have good internal consistency.

3.3. Procedure

The study methods included a quasi-experimental design with two points of face-to-face contact with participants—baseline assessment and a one-year follow-up assessment. Students were recruited by means of advertisements posted around campus on study fliers that announced the study and briefly describing inclusion and exclusion criteria and methods for contacting the study team to express interest. Potential participants interested in the study were asked to contact the study confidentially by phone, and were subsequently contacted by research assistants who screened and scheduled potential participants for the baseline assessment. Racial-ethnic students who qualified for the study were provided study details to inform consent. If the student agreed to participate and

provided informed consent, then the research assistant would complete baseline assessment immediately following consent. Participants provided demographic data and completed the modified College Student Microaggressions Measure (CSMM) at baseline. Contact information was also collected to subsequently schedule the one-year follow-up assessment. At completion of the baseline assessment, participants were thanks for their time, reminded of the follow-up, and compensated with a gift card redeemable at the local campus bookstore.

Approximately one year later, research assistants renewed contact with participants in order to schedule the follow-up. Participants would arrive to the lab at the scheduled time and then complete the BAI and BDI in that order. Participants were thanked for their time and participation, and were compensated with a gift card to the local campus bookstore. The Institutional Review Board of the author's institution reviewed and approved the protocol prior to the conduct of the study. Funding for the study was provided by an internal institutional campus diversity grant award.

3.4. Results

Thirty-five of the participants completed the one-year assessment, for a 77.8% follow-up rate. The follow-up rate is consistent with what is often seen in college student students studies with a similar length of follow-up. Attrition analyses were conducted and found no suggestion of differential attrition with regard to age, gender, or CSMM scores.

Participants typically reported modest levels of anxiety and depression symptoms at one-year follow-up (BAI *Mean* = 8.31, *SD* = 6.00, *Range* = 0 to 27; BDI *Mean* = 8.28, *SD* = 7.19, *Range* = 0 to 34). All participants reported experiencing racial-ethnic microaggressions over the last thirty days (CSMM *Mean* = 96.56, *SD* = 51.15, *Range* = 14 to 212*)*. The most commonly reported microaggressions had themes related to expressed beliefs in meritocracy, in perceptions of colorblindness to issues and concerns about race, in expressions of negative stereotypes about people who are culturally and linguistically different, and in perceptions of what some refer to as reverse discrimination against the White majority. Many of these microaggressions suggested implicit beliefs that racism is no longer a concern in US society despite significant contemporary evidence to the contrary.

Multiple linear regression models were used to test the study hypotheses. Gender differences were expected for the BAI and BDI scores due to previous research findings, so gender was used as a covariate in models. Both study hypotheses were supported by the findings. First, when controlling for gender, total CSMM scores were significantly and positively associated with total BAI scores as predicted (see Table 1; Full Model $R^2 = .247$, $p < .01$, $\eta^2 = .32$). Secondly, when controlling for gender, total CSMM scores were also significantly and positively associated with total BDI scores (see Table 2; Full Model $R^2 = .244$, $p < .01$, $\eta^2 = .30$). Gender was found to be a statistically significant predictor in the first model for total BAI scores (Table 1) but not in the second model for total BDI scores (Table 2).

Table 1.
Regression Model of BAI Scores.

Predictor Variable(s):	Beta	t	95% C. I.
Gender	.358	2.361*	0.611 to 8.229
CSMM Racial-Ethnic Microaggression Scores	.380	2.504*	0.009 to 0.084

Notes: R^2= .25; *F* (2, 33) = 5.40; *p* < .01 for the full model. Betas, t values, and 95% confidence intervals for each regression coefficient listed are for the full model. * p < .05

Table 2.
Regression Model of BDI Scores.

Predictor Variable(s):	Beta	t	95% C. I.
Gender	.299	1.964	-0.159 to 8.972
CSMM Racial-Ethnic Microaggression Scores	.424	2.786**	0.017 to 0.107

Notes: R^2= .24; *F* (2, 33) = 5.33; *p* < .01 for the full model. Betas, t values, and 95% confidence intervals for each regression coefficient listed are for the full model. * p < .05; ** p < .01

4. FUTURE RESEARCH DIRECTIONS

The results of this study align consistently with previous research that have suggested that racial-ethnic microaggressions constitute a mental health threat to university students of color. Future research in the area should strive to improve upon the methods of this particular study and build upon the collective body of research to date. Larger samples and longer follow-up studies would be ideal next steps. Future studies should investigate the longitudinal associations of other student health and mental health concerns with racial-ethnic microaggressions as well. Additionally, it would be helpful to examine if constructs such as ethnic identity and acculturation may moderate any deleterious effects from microaggressions or if particular student coping strategies may moderate the potential effects of microaggressions. Researchers should also examine the complex experience of intersectional microaggressions that also impact minoritized college students.

Developing campus interventions to address microaggressions would be a logical next step, utilizing the existing body of evidence to inform their development. Campus interventions that focus on improving campus climate for students of color, that enhance White campus alliances in support of those students on campuses, and that provide campus support networks for students of color would be particularly helpful to improving health and mental health outcomes on campus.

5. CONCLUSION/DISCUSSION

Greater experiences of racial-ethnic microaggressions were found to be significantly associated with anxiety and depressive symptoms one-year later, suggesting their potency for harm over time. Strengths of the study included use of well-established measures for anxiety and depressive symptoms, a previously tested assessment of racial-ethnic microaggressions, and the examination of longitudinal outcomes of racial-ethnic microaggressions on university students of color. The results, despite the limits off a small sample that may limit representation and generalizability, suggest the potential for long-term deleterious effects from racial-ethnic microaggressions on student mental health.

Racial-ethnic microaggressions likely compound any stress that students of color may experience on campuses where they are in the minority. It is common for students of color to feel as they do not belong—that they are different and may be viewed as imposters who are expected to fail by others due to societal stereotypes. Stress related to not belonging and imposter concerns may be elevated in the context of perceived discrimination and feeling unwelcomed on campus (Cokley et al., 2017). Certainly, the regular experience of campus microaggressions would magnify the psychological stress of students already inclined to feel they do not belong or are welcomed.

Many universities struggle to recruit and then to retain students of color, often engaging in comprehensive efforts to diversify campuses to compensate. However, addressing issues around campus climate may be paramount to successful recruitment and retention of health students. The results of this study suggest that racial-ethnic microaggressions contribute to a toxic campus climate with the potential for long-term mental health consequences for students of color that likely would hinder student persistence and academic performance. Universities will likely face significant challenges in promoting diverse campus experiences that appeal to students of color without first addressing campus climate issues. One important part of improving the campus climate will be to appropriately reduce the incidences of racial-ethnic microaggressions that students of color face on campus.

The findings of this study also highlight the importance of protecting the health and mental health of minoritized students of color to advance campus diversity initiatives. University administrators must take seriously the inherent risks to students of color who experience racial-ethnic microaggressions. The mental health consequences of bias and discrimination are significant threats to the wellbeing of students of color. Racial-ethnic microaggressions are perhaps the most commonly expressed forms of bias that students of color experience on university campuses, potentially making them an institution priority to address, assuming the campus goal is to reduce the sources of a potentially toxic campus climate. The findings of this study suggest that the persistent experience of racial-ethnic microaggressions on campus may contribute to long-term negative consequences on the mental health of these students.

Ultimately, universities could opt to address these potential threats to mental health proactively through campus policies to educate the student body about microaggressions and efforts to circumvent their perpetration on campus. Promoting an equitable campus code of conduct that specifically includes discussion about the unacceptability of microaggressions, whether intentionally or unintentionally done, would send a powerful message to minoritized students that campus administration expects that the campus be a safe environment for all students. In the inevitable event that microaggressions do occur, the student body would benefit from education on an appropriate response by perpetrators that promotes acceptance of responsibility for the act of perpetration, allowing for the

possibility of healing of all involved, and diminishing an inappropriate response of blaming, minimizing the harm, or acting defensively in such a way that compounds the stress of victimization. Universities could also provide clinical services to provide students of color with support when they do experience microaggressions and counseling for the mental health consequences of those microaggressions when necessary. Previous research has suggested that social support may help to moderate the mental health consequences of acts of discrimination, including anxiety and depression (Sefidgar et al., 2019). Improving these clinical safety nets will enhance the psychological well-being of the student body as the campus learns together how to become more welcoming of students of color.

Modern universities must adapt to the changing student body in ways that promotes the well-being of an increasingly diverse campus. Part of that transition is simultaneously diminishing the risks of racial-ethnic microaggressions while improving programming to support a psychologically healthy learning environment for all students. Universities have the capacity to serve as models in society on how to reduce the costly harm that bias and discrimination unleashes. Helping to eliminate microaggressions would make a profound statement in support of diversifying university campuses.

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AUTHOR INFORMATION

Full name: Arthur W. Blume
Institutional affiliation: Washington State University USA
Institutional address: Department of Psychology VCLS 208L, 14204 NE Salmon Creek Avenue, Vancouver, WA 98686 USA
Short biographical sketch: Art Blume, Ph.D., an American Indian psychologist and scholar, is currently Professor of Clinical Psychology at Washington State University. He has been honored with the Joseph E. Trimble and Jewell E. Horvat Award for Distinguished Contributions to Native and Indigenous Psychology and a Rockefeller Foundation Fellowship. He served as president of American Psychological Association (APA) Division 45 and of the Society of Indian Psychologists and as a member of the 2021 APA Presidential Task Force on Psychology and Health Equity. He has been published extensively in the areas of multicultural psychology and addictive behaviors, including 10 sole authored or edited 10 books, including, "A new psychology based on community, equality, and care of the Earth: An Indigenous American perspective," which was awarded an American Library Association Choice Award for an Outstanding Academic Title for 2021, and the recently published, "Colonialism and the COVID-19 Pandemic: Perspectives from Indigenous Psychology."

Chapter #8

DANCE AS A MEDIUM OF COMMUNICATION
Psychological and Social Aspects

Maja S. Vukadinović
Novi Sad School of Business, Serbia

ABSTRACT
In this chapter, we analyze dance as a medium of communication. Human body is the basic instrument of dance since the dancer communicates with others using his/her movements. As such, dance has a great potential to be a medium of communication of various feelings, needs, ideas, intentions, concepts and bodily sensations. Unlike those who dance spontaneously, professional dancers do not communicate the feeling that they are experiencing at that moment, but their movements show the specific feeling that is connected to the whole story imagined by the choreographer. As a medium of communication, dance articulates creative self-expression, body attractiveness and eroticism as well as socialization and contact with another person. These aspects of what is communicated using dance are analyzed throughout the chapter. It is concluded that due to its complexity and universality dance represents a very rich and powerful means for those who need to communicate something either just by using rhythmical movement or by mastering a more symbolical system which can be found in dance as a form of art.

Keywords: dance, communication, self-expression, socializing, eroticism.

1. INTRODUCTION

Dance as a unique and complex phenomenon may fulfill many functions and provide a wide range of meanings to a person who practices it. In the broadest sense, dance can be defined as any rhythmic-bodily movement in space, while dance as a form of art can be defined as a specific type of complex and highly articulated movements. It is a system of organized and formalized movements which the artist consciously expresses and deliberately conveys to the observer (see more in: Blom & Chaplin, 2000; Carter, 1998; Džadžević, 2005; Jowit, 1994; Layson, 1994; Meekums, 2005; Tufnel & Crickmay, 2006; Vukadinović, 2019). In search for understanding the motivation for dancing, various authors have addressed the question of why people dance or what drives them to perform this universal human activity (Christensen, Cela-Conde, & Gomila, 2017; Lovatt, 2016, 2018; Maletić, 1986; Maraz, Király, Urbán, Griffiths & Demetrovics, 2015, Vukadinović, 2019, 2022). Many answers to these questions have been given from the standpoint of different approaches and from various perspectives including psychological, historical, anthropological, sociological, evolutionary, cultural, artistic, neurobiological and medical ones. These are often combined and intertwined, and many authors insist on taking into account different aspects of dance in order to achieve a holistic approach in its research. In summary, it can be stated that among the reasons why people dance, two important tendencies stand out. The first one is mainly physical and it includes the innate human need for rhythmic movement, expression of emotions, improvement of physical condition and form and acquisition of skills. The second is mostly psychological and it includes the need for creative self-expression, aesthetic experience, for the symbolic transformation of experiences, for improving mood and

self-confidence, for escaping from reality, as well as the need to gather in a community by socializing and establish intimacy with other people (c.f. Vukadinović, 2019, 2022). Considering all these motivators and potentials of dance, the feelings it can produce, as well as the changes it can bring, it is very widely used in many areas as a medium (c.f. Vukadinović, 2019). In this chapter, different aspects of dance as a medium of communication will be explored and analyzed.

2. BACKGROUND

Human body is the basic instrument of dance since the dancer communicates with others using his/her movements. As previous studies have shown, dance has a great potential to be a medium of communication of various feelings, needs, ideas, intentions, concepts and bodily sensations (Christensen, et al., 2017; Džadžević, 2005; Hanna, 1995; Maletić, 1986; Vukadinović, 2013, 2022; Vukadinović & Marković, 2017, 2022). By dancing spontaneously, people can communicate the widest range of their feelings and states expressing them with body movements. Moreover, in dance as a form of art, dancers symbolically represent and conjure up different thoughts, states, ideas and feelings through different movements and their combinations. One of the major communicative functions is that dance through body movements enables interaction between people. "Dancing" interaction between people has also been emphasized in previous studies dealing with the importance of the social aspect of dance (Džadžević, 2005; Ehrenreich, 2008; Maletić, 1986; McNeill, 1995; Sebanz, Bekkering, & Knoblich, 2006; Tarr, Launay, Cohen, & Dunbar, 2015; Taylor & Taylor, 1995). It has been suggested that dance was very often a medium for bringing people together and strengthening the connections between community members (Deniker, 1900; Džadžević, 2005; Janković & Janković, 1949, 1964; Neveu-Kringelbach & Skinner, 2014). In addition, Christensen and collaborators refer to the results of bio-behavioral studies and neuroscience research that support this function of dance (see more in Christensen et al., 2017, p. 20). They single out two interconnected neural mechanisms that underlie the cohesive effect of dance. The first one refers to the neuroendocrine mechanisms of increased oxytocin and prolactin secretion during the exchange of positive experiences, which takes place during dancing when people move in synchronization with the rhythm, guided by the same goal and common mood (Christensen et al., 2017; Walker & McGlone, 2013). Another neural mechanism refers to the stimulation of specific receptors in the skin that are activated during "social touch", hugs and movement while dancing in pairs.

Furthermore, along with other topics, in our earlier study we have explored what dance means for both professional dancers and those who practice dance as recreation (Vukadinović, 2022). The study included fewer professionals than those for whom it is a hobby or recreation. The experience of people engaged in various forms of dance (classical ballet, contemporary dance, modern ballet, flamenco, hip-hop, tango, salsa, meringue, rumba, bachata, and oriental dances) was examined. There was an equal number of people who practice individual forms of dance and those who practice dance in pairs. Although the answers to the question of what dance means to them were differently formulated, it was possible to classify them into several groups. The most common answer was freedom. Some of them explained that freedom refers to the expression of their own thoughts and feelings, as well as the freedom for a person to be what he/she is. The other group of responses was related to physical and mental health. Participants referred to physical and emotional well-being, fitness, improved self-confidence, "good feeling", as well as the experience of strength. In the following group of answers, those related to learning something new and

acquiring new skills stood out. Many emphasized that dancing brings them refreshment of the body and improvement of movement motor skills. In addition, a large number of participants emphasized “fun”, socializing and contact with another person. A special group of answers included those related to self-satisfaction and self-fulfillment. The participants formulated that they feel pleasure, that dancing makes them alive, that they “become the best version of themselves” when they dance, as well as that they “become a better person”. Generally speaking, the results have shown that the possibility to express themselves and socialize with others plays an important role for them (c.f. Vukadinović, 2022). It has also been shown that for those who practice dance as recreation, dance is not just a way of socialization, but it is also a way of seduction and the expression of their sexuality. This implies that dance enables communication of the entire self where all psychological processes could be involved. In that process, dance as a medium of communication contains and unites the motivational, emotional, physical and cognitive components within the experience and the behavior of the dancer. In the following text, three different motives that, among others, can be communicated through dance will be elaborated in more detail.

3. DANCE AS A MEDIUM OF COMMUNICATION

As it has been emphasized in the introduction, dance as a medium of communication could be understood very broadly because different feelings, intentions, complex psychological states, different stories and new knowledge can be expressed through dance. Furthermore, when it comes to feelings that can be expressed using body movement, the role of kinesthetic empathy and embodied simulation mechanisms is important (Foster, 2007, 2008, 2011; Reason & Reynolds, 2010; Reynolds & Reason, 2012; Montero, 2016; Strukus, 2011). These mechanisms are active not just while dancing (Reason & Reynolds, 2010; Montero, 2016), but also when observing the movements of others and they can be detected on a psychophysiological and neural level (Christensen et al., 2017). However, one should have in mind that unlike those who dance spontaneously, professional dancers do not communicate the feeling that they are feeling at that moment, but their movement shows the specific feeling that is connected to the whole story conceived by the choreographer.

On one hand, dance as a medium of communication, could be explored from the standpoint of its formal characteristics such as specific rhythm, dance form, choreography, level of stylization or complexity, or even dance technique (Vukadinović, 2019). On the other hand, the motif which is expressed through dance could also be an interesting subject for investigation. Even though the content of dance is shaped and colored by the personality of the dancer, and it reflects the particular individual who dances, general motives "spoken" by dance may be categorized. Dance as a medium of communication articulates creative self-expression, body attractiveness and eroticism as well as socializing and contact with another person.

3.1. Creative Self-Expression

As a medium of communication dance is often understood as a means of creative self-expression. This is due to the fact that a lot of different emotions could be expressed through spontaneous dance (Arnhajm, 2003; Christensen et al., 2017; Džadžević, 2005; Maletić, 1986; Martin, 1965; Vukadinović, 2019). For example, the fact that different tribes dance to all the exciting events in their lives, regardless of what caused their excitement, lead Martin (1965) to the conclusion that the roots of dance should be sought in expressing emotions through body movements. He talks about movement as a medium of life, and takes

into account physiological and internal mechanisms and behavior, pointing out the differences in the work of the neuromuscular system while the person is calm and when he/she dances. Observed from a practical point of view, Martin (1965) notes that movements performed in the states of excitement are typical of the emotion that provoked them (Martin, 1965). Arnheim (Arnhajm, 2003) offers a very similar explanation when he cites examples of the term "isomorphism", which, when it comes to dance, exists in the expression of dancers' movements and in the structure of feelings that a person needs to express through dance.

Furthermore, Džadžević (2005) singles out three theories that define dance as an expression of emotions. One is the "catharsis theory", according to which dance has a therapeutic effect because it relieves internal tension. The second is the "theory of self-realization and feedback", which is the opposite of the theory of catharsis. The third is "the theory of love and sexual motives as a mover and factor in creating a dance". If we look at the dance of today's "primitive" societies, it can be concluded that the sexual motive is one of the most common initiators (Havelock, 1983).

There is also a different kind of research which supports the idea that dance communicates emotions. Starting from the idea that every emotion has a complex neurocognitive and hormonal "signature", Christensen and collaborators suggest that the need of a person to dance or watch dance may represent a biological or neuroendocrine need for a particular biochemical agent (hormones, neurotransmitters), or its elimination, where the compensation or release of that agent is caused by a certain emotional experience (Christensen et al., 2017, p. 17). They explain that watching dance that provokes feelings of sadness actually helps us to improve the condition of the body because crying is known to release prolactin and increased levels of prolactin are associated with the experience of belonging, comfort and pleasure. For example, when a person has a need to watch sad movies or similar works of art whose content provokes such and similar unpleasant feelings, it can be a type of adaptive behavior that serves to restore the biochemical balance. The stated results of this research are in line with the understanding of neuro-biological correlates which are the basis of dance motivators and which Ana Maletić (1986) recognized as an innate need for the expression of emotions.

However creative self-expression does not refer only to the expression of emotions. It implies creativity, especially in dance as a form of art where gestures, movements and attitudes are stylized, where space is decorated and where dancers wear costumes which also articulate the idea of the choreographer. Moreover, creative expression in artistic dance implies symbolization. According to Suzan Langer (1990) spontaneous dance is a sign of one emotion, while dance as a form of art is usually a symbol for that particular emotion. Dance reaches the level of art when it ceases to be a psycho-motor reaction to current emotional experience. It turns into the work of art when these experiences are projected onto dance and what is being danced, through symbolic expression in movements. According to Langer, dance is driven by imagined emotions and not by real ones that are experienced at that moment (Langer, 1990). Thus, although body movements are real, their meaning is not literal but symbolical.

It can be concluded that dance as a medium of communication represents a very rich and powerful means for those who need to express themselves either just by using rhythmical movement or mastering a more symbolical system which can be found in the dance as a form of art.

3.2. Socializing and Human Contact

Dance is a medium which helps people socialize because it enables their communication on a non-verbal level through their use of body movements. For many people engagement in dance is motivated by the need for socializing and being a part of a wider community as well as by the need for contact. The results of the previous studies showed that an important factor which influences the contact through dance and the level of socializing is whether a person engages in it professionally or recreationally (Maraz et al., 2015). Recreational engagement not only brings more pleasure but also leaves much more freedom to express not only a person's need for contact but also his or her overall personality (Adler, 2006; Burgess, Grogan, & Burvitz, 2006; García Dantas, Amado Alonso, & Sánchez Miguel , 2018; Erfer & Ziv, 2006; Langdon & Petraka, 2010). This can be explained by the fact that people who dance for recreation are free from strict rules of professional performance and achievement. They do not have a given "adequate body weight", nor the requirements of particular dance form that are in front of them. Furthermore, the motives of their dance are different from the motives of professionals.

Because of their formal characteristics, social dances and especially dances in pairs, enable socializing through dance. Under the term social dance, Skippy Blair (1995) presupposes a category that has a social context as well as a social function such as entertainment, ceremony, competition, or the expression of eroticism and sexuality. Dance in pairs i.e. partner dance, involves basic choreography and coordinated movement of two dancers (Lavelle, 1983). According to Hanna (Hanna, 2010, p. 213), "dance conveys meaning through the use of space, touch, proximity to another dancer ... and specific body positions and movements". Moreover, Ana Maletić (1986, p. 127) points out that, when it comes to the physical contact in the primitive dance of couples, if it did not serve as a foreplay, then it represented an allusion to the sexual act and fertility. In artistic dance, the difference in establishing contact and the difference in the level of possible socializing through partner dance is related to its genre. Each genre of dance in pairs has its own criteria of performance and excellence. For example, "street" Latin dances - salsa, bachata, merengue, samba and rumba - emphasize the closeness of the dancers, body contact, hip movements, "falling" into each other's arms, synchronized joint movement and sweating significantly more than other genres of partner dance (Hall, 2018; Whitmore, 2014). Tango, which is also a type of partner dance, uses its dance technique to encourage more performers to make a contact through which they would express and evoke sensuality (Abadi, 2013; Arrizón, 2008; Tateo, 2014).

3.3. Body Attractiveness and Eroticism

Eroticism and attractiveness of the dancer's body is often communicated through dance. It is because the fields of dance, body attractiveness and eroticism are closely related, since the same instrument - the human body - is the bearer of expression and communication in these domains (Hanna, 1988, 2010). Whether it is spontaneous or artistic dance, the body is the content of both its attractiveness and performing expression. Depending on various factors, this expression can be differently valued as symbolic, literal, elegant, seductive, interesting, erotic, etc. (Vukadinović, 2019). The first group of factors consists of those related to dance and the setting in which it is performed (context, music, scenery, costume, lighting). In dance as a form of art, its form (classical ballet, modern dance, standard dances, etc.), as well as formal characteristics within each particular form of dance (dance technique, dynamics, elegance, complexity) affect not only the expression but also the experience of both the performer and the observer. The second group consists of those factors that include the characteristics of the person performing the dance (for example, level of training, level of professionalism, overall appearance, "staging of the performer" (cf. Jaeger, 2009, etc.).

Finally, the third group includes factors related to the physical characteristics of the dancer's body. When considering the body attractiveness and the expression of eroticism through dance, it is necessary to keep in mind all these factors, as well as their interaction. For example, content that has nothing to do with sexuality can be erotically colored by the performance style of the dancer himself, or the attractiveness of his body. Or vice versa, content that has a predominantly erotic theme can be performed by a player who looks completely asexual in appearance. This means that the attractiveness of the performer's body can be both very important and completely irrelevant, and can also be based on various criteria, from his/her appearance to the performing technique. Thus, the attractiveness of the body in dance is subordinated to the criterion of competence with which it is performed and symbolically represents some content conceived by dance. Even when the content that is represented by dance is full of sexual motives, the dancing technique by which that content is expressed seems more important than the appearance of the body or the physical attractiveness of the performer. The performer's body attractiveness is determined by the constitution, anatomical and physiological characteristics, physical strength, fitness and overall appearance of the person (for a more detailed analysis, see Marković, 2017, pp. 79-97). Evolutionary-oriented psychologists (Barber, 1995; Grammer, Fink, Moller & Thornhill, 2003; Singh, 2002) suggest that the attractiveness of male and female bodies is a part of sexual selection that influences men and women to prefer those physical characteristics that are "open signals for genetic quality, health, strength and fertility'' (Marković, 2017, p. 85).

Eroticism in the broadest sense can be understood as a metaphor or artistic expression that arouses passion associated with eros and sexual desire (Davis, 2015; Kanaouti & Stewart, 2020). How eroticism is communicated by the dance is still a subject which is insufficiently researched. There are few results within the research of the aesthetic experience of the observer which suggest that eroticism in dance is related to sensuality, passion, beauty and grace, and very often with the expression of sexuality (Christense et al., 2017; Hanna, 1988, 2010; Jaeger, 1997; Maletić, 1986; Vukadinović & Marković, 2012; Vukadinović, 2019).

4. FUTURE RESEARCH DIRECTIONS

There are several future research directions which stem from our analyses. In exploration of dance as a medium of communication it would be significant to investigate how the audience understands the content communicated by the dancer. This should include the data on whether there are any factors which influence their understanding, for example knowing personal data about the performer, or knowing in advance which subject he/she will represent through dance. Earlier studies pointed out that the audience's understanding of the content plays an important role in their evaluation of dance (Vukadinović, 2019).

Moreover, it would be interesting to empirically test the understanding of the expression of a person who dances spontaneously as well as of those who express themselves through dance as an art form. It would also be significant to see in which of those cases a person can communicate him/herself more precisely, and also what variables affect that expression. Furthermore, the question of what differentiates individual dance and dance in pairs in relation to creative self-expression, socializing, body attractiveness and eroticism should be addressed. Additionally, there is the question of if a particular dance form with its specific dance technique, complexity, elegance has an influence on creative self-expression, socializing, body attractiveness and eroticism. In terms of eroticism and body attractiveness, it should be investigated if communication through dance can be assessed as intrusive, grotesque, weird or bizarre, as some earlier studies related to perception of the body pointed out (Berrol, 1992; Chase, 1953; Cheng, 2018; Hagendoorn, 2004).

These are just some questions that arose from our analyses. The main accent should be on empirical testing when addressing all these questions in order to check and make exploration more reliable. For such future quests, it is worth mentioning that there are not many standardized psychometric instruments which can be used to assess different aspects of people's dance experience. Vukadinović and Marković (2012) constructed an instrument with which aesthetic experience of dance could be assessed. It measures three dimensions of aesthetic experience of dance: Dynamism, Exceptionality and Affective Evaluation. Maraz and collaborators (Maraz et al., 2015) constructed Dance Motivation Inventory (DMI), which measures eight motivational factors for social dancing: Fitness, Mood Enhancement, Intimacy, Socializing, Trance, Mastery, Self-confidence and Escapism. Furthermore, there is Goldsmiths Dance Sophistication Index (Gold-DSI), which measures individual differences in active and passive dance experience (Rose, Müllensiefen, Lovatt, & Orgs, 2020). There is also an important instrument which measures audience's physical experience while watching dance constructed by Vukadinović and Marković (2022), which consists of two scales. The first one measures the observers' physical experience when watching dance by assessing three dimensions: Action Tendency, Arousal and Relaxation. The second measures the observers' kinesthetic responses when watching dance, by assessing Focus, Excitement and Embodied Anticipation. However, to the best of our knowledge, at this moment, there is no standardized psychometric instrument which could be used for measuring the aspects of dance related to the communication of the performer's self, his or her creativity, body attractiveness, or any other segment of communication through dance (e.g. understanding the message which dance conveys or attribution of the meaning to dance). In that sense, the construction of such an instrument would represent an important future direction.

5. DISCUSSION AND CONCLUSION

Most recent studies related to dance have shown that research in dance may be categorized in such a way that dance may be studied when it is used as a tool or explored as a topic (Rose et al., 2020). When dance is studied as a tool, researchers apply principles from dance choreography to study motor learning, emotion perception, body awareness, personality, creativity and divergent thinking (Bläsing, 2015; Christensen, Gaigg, & Calvo-Merino, 2018; Christensen, Gomila, Gaigg, Sivarajah, & Calvo-Merino, 2016; Lovatt, 2018; Vukadinović, 2019). Moreover, exploring expertise in dance (e.g. professional dancers, non-dancers) enabled a better understanding of neural mechanisms of action observation and its evaluation (Cross & Ticini, 2012; Jola, Davis, & Haggard, 2011; Orlandi, Zani, & Proverbio, 2017). As a tool, dance is used and explored in therapy, psychotherapy and rehabilitation of various mental and physical health issues. For example, it has been shown that dancing improves the well-being and physical form, enhances the mood and boosts self-confidence (Barreiro & Furnham, 2019; Maraz et al., 2015). On the other hand, when dance is studied as a topic, researchers explore dance in relation to culture and cultural arte-facts, or as a part of religious and other rituals (Lovatt, 2018; Rose et al., 2020; Vukadinović, 2019). It has been noted that as such dance has important functional role in group formation and communication (Christensenet al., 2017; Von Zimmermann, Vicary, Sperling, Orgs, & Richardson, 2018). In our analyses, we have approached dance both as a topic and as a tool of communication.

It can be concluded that the possibility for approaching dance as a tool as well as a topic, and consequently for such a wide range of studies related to dance as a medium of communication stems from its specifics. Among the most important ones is the universality of dance, which makes it accessible to be the subject of study of various disciplines. Given

that dance exists independently of the meridian or social order, that it is related to people of all ages regardless of gender or any other determinant, the universality of dance suggests its archetypal nature visible through motivators that has inspired people to dance since prehistory (Džadžević, 2005; Maletić, 1986; Vukadinović, 2016, 2017). Among these specific traits of dance, its multifunctionality stands out because it combines communicative and integrative, aesthetic, educational, social and even "healing" function (Džadžević, 2005; Maletić, 1986). Properties such as temporal and spatial specificity and synchronization allow the structural analyses of both spontaneous and artistic dance (Brown, Martinez, & Parsons, 2006; Laban, 1960; Luck & Sloboda, 2009; Hutchinson-Guest, 1979; Repp & Penel, 2004). The characteristic that the dancer is at the same time the subject and the object of dance distinguishes this art from all other artistic disciplines (Arnhajm, 2003; Vukadinović & Marković, 2012). Dance as a work of art has a real and concrete existence, it requires an audience, even if the audience is the creator, and therefore represents a bridge between internal and external, between the experience of the audience and the experience of the creator (Schaverien, 2005). As such, dance represents a highly potent medium of communication. It holds great importance for a person since, as a specific medium of communication it provides the possibility for self-expression, healing, the acquisition of new skills and the achievement of freedom through which one can express the entire potential of his personality. No matter the way in which it is practiced (as a form of art, recreation or entertainment), as a medium of communication dance enables its performers to satisfy various desires and fulfill high value standards such as authenticity and creativity. General well-being, good physical shape, the feeling of strength and freedom of movement and experience of one's own beauty are just some of the supporting reasons why an individual chooses to dance. It is not only a complex, multifunctional and multidimensional phenomenon, but it is also a mediator of important biological and psychological functions of people. As such, dance is a realm of existence that facilitates creative adventure for those who engage in it.

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AUTHOR INFORMATION

Full name: Maja S. Vukadinović
Institutional affiliation: Novi Sad School of Business
Institutional address: Vladimira Perića – Valtera 4, Novi Sad 21000, Serbia
Biographical sketch: Maja S Vukadinović holds a PhD in psychology. She is a senior research associate and professor of vocational studies - subject psychology. She is a founder, choreograph and pedagogue in Novi Sad Center for Research of Dance and Art of Flamenco - La Sed Gitana. Her main area of interest is Psychology of Art. She published papers in national and in international journals and 3 monographs: Flamenco – Between Silence and Scream (2002), Experience of a Work of Art in Psychology of Artistic Creation (2017), The Psychology of Dance (2019).

Chapter #9

RISKY BEHAVIOR IN ADULTS RELATED TO GENDER, AGE, AND CHILDREN AT HOME

Janine M. Ray[1], Polina Kats-Kariyanakatte[1], Latrease R. Moore[2], & Kristine M. Jacquin[3]
[1]*Clinical Psychology Doctoral Student, Fielding Graduate University, USA*
[2]*Alumna, Clinical Psychology, Fielding Graduate University, USA*
[3]*Professor and Dean, School of Psychology, Fielding Graduate University, USA*

ABSTRACT
We predicted that having children at home would reduce risky behavior for women and men, but more so for women than men. More than 450 American adults of different genders, ages and ethnicities were recruited from Prolific. Participants completed a questionnaire to measure engagement in various forms of risky behavior throughout their lifetime, including illegal and risky sexual behavior. Differences in illegal behavior, risky sexual behavior, and other types of risky behavior were found between men and women, $F(3, 441) = 9.09$, $p < .0001$, partial $\eta^2 = .06$, with men reporting more risky behavior of all types. ANCOVAs were used to assess the relationships between gender identity further and having children and total risky behavior and illegal behavior; age was covaried. Significant interactions between IVs revealed that male participants with children at home engaged in significantly more risky sexual behavior, $F(1, 441) = 4.24$, $p = .04$, overall risky behavior, $F(1, 441) = 3.89$, $p = .049$, and illegal behavior, $F(1, 441) = 3.59$, $p = .059$, than those without children at home. For women, there was no relationship between having children at home and risky behavior, illegal behavior, or risky sexual behavior.

Keywords: gender effects, risky behavior, illegal behavior, risky sex, children.

1. INTRODUCTION TO RISKY BEHAVIOR

Scholars and researchers study the factors that contribute to risky behaviors and the outcomes of such activities with the aim of harm prevention for individuals, groups, families, and communities. According to Trimpop (1994), risk-taking is consciously or unconsciously-controlled behavior where there is uncertainty about: (a) outcome, (b) potential costs, or (c) potential benefit to the economic, physical, or psychosocial well-being of the self or others. Risky behaviors are those that expose individuals (self or others) to harm or significant risk of harm and that can potentially impede persons from reaching their potential (Ansari, Alghamdi, Alzahrani, Alfhaid, Sami, Aldahash, Aldukhayel, Alshanbah, & Almutairi, 2016). Engagement in risky behavior can serve as a pathway to prison (Barbarin, 2010), lead to lasting injury and mortality (Taubman-Ben-Ari & Skvirsky, 2019), and can destabilize families and communities (Terzian, Andrews, & Moore, 2011).

Risky behaviors have a broad definition that can include aggression, illegal behaviors, impulsive eating, non-suicidal self-harm, physical inactivity, reckless driving, smoking, alcohol and substance use, untreated mental illness, unprotected sex or sex with multiple partners, impulsive spending, and gambling (Horvath & Zuckerman, 1993). For the purposes of this study, we will use the definition of risky behavior described in the Risky, Impulsive, and Self-Destructive Behavior Questionnaire (RISQ; Sadeh & Baskin-Sommers, 2016).

In the measure, risky adult behavior includes alcohol use, unsafe or impulsive sexual behavior, aggression, illegal behavior of all types, self-harm, impulsive eating, gambling, reckless driving, and impulsive spending. These activities can lead to self-harm as well as harm to others and can lead to consequences such as death or injury, relationship struggles, and financial or legal issues. Given these concerns, it is worthwhile to understand additional factors involved to inform education, parenting programs, rehabilitation, and law enforcement awareness.

Risky behavior has been studied concerning personality traits, exposure to trauma, familial legal involvement (Moore, 2019), socioeconomic resources, and the COVID-19 pandemic (Glaeser, Jin, Leyden, & Luca , 2021). Prior research suggests that adolescent boys and young adult men are more likely to engage in risky behaviors than women and girls, perhaps due to social norms (Harris, Jenkins, & Glasser, 2006; Sohrabivafa et al., 2017). Important factors in risk-taking behaviors, such as certain socioeconomic factors, like affordability and access to risky activities, have been identified (Asamoah & Agradh, 2018; Javier Garcia-Castilla, Martinez Sanchez, Campos, & Arroyo Resino , 2020; Sohrabivafa, M., Tosang, Zadeh, Goodarzi, Asadi, Alikhani, Khazaei, Dehghani, Beiranvand & Khazaei, 2017; Zahran, Zack, Vernon-Smiley, & Hertz , 2007). Sensation seeking among youths is another factor in risk-taking whereby youths seek to feel alive, similarly to how shows, films, social media influencers and celebrities present their lives as exciting (Branley & Covey, 2018). However, existing literature has primarily focused on adolescent youth (13-18) or young adult (19-24) college students (Asamoah & Agradh, 2018; Leigh, 2002; Pharo, Sim, Graham, Gross, & Hayne, 2011; Sohrabivafa, M., Tosang, Zadeh, Goodarzi, Asadi, Alikhani, Khazaei, Dehghani, Beiranvand & Khazaei, 2017). This study aimed to examine the association between gender, the presence of children at home, and engagement in risky behaviors among parents or caregivers to identify added variables involved in developing patterns of risky behavior.

2. THEORETICAL PERSPECTIVES ON RISK TAKING

There are many theories on delinquency and parental influences, yet no single theory has been developed to explain how risky parental behaviors affect children (Johnson & Easterling, 2012). Attachment theory and social control theory are two theoretical perspectives to conceptualize risky behavior in parents and caregivers and the influence this might have on children and communities.

2.1. Attachment Theory

Attachment behaviors are adaptive responses of infants to cope with stress brought on by separation or inconsistent nurturing from caregivers (John, Robins, & Pervin, 2008). According to the theory, three attachment styles develop within the first year of life: secure, anxious-resistant, and avoidant (John, Robins & Pervin, 2008). Children with secure attachments were raised by parents who were mostly responsive to their needs (Moore, 2019). These children effectively regulate their emotions and behaviors with their parents' support (Kim, Cicchetti, Rogosch, & Manly, 2009). Children with insecure attachment (anxious-resistant and avoidant) can have parents who are mostly inconsistent in their care, reject their care, or are insensitive to the child's needs (John et al., 2008).

Literature supports that children with insecure attachments have an increased risk of engaging in aggressive and antisocial behaviors (Farrington, 2003). Attachment is typically impacted by the parent being cold, rejecting, or separating from the child (Farrington, 2010). Parents that provide insecure, avoidant, or anxious-resistant attachment are often neglectful

to the child's needs, are erratic in behavior, and do not provide a sense of safety and security. Parental substance use and untreated mental illness can contribute to impairments in attachment (Dallaire, 2007), which serve as obstacles to emotional and physical connection. As a result, the child can spend less time with parents and becomes free to develop relationships with peers who engage in risky behavior (Hirschi, 1969). Attachment theory suggests that children with insecure attachments to their parents commit more reckless acts.

2.2. Social Control Theory

Another framework to conceptualize risky behavior is social control theory. The perspective suggests that individuals and groups are inclined to commit deviant acts, yet measures of control such as law enforcement deter these activities (Beaver, Wright, & DeLisi, 2007; Thio & Taylor, 2011). Other dissuading influences include family dynamics, neighborhood and community context, and school environments (Beaver, Wright, & DeLisi, 2007; Taylor, 2001). When people form bonds within society, in this line of thinking, they have a reduced proclivity for risky and criminal behavior (Thornberry, Freeman-Gallant, & Lovegrove, 2009). Harkening back to attachment theory is the idea that pivotal social bonds require attachment to people and institutions (Hirschi, 1969). Family is the primary source for internalizing norms and understanding rules of conduct. Immediate and extended family serve as role models who supervise and implement the socialization process (Hagan & Dinovitzer, 1999).

3. ADOLESCENT AND ADULT RISKY BEHAVIORS

Whether a parent's risky behavior can impact children's well-being at home is lacking in research attention. However, when children are involved, risky parental or adult behaviors can broadly affect the child. For example, having an incarcerated parent has numerous short- and long-term consequences for children, such as depression, aggressive behavior, hyperactivity, attention issues, withdrawal, obesity, asthma, migraine headaches, and hypertension (Dallaire, 2007; Huebner & Gustafson, 2007; Lee Fang & Luo, 2013; Murray & Farrington, 2008; Wildeman & Western, 2010). Additionally, risky behavior on the part of a parent in a partnership can result in relationship conflict and emotional or physical violence. Children become susceptible to further instability, such as caregiver substance abuse and mental illness, impoverished living conditions, maltreatment, exposure to violence, and unstable housing (Lee Fang & Luo, 2013). These adverse childhood outcomes, not surprisingly, are associated with risky youth behavior (Asamoah & Agardh, 2018; Pharo et al., 2011).

3.1. Age, Gender Roles, and Risky Behavior

In the extensive literature on risky behavior, men are often more likely to engage in these activities than women (Wang, Zhang, Feng, Wang, & Gao, 2020). Scholars attribute this to gender roles and social attitudes where binary genders are treated differently in media, at home, and in the broader communities. For example, parents tend to monitor girls' online behavior more closely and place more restrictions on Internet use than boys. The difference may be due to the idea that girls should be protected, yet boys can handle themselves more readily (Sasson & Mesch, 2016). Girls tend to be more influenced by family expectations, according to a few studies that link family values, parental warmth, and expectations as serving as protective factors for girls against risky behaviors (Montano, Ray & Mizock, 2021).

Engagement in certain types of risky behavior has gender differences as well. When mortality is a potential outcome of risky behavior, such as climbing a height with the risk of falling, girls had a significantly lower willingness to participate than boys (Hirschberger, Florian, Mikulincer, Goldenberg, & Pyszczynski , 2002). Girls tend to engage in more passive risky behaviors, such as riding in cars with drinking drivers and engaging in non-suicidal self-harm (Rivas-Rivero, Bonilla-Algovia & Vázquez 2020). On the other hand, boys tend to engage in more active risk behaviors, such as fast driving and physical fights (Biolcati, Mancini, & Trombini, 2018). Both genders, it seems, can engage in certain activities, such as risky or unprotected sex. Again, the gender difference may be related to gender role expectations whereby traditional views of men can allow for more social acceptance of more outright and aggressive risky behavior than women would (Biolcati et al., 2018).

Further, age is a predictor of risky activities. Adolescent youths and young adults (19-24), in particular, are more likely than older adults to engage in these behaviors, which can partly be explained by neurodevelopmental factors (Vijayakumar, de Macks, Shirtcliff, & Pfeifer, 2018). The social (adolescence) and biological (puberty) changes are mediated by neurodevelopment, whereby neural structures are organized and changed in temporary and permanent ways influencing affective, behavioral, and social presentations. These changes, imbalances, and resultant information processing are attributed to adverse adolescent outcomes, particularly risk-taking behaviors, increased susceptibility to depression and psychopathy, and a higher likelihood to use alcohol and substances (Feldstein Ewing, Hudson, Caouette, Mayer, Thayer, Ryman, & Bryan, 2018). 2018; World Health Organization, 2014). In this way, it is expected that younger ages will engage in more risky behaviors, yet more research is required to explore this idea, particularly in terms of risky adult behavior as a reference point.

3.2. Relationships, Attachment, and Risky Behavior

Limited research exists on relationship status and its association with risky behaviors. In a previous study (Ray, Kats-Kariyanakatte, Moore, & Jacquin , 2021), we examined the connection between relationship status and risky behavior. In that study, we found that relationship status and gender were significant predictors of total risky behavior. Trends in the data indicated that men, particularly men living with a partner, engaged in more risky behaviors than other groups. These results extend prior research showing that men are more likely to engage in risky behaviors than women (Wang, Zhang, Feng, Wang, & Gao, 2020), yet relationship status may be an essential factor in the process. It may be that women in relationships assume socially responsible roles, and men feel more privileged to engage in risky behavior (Stronge, Overall, & Sibley, 2019). The difference may be encouraged, too, by children at home, where women continue to be the principal caregivers for the family. In our research, men in the living-with-a-partner group were more likely to engage in risky behavior; conceivably, men exhibiting high levels of risky behavior are viewed as less suitable partners for marriage or unable to commit to marriage (Valentine, Li, Meltzer, & Tsai, 2019). There remains a gap in the literature as to whether another type of relationship status – having children who live at home – predicts risky adult behavior.

4. CHILDREN AT HOME, PARENTAL BEHAVIOR, AND PARENTAL SEPARATION

Sometimes risky behavior on the part of parents or caregivers can lead to separation from their children, which can influence children in numerous ways. Researchers have indicated that children of incarcerated parents exhibit external and internal distress symptoms, such as depression, withdrawal, regression, clinging behavior, bedwetting, sleeping and eating problems, hyperactivity, homelessness, attention issues, aggression, and truancy (Cicchetti & Rogosch, 1997; Dallaire, 2007; Lee, Fang & Luo, 2016; Murray & Farrington, 2008; Geller, Cooper, Garfinkel, Schwartz-Soicher, & Mincy 2012; Wildeman & Western 2010). There are also physical health problems in young adults who experienced parental separation, such as parent in prison, including obesity, asthma, migraine headaches, and hypertension (Lee, Fang, & Luo, 2016; Murray & Farrington, 2005). Extant research indicates that parental separation may aggravate familial relationships, disrupt attachment and social bonds, and impact the home environment. These adverse events include parental or caregiver substance abuse, mental illness, unstable housing, poor living conditions, violence exposure, and child maltreatment.

Although the potential negative impact of risky parental behavior on children seems apparent, prior research has not examined whether parents with children at home are more or less likely to engage in risky behavior. Our research helped fill this gap by examining the association between having children at home and risky behavior in adult women and men. We predicted that having children at home would be associated with reduced risky behavior for both women and men, with a more significant effect on women than men due to gender role expectations.

5. PARTICIPANTS

IRB approval (18-0507) was received before commencing the study. Recruitment for the project occurred through the online crowdsourcing site, Prolific. Prolific is a participant recruitment platform focused on connecting researchers and participants worldwide. The platform has been found to produce high-quality data and replicate existing results (Peer, Brandimarte, Samat, & Acquisti, 2017). Prolific participants are recruited through social media (i.e., Facebook, Twitter, Reddit, and blog posts) and poster/flyer campaigns at universities. Participation of minors is prohibited and screened by Prolific, and participants are not employees of Prolific.

Participants received compensation for completing the survey equivalent to the minimum wage in many U.S. states, which was distributed directly through the site. To ensure participant safety, they were provided quick and risk-free options for withdrawing their consent during the study. The participant responses were collected through an online survey administered through Qualtrics.

Demographic information was obtained through a questionnaire provided by Prolific that included participant age at the time of the study, gender identity, whether they have children at home (yes or no), and relationship status (married, divorced, living with a partner, single), among others. More than 450 (N = 454) American adults (M age = 33.3 years, SD = 11.9) were recruited in total. Participants identified as male (54.4%), female (45.4%) or transgender (0.2%). Ethnicity was self-identified as Caucasian/White (80.4%), African American/Black (7.7%), multiracial (4.4%), Latinx (4%), Asian/Asian American (3.1%), Native American or Alaskan Native (0.2%), and other (0.2%). Less than one-third (29.1%) had children at home.

6. METHOD

Through Prolific, participants completed an anonymous survey called the Risky, Impulsive, and Self-Destructive Behavior Questionnaire (RISQ; Sadeh & Baskin-Sommers, 2016). The RISQ measures engagement in total risky, illegal, and risky sexual behavior throughout one's lifetime. The RISQ defines total risky behavior as concerning eight components within the 38 questions. The components include Illegal Behavior (13 questions), Aggression (5 questions), Reckless Behavior (4 questions), Gambling (4 questions), Self-Harm (4 questions), Heavy Alcohol Use (2 questions), Harmful Eating (2 questions), and Risky Sexual Behavior (4 questions). The endorsed behaviors are assessed for frequency over the participant's life span and in the past month. Age at the onset of the behavior and implications of the behavior (medical, legal, familial, or work-related issues) are further evaluated (Sadeh & Baskin-Sommers, 2016). In particular, Illegal risky behavior is defined in the assessment tool as shoplifting, speeding, elicit drug use, vandalism, illegal gambling, running red lights, and stealing money. The assessment measure describes risky sexual behavior as having sex with two or more partners at one time, sex for money or substances, paying for sex, and unprotected sex with someone just met. The items are rated on a 5-point Likert-type scale that asks participants to rate their agreement from 0 = strongly disagree to 4 = strongly agree if the behavior is used to stop unwanted negative emotions or to obtain a wanted pleasurable emotion (Moore, 2019). Sadeh and Baskin-Sommers (2016) included the Likert-style items to assess for avoidance and approach affective triggers.

The RISQ obtained an internal consistency score of $\alpha = .92$ and individual factor reliability ranging from .73-.92 except for the factor of reckless behavior, which produced .63 for internal consistency (Moore, 2019). The measure's construct validity correlated with instruments of proactive and reactive aggression (rs = .43-.45), impulsive eating (rs = .44-.54), problematic gambling behavior (r = .65), substances and alcohol problems (r = .33), and suicidal behaviors (r = .84). Within the RISQ is a consistently high association between risky and self-destructive behaviors, and exposure to violence (rs = .50-.57). Further, there was a notable connection to sensation-seeking traits (r = .41), and borderline and antisocial personality disorder (rs = .37-.39; Sadeh & Basking-Sommers, 2016). Instrument validity and reliability testing indicated that the affective scales have convergent and discriminant validity (Moore, 2019). The Avoidance scale, for example, is negatively correlated with distress tolerance (r= -.36) and positively correlated with general distress (r = .29). The Approach scale, rather, has a low correlation with distress tolerance (rs = -.08) and with general distress (rs = -.13; Moore, 2019; Sadeh & Basking-Sommers, 2016). Importantly, the RISQ total score is strongly linked with psychological disorders that endorse elevated rates of risky and self-destructive behaviors, such as antisocial personality disorder, rs = .39. Also important to consider is each of the RISQ components demonstrates a strong relationship between violence exposure and the frequency of RISQ behaviors with total score rs = .50-.57 (Moore, 2019).

7. DATA ANALYSIS

The statistical analysis was completed using the Statistical Package for Social Sciences (SPSS) 24.0 Macintosh Version. Data were cleaned to eliminate missing data and evaluate outliers. MANCOVA is a type of analysis of covariance. Yet, it is used to explore research questions with more than one dependent variable, and there is a need to control for concomitant continuous independent variables (Field, 2017). We chose a MANCOVA because the model can factor out the error that the covariate can introduce to the test and

results for the overall gender difference in illegal behavior, risky sexual behavior, and other types of risky behavior (Field, 2017). The variable was selected as there is no prior research looking at the relationship between risky behaviors and the presence of children. The components addressed by the other subscales, such as alcohol use, impulsive eating, and gambling, have been previously looked at (McKetta & Keyes, 2019; Suomi, Lucas, Dowling, & Delfabbro , 2022). Then, we used an ANCOVA. This type of general linear statistical blends ANOVA and regression and is a form of analysis of covariance. The ANCOVA was used to appreciate relationships between gender identity, children at home, total risky behavior, risky sexual behavior, and illegal behavior.

8. RESULTS

MANCOVA revealed differences in illegal behavior, risky sexual behavior, and other types of risky behavior between men and women, $F(3, 441) = 9.09$, $p < .0001$, partial $\eta^2 = .06$, with men reporting more risky behavior than all types. Three ANCOVAs were conducted to assess further the relationships between gender identity and having children at home (I.V.s) and total risky behavior, risky sexual behavior, and illegal behavior (D.V.s); age was covaried due to significant correlations with risky behavior. As expected based on the MANCOVA, significant main effects were found for gender on total risky behavior, $F(1, 441) = 13.15$, $p < .0001$, partial $\eta^2 = .03$, risky sexual behavior, $F(1, 441) = 4.73$, $p = .03$, partial $\eta^2 = .01$, and illegal behavior, $F(1, 441) = 23.57$, $p < .0001$, partial $\eta^2 = .05$. For each DV, men reported engaging in more risky behavior than women. In addition, a significant main effect was found for children at home on risky sexual behavior, $F(1, 441) = 5.11$, $p = .02$, partial $\eta^2 = .01$. The effect of children at home on total risky behavior approached significance, $F(1, 441) = 3.07$, $p = .08$, partial $\eta^2 = .01$. For both D.V.s, having children at home was associated with more risky behavior. Children at home did not show a main effect for illegal behavior, $F(1, 441) = 1.85$, $p = .18$, partial $\eta^2 = .01$.

The main effects are better understood by examining interactions between gender and children at home. Overall those who are male ($M = 11.62$) were found to engage in more risky behavior than those who are female ($M = 9.65$). Specifically, men who had children at home were found to engage in the riskiest behaviors ($M = 14.13$). Significant interactions showed that male participants with children at home engaged in significantly more risky sexual behavior, $F(1, 441) = 4.24$, $p = .04$, overall risky behavior, $F(1, 441) = 3.89$, $p = .049$, and illegal behavior, $F(1, 441) = 3.59$, $p = .059$, than those without children at home. For women, there was no relationship between having children at home and risky behavior, illegal behavior, or risky sexual behavior.

Table 1.
Association of Children at Home and Total Risky Behavior.

Variable	Children at home		No Children at Home		Total	
	M	*SD*	*M*	*SD*	*M*	*SD*
Male	14.13	10.28	10.58	7.16	11.62	8.34
Female	9.95	6.60	9.53	6.05	9.65	6.20
Total	12.25	9.03	10.10	6.68		

9. DISCUSSION

We hypothesized that children in the home would be associated with reduced risk-taking behaviors, especially among women. The women in our sample supported the prediction—women with children at home engaged in less risky behavior overall. As previously mentioned, women in many contexts tend to assume more of the caretaking of children than men due to social norms and expectations that stem from traditional values. There were Latin women in our sample, for example, and Latinas often assume caretaking responsibilities and are expected to maintain many aspects of family life. The belief is not present for men, who instead are expected to meet the requirements of masculinity (*machismo*; Montano et al., 2021). While the expectation that women endure much of the burden of unpaid caretaking in families is changing in some contexts, it remains an influential aspect of social behaviors in many Western countries.

In line with attachment theory, there is an idea that mothers are responsible for the psychic lives of their children, perhaps more so than fathers or other caregivers, and they can experience maternal guilt and shame when they are not prioritizing the needs of their children (Collins, 2021). The COVID-19 pandemic highlighted that the disparities associated with traditional gender roles remain quite present (Carreras, Vera, & Visconti, 2022). Women in the U.S., Canada, and the U.K., for instance, reported that they were expected to reduce or stop working while children were at home to support their kids' online learning and provide child care.

The prediction that men with children at home would exhibit reduced risky behaviors was not supported for the men in our sample, and in fact, the opposite was true. In line with social control theory, our expectation is that children in the home might have a stabilizing effect on men in that they create important social bonds that facilitate socially normative and community-building behaviors (Randles, 2018). Overall, men with children at home reported engaging in more total risky behavior, illegal behavior, and risky sexual behavior compared to men without children at home.

In line with traditional gender roles, some men might feel more social pressure to assume a form of masculinity where acting out behaviors (even if these are destructive) is more accepted than maintaining social and emotional bonds with family and in the home. As mentioned earlier, the Latinx population can endorse a degree of masculinity that is traditional in that men are not encouraged to serve as the unpaid caretakers in their families but are largely are socialized to remain emotionally aloof from the occurrences within the home (Montano, Ray & Mizock, 2021). Healthy attachment is often linked to mothers, yet

fathers or male caregivers serve an important role in supporting children's healthy social bonds and relational confidence. Some research has indicated, for example, that healthy paternal involvement and strong relationships between children and male caregivers can increase a sense of a secure base in the child and inspire healthy relationships towards boys and men (Ahnert & Schoppe-Sullivan, 2020). As discussed by Randles (2018), traditional gender behaviors are often encouraged by systems and social policies, and governments could do more to facilitate more involvement in the care of children in the home, such as with paid paternity leave.

As outlined in the introduction, risky behavior can have consequences, such as death or injury, financial challenges, relationship discord, legal issues, and health concerns. Thus, these behaviors can lead to adverse childhood experiences that have implications in terms of attachment and social-control theory. For example, children in the home that are exposed to parents or caregivers with risky behaviors can result in disruptions in attachment. Offspring of parents that engage in risky behavior may develop insecure attachment due to inattentive or neglectful parents and early or long separation during infancy (such as in parental incarceration) that can result in decreased emotional connection (Dallaire, 2007; Gius, 2016). Children with insecure attachment can endorse impulsivity, a factor that is associated with the inability to regulate one's emotions and engagement with risky coping behaviors (Morrongiello, Corbett, & Bellissimo , 2008). Since children can internalize societal norms through exposure to their parent or caregiver behaviors, children can be imprinted by these activities and mimic them in adolescence and adulthood (Espeleta, Brett, Ridings, Leavens, & Mullins , 2018; Ryb, Dischinger, Kufera, & Read , 2006).

The implications could also be understood through another aspect of social control theory (Thornberry, Freeman-Gallant, & Lovegrove, 2009). When norms and rules are interrupted or maladaptive, the societal bond is damaged (Jang & Smith, 1997). Disruptive risky behaviors, separation, and family stressors can limit meaningful interaction between parents and children (Geller et al., 2012). These barriers can lend space for vulnerable children and youth to seek connections with peers and increase the possibility of deviant associations and the development of risky behaviors (Hagan & Dinovitzer, 1999; Jang & Smith, 1997). Social control theory suggests children in these circumstances feel a polarized struggle between an alliance with their peers or with family. More research is required to appreciate how child exposure to adult and caregiver risky behavior can influence their choices and behaviors.

10. LIMITATIONS

There are several limitations to our study. For one, less than one-third of the sample had children at home (29.1%, n = 132), and we are unaware of the specific ages, genders, and the number of children the participants had. The way that the demographic question about children at home was asked lends space for ambiguity, too. Instead of asking if the children in the home were the participant's children, siblings, or other children, the question simply asked whether there were children at home, and the response was either a yes or no answer. Additional research with larger samples of individuals with specific information about the children living in the home will clarify our findings. The number of children at home and the ages and gender of those children may play a role in parents' choices about engaging in risk-taking behaviors. Further study with the inclusion of diverse sexual orientations, gender identities, and types of partnerships would further elucidate these initial findings by increasing inclusivity and resultant generalizability.

11. CONCLUSION

There is an adage that individuals can settle down or mellow out in their behaviors, including risky behaviors, with partnership, marriage, and family. The findings here suggest that this is not the case for men in our sample. Because the presence of risky behavior in a child's home by their parents can be a destabilizing factor, contribute to adverse childhood experiences, and can lead to children reenacting the behavior in adolescence and adulthood, it is important that these results inform policy, education, social programs, and expand the awareness of law enforcement. For example, findings may support parenting-education courses and social service practices and may inform police practices regarding the complexities involved in risky adult behavior – the etiology and impact for a perhaps more compassionate treatment. Identifying impulsive behaviors in children and building skills to cope with stress and anxiety in different ways may be helpful in curbing adolescent and adult risky behaviors. Continued research into risky-behavior pathways is required.

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AUTHORS' INFORMATION

Full name: Janine M. Ray, MA, RCC, BCATR
Institutional affiliation: Fielding Graduate University
Institutional address: Fielding Graduate University 2020 De la Vina Street | Santa Barbara, CA 93105 USA
Email address: jray@email.fielding.edu
Short biographical sketch: Janine is a clinical psychology doctoral student, clinical counselor and art therapist living in British Columbia, Canada. Her interests are in matters of social justice through a psychodynamic framework, such as how early childhood experiences shape worldview and patterns of behavior within a context of systematic oppression. To date, Janine has completed 16 conference presentations and talks, is a co-author on two published articles, lead author on three publications in press, and contributes to the field through professional services such as committee work and proposal reviewing.)

Full name: Polina Kats-Kariyanakatte, MS
Institutional affiliation: Fielding Graduate University
Institutional address: Fielding Graduate University 2020 De la Vina Street, Santa Barbara, CA 93105, USA
Email address: pkats-kariyanakatte@email.fielding.edu
Short biographical sketch: Polina is a clinical psychology doctoral student and policy analyst from the Greater Philadelphia area. Her interests lie in the intersection of therapy, assessment, research, and policy. Polina is passionate about working with underserved populations especially immigrants and refugees. Throughout her career, Polina has been first author on several publications and multiple conference presentations.

Full name: Latrease R. Moore, PhD.
Institutional affiliation: Fielding Graduate University
Institutional address: Fielding Graduate University 2020 De la Vina Street | Santa Barbara, CA 93105 USA
Email address: lmoore@email.fielding.edu
Short biographical sketch: Ms. Latrease R. Moore graduated from Fielding Graduate University in 2019 with a Ph.D. in clinical psychology with a focus on forensic psychology. She has worked in community mental health since 2016 and has over ten years of professional experience working with forensic populations. Her theoretical orientation to treatment is a blend of cognitive-behavioral strategies, psychodynamic principles, solution-focused therapy, and a person-centered approach. Ms. Moore's research includes an evaluation of college students' non-medical use of prescription psychostimulants; the impact of parental and familial incarceration on young adults; the assessment and treatment of individuals with mental health conditions in prison; the relationship between childhood maltreatment and spirituality; the use of cognitive behavioral therapy for substance dependent domestic violence offenders and how age impacts treatment outcomes; and the impact of familial criminal behavior on the development of criminal thinking patterns among offspring.

Full name: Kristine M. Jacquin, Ph.D
Institutional affiliation: Fielding Graduate University
Institutional address: Fielding Graduate University 2020 De la Vina Street, Santa Barbara, CA 93105, USA
Email address: kjacquin@fielding.edu
Short biographical sketch: Kristine M. Jacquin, PhD is the Dean of the School of Psychology, Professor of Psychology, and Director of the Post Baccalaureate Clinical Psychology Certificate Program at Fielding Graduate University.Dr. Jacquin is a licensed clinical psychologist with a consulting practice focused on forensic and neuropsychological evaluations. Dr. Jacquin earned her undergraduate degree in psychology with a concentration in African studies at Northwestern University. She earned her PhD in clinical psychology at the University of Texas at Austin. After a career as a tenured professor at a research university, Dr. Jacquin decided to focus her academic career on student development, research, and teaching of graduate students.

Chapter #10

THE INTERPLAY BETWEEN TRAIT EMOTIONAL INTELLIGENCE AND FACTORS OF DISTRESS IN ENDOMETRIOSIS: PAIN AS MEDIATOR

Nadia Barberis, Marco Cannavò, & Francesca Cuzzocrea
Department of Health sciences, Magna Graecia University of Catanzaro, Italy

ABSTRACT
Introduction: Studies shown the importance of pain-related symptomatology in endometriosis, which has been linked to higher depression, anxiety, and stress. Furthermore, consistent findings revealed that pain symptoms do not always correlate with the severity of endometriosis, showing how psychological and emotional factors may influence pain perception. In this regard, Trait Emotional Intelligence (Trait EI) was found to be relevant for adjusting to chronic conditions. The current study sought to verify whether the association between Trait EI and General distress (GD; depression symptoms, anxiety symptoms, and stress) in people with endometriosis would be mediated by Pain.
Methods: 276 women with endometriosis aged between 18 and 40 years old (M=30.28; SD=6.07) filled a protocol measuring Trait EI, Pain, and GD.
Results: Present results showed that Trait EI was negatively related to Pain and GD, whereas GD was positively associated to Pain. Furthermore, Pain showed a mediation role in the relationship between Trait EI and GD.
Discussion: Individuals low in Trait EI may have difficulty requesting support from significant others while dealing with pain-related symptomatology, which may favor the onset of internalizing symptomatology. Interventions may foster Trait EI to cope with pain and should screen for internalizing symptomatology to improve their efficacy.

Keywords: endometriosis, emotional intelligence, pain, distress.

1. INTRODUCTION

Endometriosis is a long-term gynecological condition, mainly characterized by growth of endometrial-like tissue outside the uterine cavity (Johnson et al., 2016). The cause of endometriosis is unknown, however, theories on its pathogenesis contend that a combination of immunological, hormonal, genetic, and epigenetic components may contribute to the disease's development (Laganà et al., 2017; Vetvicka et al., 2016, Vitale et al., 2018). Dysmenorrhea, dyspareunia, non-menstrual pelvic pain, fatigue, and infertility are the most prevalent symptoms (Dunselman et al., 2014), frequently in conjunction with urinary or gastrointestinal issues (Schomacker, Hansen, Ramlau-Hansen, & Forman, 2018). Past research suggested that the prevalence of Endometriosis is between 1% and 5% and has an incidence between 1.4 and 3.5 per thousand person-years (Sarria-Santamera et al., 2020) and determines several psychosocial problems, such as lowered professional performance (Facchin et al., 2018; Soliman et al., 2021; Sperschneider et al., 2019) and impaired social functioning (Culley et al., 2013; Facchin et al., 2021; La Rosa et al., 2020; Mellado et al., 2016).

Previous findings highlighted the central role of pain-related symptomatology in endometriosis (Evans et al., 2020), which may be associated with impaired quality of life and higher levels of stress, anxiety, and depression (Warzecha, Szymusik, Wielgos, & Pietrzak, 2020). When compared to patients with milder symptoms or controls, individuals reporting higher degrees of pain generally experience more severe internalizing symptomatology (Friedl et al., 2015). Indeed, a systematic review and meta-analysis of scientific literature published during the last 30 years highlighted that the association between endometriosis and depressive symptomatology is influenced mostly by chronic pain (Gambadauro, Carli, & Hadlaczky, 2019). In this regard, a consistent line of studies emphasized how women with endometriosis reporting higher levels of depressive symptomatology were more likely to report depressive symptomatology compared to those not reporting pain (As-Sanie et al., 2012; Facchin et al., 2015; Lorençatto, Alberto Petta, José Navarro, Bahamondes, & Matos, 2006; Waller & Shaw, 1995). Consistently, another meta-analysis carried out by Barneveld et al. (2020) observing 154,725 endometriosis patients emphasized how anxiety occurred in 10-79% of individuals, whilst Chen et al (2016) reported an increased risk for women suffering from Endometriosis of developing anxious symptomatology. Indeed, previous studies showed that individuals with higher levels of anxiety reported lower pain tolerance compared to those with milder anxiety (James & Hardardottir, 2002). This may be due to the fact that more severe anxiety is linked with increased attentiveness to environmental threats and perceived pain (James & Hardardottir, 2002). Similarly, Kapoor et al. observed individuals reporting acute pain and highlighted that pain intensity was positively linked with catastrophizing and state anxiety (Kapoor, White, Thorn, & Block, 2016). In addition, Hermesdorf et al. showed how anxious symptomatology may predict a higher sensitivity to pain in individuals with depression (Hermesdorf et al., 2016).

At the same time, subjective perceptions of pain vary among individuals with endometriosis and do not always correlate with the clinical severity of the illness (Chapron et al., 2012; Vercellini et al., 2006).

This discrepancy may be caused by the individual characteristics that affect how people perceive pain, such as individual dispositions, coping mechanisms, and beliefs about the pain (Facchin et al., 2015). Additionally, studies conducted to date have been unable to establish a connection between pelvic pain and the location or severity of the disease (Lorençatto et al., 2006; Vercellini et al., 1990; Nunnink et al., 2007). This may suggest that other components, such as psychological and emotional dimensions may account for individual variation in pain perception. Among psychological factors, previous studies emphasized the role of trait emotional intelligence when dealing with emotionally taxing situations in medical settings (Sarrionandia & Mikolajczak, 2020).

Trait EI is in fact a set of dispositions and self-perceptions related to one's emotional abilities (Petrides, Pita, & Kokkinaki, 2007) that past findings have pointed to as closely linked to one's adjustment to chronic illnesses. Specifically, it refers to a set of emotional self-perceptions located at the lower levels of personality hierarchies (Petrides et al. 2007) and describes people’s perceptions of their emotional capabilities. It is conceptually distinct from ability EI, which theoretically refers to one’s ability to understand and manage emotions and should be assessed via tests of maximal performance (Austin 2009; Ferguson & Austin 2010).

Several cross-sectional studies have in fact emphasized that the concept of Trait EI has implications in a broad range of conditions, such as renal disorders (Barberis et al., 2016; Barberis et al., 2017), pulmonary disorders (Benzo, Kirsch, Dulohery, & Abascal-Bolado, 2015) and diabetes (Schinckus, Avalosse, Van den Broucke,

& Mikolajczak, 2018; Yalcin, Karahan, Ozcelik, & Igde, 2008). Consistently, the meta-analysis conducted by Sarrionandia and Mikolajczak (2020) comprising 106 different studies and observing a broad spectrum of clinical populations suggested that trait EI is a key predictor of both subjective and objective health indicators. Given that poor understanding of one's and others' emotions hinder individuals' ability to manage daily stressors (Baudry, Grynberg, Dassonneville, Lelorain, & Christophe, 2018) lower ability to manage and cope with pain is likely to occur. Furthermore, people with low trait EI are more likely to have psychological and interpersonal problems (Petrides et al. 2016), which may foster distress symptoms (Russo et al. 2012; Andrei & Petrides, 2013). According to a large-scale multicenter study, endometriosis is a chronic condition that results in severe personal impairment and significant social costs, notably in terms of health care consumption and lost productivity, comparable to those of other serious clinical issues like diabetes (Simoens et al., 2012). Therefore, a greater understanding of the differences in perceived clinical significance in people with endometriosis may be helpful for developing more tailored interventions in healthcare settings.

In light of these considerations, the present study sought to test the hypothesis that an association between trait EI and General distress (anxiety, depression, and stress) in individuals with endometriosis would be mediated by Pain. Specifically, the goal of this research was to test a model in which lower Trait EI predicts higher levels of Pain and General Distress, whilst higher pain predicts higher General distress.

2. METHOD

2.1. Participants

The sample consisted of 276 women with endometriosis aged between 18 and 40 years old (M=30.28; SD=6.07). Regarding educational level, most of the sample (48%) had a high school diploma, whilst 6% had middle school certification, 40% had a university degree, and 6% had a post-graduation degree. Regarding marital status, 28% of the sample were married, 22% were single, 25% were cohabitating, 23% were engaged, and 1% were divorced. With regard to professional status, the overwhelming majority of the sample (46%) was an employer, 16% was a freelancer, 20& was a student, 5% was a housewife, and 13% was without any form of occupation.

2.2. Measures

2.2.1. Trait Emotional Intelligence

The Trait Emotional Intelligence Questionnaire- Short Form (Petrides, 2009) is a 30-item self-report questionnaire designed to evaluate one's level of trait emotional intelligence. The items are sampled from the 15 facets of the Trait EI sampling domain (two items for facet). It is also possible to get a score on four factors of major relevance: well-being (e.g.: "On the whole, I'm pleased with my life"), self-control (e.g.: "I usually find it difficult to regulate my emotions"), emotionality (e.g.: "I'm normally able to get into someone's shoes and experience their emotions") and sociability (e.g.: "I would describe myself as a good negotiator"), as well as a total score. Individuals are required to report their level of agreement with each statement on a 7-point Likert scale. Higher scores indicate higher trait EI. The Trait Emotional Intelligence Questionnaire-SF is a widely used instrument (Dåderman & Kajonius, 2022; Pérez-Díaz & Petrides, 2019) and past research provided evidence for its robust psychometric properties (Andrei, Siegling, Aloe, Baldaro, & Petrides, 2015; Siegling, Vesely, Petrides, & Saklofske, 2015). In the present study, internal consistency was good (Table 1).

2.2.2. Pain Perception

The Pain Intensity and Interference scale (PEG; Krebs et al., 2009) is a 3-item self-report questionnaire used to assess perceived pain intensity and to what extent it interferes with one's life. Participants are required to rate, on an 11-point scale, their level of agreement with each item (e.g.: What number best describes your pain on average in the past week?). Higher scores represent higher levels of pain intensity and interference. In the present study, internal consistency was good (Table 1).

2.2.3. General Distress

The Depression Anxiety Stress Scales-21 in its Italian validation (DASS21; Bottesi et al., 2015) evaluates aspects relating to general distress. In particular, 7 items assess anxiety (e.g.: "I felt scared without any good reason"), 7 items assess depression (e.g.: "I felt that life was meaningless") and 7 items assess stress (e.g.: "I felt that I was rather touchy"). The scales have a 4-point Likert scale response system, from 0 (= "Did not apply to me at all") to 3 (= "Applied to me very much or most of the time"). A higher score indicate higher general distress. The DASS21 is a widely used instrument in clinical research (Fox, Lillis, Gerhart, Hoerger, & Duberstein, 2017; Weiss, Aderka, Lee, Beard, & Björgvinsson, 2015) and past findings provided evidence for its robust psychometric properties (Bibi, Lin, Zhang, & Margraf, 2020; Lee, 2019). In the present study, internal consistency was good (Table 1).

2.3. Procedure

Participants were enrolled through social media groups of women's associations with endometriosis via targeted advertisements. The inclusion criteria were: age of majority, Italian nationality, and having a diagnosis of endometriosis. Participants were considered ineligible if the following were present: lack of an Endometriosis diagnosis from a health professional, presence of gynecological comorbidities, being pregnant at the moment of protocol administration, insufficient fluency in Italian, or being under of majority.

Women filled out an online survey, with consent implied by submission. All questions in the electronic survey had been set as mandatory and therefore no data was missing. Participants were guaranteed the anonymity of their data. The analyses were carried out using Statistical Package for the Social Sciences (SPSS) and the Lavaan Package (Rosseel, 2012) for R (version 4.1.1; R Development Core Team, 2013) with the integration of RStudio (R Studio Team, 2017). This study was conducted in accordance with the recommendations of the Ethical Code of the Italian Association of Psychology (AIP) and in line with the ethical guidelines of the Helsinki Declaration. The protocol was approved by the Ethics Committee of the Centre for Research and Psychological Intervention of the University of Messina.

2.4. Data Analysis

Correlations and descriptive analyses were carried out for all the observed variables. A structural equation modeling (SEM) with latent variables was conducted to test a model with Trait EI as predictor variables, Pain as mediator, and General Distress as outcome. For Trait EI and Pain latent constructs a parceling approach was used, while for General Distress latent variable the three scales that rate Anxiety, Depression, and Stress were used. Parcels are more likely to meet the assumptions of normality and less likely to be influenced by method effects (Little, Cunningham, Shahar, & Widaman, 2002; Marsh, Hau, Balla, & Grayson, 1998).

3. Results

3.1. Descriptive Results and Correlations

The Means, Standard Deviations, Skewness, and Kurtosis of scores of each variable are shown in Table 1. Furthermore, Table 1 illustrates the correlations among the observed variables. Specifically, Anxiety was positively related to Depression, whilst Stress positively related to Anxiety and Stress. Moreover, General Distress was positively related to Depression, Anxiety, and Stress. Furthermore, Pain was positively related to Depression, Anxiety, Stress, and General Distress. In addition, Trait EI was negatively related to Depression, Anxiety, Stress, and General Distress.

Table 1.
Descriptive analyses and correlations between the observed variables.
*Note: *p < .05. **p < .01.*

	α	M	SD	Skew	Kurt	1	2	3	4	5
1. Depression	.87	1.38	.86	.29	-1.10					
2. Anxiety	.85	1.15	.77	.58	-.45	.66**				
3. Stress	.90	1.74	.74	-.11	-.92	.75**	.68**			
4. General distress	.95	1.42	.71	.31	-.84	.91**	.87**	.90**		
5. Pain	.96	4.69	2.79	-.36	-1.08	.26**	.28**	.25**	.30**	
6. Trait EI	.89	4.67	.84	-.04	-.36	-.59**	-.36**	-.43**	-.52**	-.12

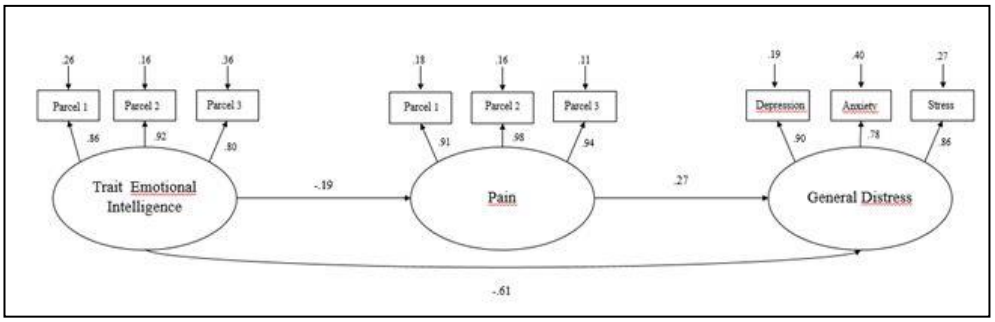
3.2. Mediation Model

The model showed adequate fit indices, $\chi 2(24) = 64.16$; $p<.01$, CFI = .98, SMSR = .04, RMSEA = .08 (90% CI = .06 – .10). Trait EI was associated with Pain ($\beta = -.14$) and General Distress ($\beta = -.61$), moreover, Pain related with General Distress ($\beta = .22$). To explore the significance of the indirect effects that emerged (i.e., drop from the total to direct effect) we used the bootstrap-generated bias-corrected confidence interval approach (Preacher & Hayes, 2004; Shrout & Bolger, 2002) A significant indirect path was found from Trait EI to General Distress by Pain ($\beta = -.03$)

Table 2. Path estimates, SEs and 95% CIs.
Note: SE = standards errors; BC 95% CI = Bias Corrected-Confidence Interval.

	β	p	SE	Lower bound (BC) 95% CI	Upper bound (BC) 95% CI
Trait EI → Pain	-.19	<.01	.17	-.88	-.23
Pain → General distress	.27	<.05	.01	.04	.09
Trait EI → General distress	-.61	<.05	.04	-.51	-.36
Trait EI → Pain → General distress	-.05	<05	.01	-.07	-.02

Figure 1. Mediation model between the observed variables.
Coefficients shown are standardized path coefficients.



4. DISCUSSION

The purpose of this study was to test a mediation model in which the relationship between Trait EI and General distress is mediated by Pain. As expected, the results of this study showed that Trait EI is negatively correlated with both pain and symptoms of distress. As suggested by Petrides et al. (2007) low levels of aspects of trait EI, such as emotional awareness, would make individuals prone to difficulties in processing emotions, and this could in turn lead to experiencing one's emotional processes as threatening and overwhelming, thus promoting the onset of psychological distress. In a similar vein, underdeveloped Trait EI would render individuals vulnerable to greater pain intensity and interference because of an inability to comprehend and utilize affect-laden information and to cope with stressors (Baudry et al., 2018).

In line with the expectations, Pain was positively associated with General distress, because long-term exposure to aversive events like painful symptomatology associated with endometriosis may be viewed as inescapable or unavoidable, thereby leading to a sense of uncontrollability (Trindade, Mendes, & Ferreira, 2020). As a result, individuals may be predisposed to depressive-like symptomatology in the long run.

Moreover, Pain showed a mediation role in the relationship between Trait EI and General distress. In other words, a lack of awareness of one's own and others' emotions may render it difficult to understand and use emotion-related information to cope with difficult situations (Baudry et al., 2018), such as seeking support from others or engaging in healthier behaviors, thereby lowering individuals' motivation to adhere to treatments and, in turn, fostering the onset of distressing states. In fact, people with higher trait EI tend to understand, regulate, and use emotional information to cope with daily stressors and handle challenging scenarios (Petrides et al., 2016). That is why they are more likely to adapt to their environment and utilize help-seeking behavior, adaptive interpersonal communication, and coping strategies (Baudry et al., 2018). This study is in line with previous insights suggesting that Trait EI may be a relevant dimension in medical settings (Sarrionandia & Mikolajczak, 2020) but extended those finding by assessing a burdening gynecological condition like endometriosis. These findings suggest that one's level of trait EI, that is, individual's perception of their emotional world as well as regulation and acknowledgment of affective states, may have a pivotal role in influencing internalizing symptomatology and perception of somatic pain in the context of Endometriosis. One possible explanation for the relationship between trait EI and somatic symptoms is the inability in distinguishing between emotional states and physical sensations that characterizes individuals low in this personality dimension (Swami, Begum, & Petrides, 2010). At the same time, depression, stress, and anxiety are considered as difficulties in managing emotions which is a key component of trait EI (Cisler, Olatunji, Feldner, & Forsyth, 2010; Joorman & Gotlib, 2010; Joorman & Stanton, 2016).

Overall, these findings are consonant with the meta-analytic findings provided by Sarrionandia and Mikolajczak, (2020) that suggested that individuals' perceptions of their emotional capabilities are key aspects of how people cope with their illness.

These findings have several clinical implications. First of all, individuals with endometriosis may develop symptoms of distress. Clinicians should carefully screen for the presence of internalizing symptomatology to improve their clinical interventions. Second, the current findings suggest that fostering Trait EI may have a desirable effect on reducing psychological distress, intervention programs for individuals with Endometriosis should thus include a module aimed at fostering one's Trait EI to improve their clinical efficacy. Thus, fostering trait EI in individuals with Endometriosis may be crucial to helping them develop the ability to respond and cope with painful stimuli. Although trait EI is conceived as a personality trait, it is malleable and can change depending on circumstances and experience (McIlvain, Miller, Lawhead, Barbosa-Leiker, & Anderson, 2015; Nelis, Quoidbach, Mikolajczak, & Hansenne, 2009; Nelis et al., 2011; Ruttledge & Petrides, 2012). Intervention and prevention programs may also want to include women's partners to improve their effectiveness, as the disease may negatively affect women's intimate relationships (Facchin et al., 2020). Of note, this study is cross-sectional, and thus future studies with a longitudinal design are needed to disentangle the relationship between the observed variables. In addition, participants enrolled for the current study were only of Italian nationality and this may limit the generalizability of the findings. Future studies should use multi-centric or cross-cultural samples to confirm the associations observed in this study.

Finally, the current study provides a contribution regarding the psychological underpinnings of pain in Endometriosis, thus providing a broader comprehension of this burdensome condition.

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AUTHORS' INFORMATION

Full name: Nadia Barberis
Institutional affiliation: Magna Graecia University of Catanzaro, Italy
Institutional address: viale Europa, 88100 Catanzaro, Italy
Short biographical sketch: She is Researcher in Clinical Psychology at the Magna Graecia University of Catanzaro (Italy).Her scientific work mainly focuses on: Psychological correlates of patients with organic diseases, Eating Disorders, Quality of life, Trait Emotional Intelligence and Alexithymia

Full name: Marco Cannavò
Institutional affiliation: Magna Graecia University of Catanzaro, Italy
Institutional address: viale Europa, 88100 Catanzaro, Italy
Short biographical sketch: He is a PhD student at the Magna Graecia University of Catanzaro (Italy). His primary research interests are the affective aspects of personality and psychological correlates of organic diseases.

Full name: Francesca Cuzzocrea
Institutional affiliation: Magna Graecia University of Catanzaro, Italy
Institutional address: viale Europa, 88100 Catanzaro, Italy
Short biographical sketch: She is a Full Professor of Developmental and Educational Psychology at the Magna Graecia University of Catanzaro (Italy). She has developed a specific interest in the methodological aspects of research in the development and education context. At the same time, she is interested in "Prevention and multidimensional intervention on Eating Disorders and Obesity in the life cycle" and in "Paediatric interventions" to guarantee well-being in typically and untypically child development".

Chapter #11

SELF-DESTRUCTIVE BEHAVIORS IN PEOPLE WITH MOOD AND PERSONALITY DISORDERS: ITS ROLE AND IMPLICATIONS FOR FUTURE FUNCTIONING IN THE LIGHT OF REPRESSION-SENSITIZATION VARIABLE

Angelika Kleszczewska-Albińska
Warsaw Management University, Poland

ABSTRACT
Personality and mood disorders influence everyday functioning throughout interference with situations and impediment of adaptive ways of coping with stress. They cause many problems relating to situations and people, and in many cases stay responsible for self-destructive behaviors. Self-injurious behaviors are related to self-esteem, social approval, and anxiety level. In the presented study the analysis of relations between data on self-destruction, self-esteem, social desirability, and anxiety level was conducted. A group of 100 respondents, including 79 women, and 21 men age 18-60 (M=31.91; SD=8.22) filled in set of questionnaires including Self-Destruction Questionnaire, Self-Esteem Scale, State Trait Anxiety Inventory, and Social Desirability Questionnaire. In the group of respondents there were 43 persons without clinical diagnosis, 22 people with mood disorders, and 35 respondents with personality disorders diagnosed by psychiatrists based on ICD-10 diagnostic criteria. A positive correlation between self-destructive behaviors and anxiety, and negative relationship with self-esteem, and social desirability were discovered. Persons diagnosed with personality disorders were more prone to high anxiety level and sensitization of emotional stimuli than were the people without such diagnosis. People without clinical diagnosis recruited quite frequently from repressors group.

Keywords: self-destructive behaviors, self-esteem, anxiety, social desirability, personality disorders.

1. INTRODUCTION

In the presented article an attention will be given to some aspects of functioning of people with mood and personality disorders. Mood disorders, also described as affective disorders, throughout the text will be understood as mental or behavioral conditions accompanied with disturbed, lowered or elevated mood. The mood itself is defined as an extensive and constant pattern of feelings that influences most of person's behaviors (Spijker & Claes, 2014). Personality disorders are defined as mental disorders expressed throughout maladaptive, inflexible, patterns of behavior incorporated with cognitive distortions and presented in many different contexts, that cause significant distress, and/ or disability (Beckwith, Moran & Reilly, 2014). Both mood disorders and personality disorders are diagnosed by mental health specialists, namely psychiatrists or clinical psychologists. In the presented paper also the terms repression and sensitization will be used. Those names are understood as labels for a defensive coping strategies characteristic for people with high need for social approval and experiencing high physiological arousal while faced with threatening or unpleasant stimuli (Myers, 2010). The diagnosis of repression-sensitization includes gathering the self-report data on the level of anxiety and

social approval, that combined together give an information on the repressive coping style (identified in people with low self-reported anxiety, and high need for social approval) or sensitization (recognized in persons with high self-reported anxiety, and high need for social approval) (Weinberger, Schwartz & Davidson, 1979). In the following sections of the article there will be given a general, theoretical information on functioning of persons with personality and mood disorders, data concerning ways of coping with relationships characteristic for this group of people, facts about emotional regulation together with strategies for dealing with unwanted emotional states throughout self-destructive behaviors observed in persons with personality disorders and mood disorders, and some information concerning the problem of repression-sensitization. Later, research data regarding self-destructive behaviors, self-esteem level, intensity of anxiety, and social desirability in people with diagnosis of personality or mood disorders or without any clinical diagnosis will be given and discussed according to the current literature.

1.1. Introduction to the Topic of Personality and Mood Disorders

Current meta analyses state that personality disorders are globally present and reach approximately 7.8% of general prevalence influencing heavily mental well being of a population (Winsper et al., 2020). Mood and anxiety disorders on the other hand are estimated for approximately 15.4% prevalence during the 12-months period (Steel et al., 2014). It is believed that both types of above mentioned disorders are very complex, hard to classify, and associated with high amount of maladaptive, severe features as well as low degree of empathetic behaviors (Kaźmierczak, Pastwa-Wojciechowska & Błażek, 2013). People diagnosed with personality disorders report problems with managing social situations, coping with stress, and experience low level of satisfaction in their lives (Błażek, 2015). Some researchers suggest they also suffer identity problems bouncing back and forth between their own perception of themselves and others' understanding of their characteristics, which leads them to unstable and inadequate self-assessment, and low level of perceived self-worth (Grabski & Gierowski, 2012). It is also believed that personality disorders impede the development of conscience, and internalization of systems of values, since individuals with personality disorders experience faulty sense of guilt or exaggerated self-punishment (Błażek, 2015). In case of mood disorders extreme emotional disturbances are observed together with cognitive impairment and difficulties with attention, executive functions and memory (Marvel & Paradiso, 2004). In people with lower mood flawed processes of attachment and affiliation are observed. People suffering mood disorders also experience deficits in social skills, and communication (Yang, Fairbairn & Cohn, 2013), accompanied with problems in fulfilling their regular social roles (Hirschfeld et al., 2000) or having difficulties engaging in regular interpersonal functioning (Hirschfeld et al., 2002).

1.2. Relationships and Attachment

Pathological relationships, and inadequate patterns of attachment in early years are believed to lead to an impaired relationships arrangements and interpersonal functioning characteristic for people with personality disorders (Millon, Grossman, Millon, Meagher & Ramnath, 2004) or mood disorders (Lee & Hankin, 2009). Destructive models of behaviors are manifested in most areas of life, including fields of cognition, and emotion. High levels of rigidness leading to problems with adaptation to various social contexts in people with personality disorders is observed from adolescence (Błażek, 2015). Many researchers underline the problem of inappropriate emotion regulation characteristic for people with personality disorders, especially in case of borderline personality disorder (Cavicchioli et al., 2021), but emotional crises are observed in other mental disorders as

well (Santangelo et al. 2016). Persons suffering from difficulties associated with personality disorders experience very complex emotional dysregulation resulting from biological and environmental causes (Grzegorzewski & Kucharska, 2018). They encounter a high level of emotional sensitivity, and a high level of emotional reactivity accompanied by a low level of agility of nervous processes. They experience low threshold of sensitivity for emotional cues, fast increase of emotional intensity in the face of affective stimuli, and slow return to emotional baseline (Crowell, Beauchaine & Linehan, 2009).

1.3. Emotional Processing in Personality and Mood Disorders

Disturbed emotional processing usually is accompanied by extensive problems with acceptance towards one's own emotions, planning and executing goal directed behaviors, and controlling impulses. Emotional dysregulation is associated with low level of emotional awareness, poor emotion regulation strategies, and lack of emotional clarity (Gratz & Roemer, 2004). The above mentioned problems usually lead to ruminating about experienced negative emotions resulting in intensification of those feelings, and attempts for behavioral discharge including maladaptive cognitive and interpersonal emotion regulation strategies or self-harming behaviors (Selby & Joiner, 2009). People suffering from personality disorders and other mental problems endure a wide range of negative emotions including anger, anxiety, disgust, sadness, and shame that change dynamically over short periods of time (Houben, Van Den Noortgate & Kuppens, 2015). Since the above-mentioned negative emotions are very troublesome and painful, people try to engage in activities aimed at regulating of those feelings. Among strategies preferred by individuals with personality disorders, researchers identified rumination, catastrophization, and self-blame, described as cognitive ways of dealing with emotional difficulties (Kuo, Fitzpatrick, Krantz & Zeifman, 2018). People with emotional and mental problems also have a tendency to use interpersonal emotion regulation strategies. It means they stay dependent from other people's responses (response-dependent) or show a tendency to stay independent from reactions of others (response-independent). For response-dependent people regulation of emotion is possible only when others react to the actions taken by an individual. They have the tendency to please others, and engage in actions aiming at fulfilling other's needs instead of their own. Contrary, for response-independent persons self-calming behaviors are more important. Therefore they do not pay attention to others while dealing with their own emotions (Dixon-Gordon, Bernecker & Christensen, 2015).

1.4. Self-Destructive Behaviors as an Emotion Regulation Technique

Another quite important, broadly discussed problem connected to disturbed emotional processing, perceived as a maladaptive emotion regulation strategy is involvement in self-injurious behaviors (Crowell et al., 2009). There are many different types of actions that are perceived as self-harming practices, such as cutting, hair pulling, burning, substance misuse, engagement in risky or compulsive activities, eating disorders or suicidal attempts. Such behaviors result from childhood trauma assisted by insecure attachment, that lead to re-living this early abandonment and neglect in stressful situations of adulthood (van der Kolk, Perry & Herman, 1991). According to research results there is a direct connection between a tendency for self-destructive behaviors, low self-esteem, low social desirability level, and high intensity of anxiety (Cislaghi, 2020; Forrester, Slater, Jomar, Mitzman & Taylor, 2017). Self-injurious behaviors are particularly characteristic for young people (Cipriano, Cella & Cotrufo, 2017), and can be interpreted as an intrapersonal method of affect regulation or an interpersonal approach aiming at bonding and influencing others (Klonsky, Glenn, Styer, Olino & Washburn, 2015). Self-destructive behaviors result in

many negative consequences, including physical problems (e.g. injuries of tendons, muscles, nerves, blood vessels, infections) and decline in globally understood well-being connected with social isolation, feelings of shame, guilt, disgust, and low level of self-esteem. Non-suicidal self-harming behaviors usually serve certain functions connected to emotion regulation (Hetrick et al., 2020), but they do not help individuals to solve problems they are facing.

1.5. Repression and Sensitization

In the literature connected to the subject of emotion regulation one may find broadly described matters of repression and sensitization of emotional stimuli. The concept of repression originates from psychoanalysis, but since the late 1940s it is constantly present in the field of cognitive psychology, where it is perceived as a coping mechanism disclosed in difficult and threatening situations (Kleszczewska-Albińska, 2008). This modern approach to the studies of repression and sensitization was organized and re-arranged by Weinberger and colleagues (1979), who believed that in order to recognize people's true level of anxiety it is important to control the level of defensiveness they experience as well. Based on that assumption the authors introduced four independent groups that differed in subjectively declared level of anxiety and social desirability, understood as a defensiveness measure. The types that were identified were as follows: repressors with low level of anxiety and high level of social desirability, truly low anxious receiving low scores for both anxiety and social desirability, truly high anxious with high level of anxiety and low level of social desirability, and defensive high anxious obtaining high scores on both measures (Weinberger et al., 1979). Repressors have problems with identifying their true feelings, but it is not clear whether they try to deceive themselves or impress others. Truly low anxious are sincere with themselves, and present a moderate level of anxiety. Truly high anxious could be described as persons with high awareness of their elevated level of anxiety (Myers, 2010). The greatest problems are connected with the group of defensive high anxious individuals, since quite often they are not identified at all, or they are described as similar to truly high anxious (Kleszczewska-Albińska, 2008).

According to the literature published up till now both self-injurious behaviors and defensive styles of coping with emotions described by Weinberger and colleagues (1979) serve as methods for dealing with difficult emotions and regulating connections between an individual and their environment. It seems crucial to describe relationships between repression-sensitization and personality or mood disorders, since high levels of repression or sensitization might distort the perception of different situations and emotions connected with them. For that matter study in which the linkage between self-destructive behaviors and repression sensitization in people with personality disorders, mood disorders and persons without any clinical diagnosis was conducted.

2. METHOD

2.1. Participants

A group of hundred respondents (79 women, and 21 men) aged 18-60 ($M=31.91$; $SD=8.22$) voluntarily took part in the study. There were significantly more female participants than male respondents in the researched group $\chi 2(1)=33.63$; $p<.001$. Complete group consisted of 43 people without clinical diagnosis, 22 respondents with mood disorders, and 35 people diagnosed with personality disorders. The number of people without clinical diagnosis who completed the study was significantly greater than the number of people with mood disorders and personality disorders accounted separately

$\chi 2(2)=6.740$; $p=.034$. When the comparison was done for people without clinical diagnosis and people with clinical diagnosis (including both mood disorders and personality disorders) there were no differences in the number of respondents in each group $\chi 2(1)=1.960$; $p=.162$. The clinical recognition was carried out by psychiatrists based on ICD-10 diagnostic criteria (WHO, 1998). All of the respondents were additionally classified to one out of the four groups: (1) not engaged in the therapy (23 respondents), (2) attending the therapy before the study for no longer than 6 months (26 people), (3) attending the therapy before the study for over six months (22 persons), and (4) currently attending the therapy (29 participants). There were no significant differences in the number of people in each group $\chi 2(3)=1.2$; $p=.753$ Detailed information concerning participants is given in table 1. below.

Table 1.
Detailed description of respondents according to the type of disorder and duration of therapy.

		Type of disorder			**Total**
		without diagnosis	mood disorders	personality disorders	
Therapy duration	not participating	23	0	0	23
	finished and no longer than 6 months	14	4	8	26
	finished and lasting over 6 months	5	8	9	22
	currently under therapy	1	10	18	29
Total		43	22	35	100

2.2. Materials

In order to collect data four standardized tests were used. Individual tendency for self-destructive behaviors was assessed with the Self-Destruction Questionnaire KAPiBara (Gerymski, Filipkowski & Walczak, 2016). The tool includes 45 items with 5 point Likert response scale (1-fully agree, 2-agree, 3-hard to say, 4-disagree, 5-fully disagree). Questions included in KAPiBara concern different areas of self-injurious activities, such as risky behaviors (e.g. "I do not look round at pedestrian crossing"), self-mutilation (e.g. "Purposely I was cutting my veins") or substance misuse (e.g. "I need to drink more than others in order to have fun"). The questionnaire is reliable, with Cronbach's alpha value of $\alpha=.96$ in the presented study.

The level of self-esteem of respondents was measured with the Polish adaptation of Rosenberg's Self-Esteem Scale (Dzwonkowska, Lachowicz-Tabaczek & Łaguna, 2008). It consists of 10 questions with a four point response scale (1-fully agree, 2-agree, 3-disagree, 4-fully disagree). The query has satisfactory reliability of $\alpha=.92$.

Polish adaptation of State Trait Anxiety Inventory (Wrześniewski, Sosnowski, Jaworowska, & Fecenec, 2011) was used in order to assess the level of anxiety characteristic for each respondent. The questionnaire includes 20 questions measuring anxiety understood as a temporary state, and 20 other queries for estimation of a stable trait. Each scale includes a 4 point Likert scale. In the described study only the scale assessing anxiety recognized as a trait was used, and it reached a satisfactory reliability level of Cronbach's alpha α=.95.

The last questionnaire used in the presented study was Social Desirability Questionnaire (Drwal & Wilczyńska, 1980). It was used in order to measure the level of social desirability understood as an indicator of defensiveness level. The instrument includes 29 questions with a true/false response sequence. It consist of items describing situations that are socially desirable but at the same time uncommon in society (e.g. "I am never late for my work"), and other positions applying to situations that are quite frequent and socially undesirable at the same time (e.g. "I remember I was pretending to be sick in order to avoid something"). The reliability of the test in the conducted study equals α=.84.

3. RESULTS

In order to describe the relationships between variables assessed in the study correlational analyses together with ANOVA analyses were conducted. According to the literature ANOVA analyses are appropriate for the gathered sample. The technical minimum number of subjects in each group is greater than required k+1, where k stands for number of the groups, and other assumptions for the test were met as well (Field, 2018). In the first step, links between self-destructive behaviors, anxiety, self-esteem, and social desirability in the whole group were verified. In the next stage the relationships between above-mentioned constructs separately for groups with mood disorders, personality disorders or without any clinical diagnosis were checked. Later, the differences in the mean number of self-destructive behaviors among people with personality disorders, mood disorders and without any clinical diagnosis were assessed. Also the diversity among people not engaged in therapy, and those who participated in it for six months, over six months or still are engaged in counseling were analyzed. The last stage of data verification was devoted to the exploratory analyses of connections between repression-sensitization and other constructs measured in the study.

Analyses of relationships between self-destructive behaviors, level of anxiety, self-esteem and social desirability conducted for the whole group proved that there is a strong, positive correlation between anxiety and self-harming activities. Strong, negative connection was observed for self-injurious behaviors and self-esteem, and negative, but moderate interrelationship was noticed between self-destructive behaviors and social desirability level. Detailed results are given in table 2.

Table 2.
Self-destructive behaviors, anxiety, self-esteem, and social desirability in the whole group.

		anxiety	self-esteem	social desirability
Self-destructive behaviors	Pearson r value	.732	-.701	-.485
	significance	<.001	<.001	<.001
	N = 100			

Similar as described above, pattern of results was obtained for groups identified based on the clinical description. There were significant positive, strong relationships between self-destructive behaviors and anxiety level in non-clinical and mood disorder groups, while the results observed in personality disorder group reached the statistical tendency level. All the results concerning the relationship between self-injurious behaviors and self-esteem w9ere statistically significant, negative, and strong for non-clinical group, and moderate for the mood disorders and personality disorders group. The interrelationship between self-destructive behaviors and social desirability reached the level of significance only for the mood disorders group, where negative, moderate correlation was observed. Detailed information is given in table 3 below.

Table 3.
Self-destructive behaviors, anxiety, self-esteem, and social desirability in the non-clinical, mood disorders, and personality disorders group.

			anxiety	self-esteem	social desirability
self-destructive behaviors	non- clinical sample	Pearson r value	.637	-.625	-.214
		significance	<.001	<.001	.168
		N = 43			
	mood disorders	Pearson r value	.702	-.485	-.528
		significance	<.001	.022	.012
		N = 22			
	personality disorders	Pearson r value	.284	-.353	-.276
		significance	.099	.037	.109
		N = 35			

Detailed information concerning the mean level of self-destructive behaviors and self-esteem in groups identified based on the clinical affiliation, together with the results of conducted ANOVA analyses are presented in table 4. below.

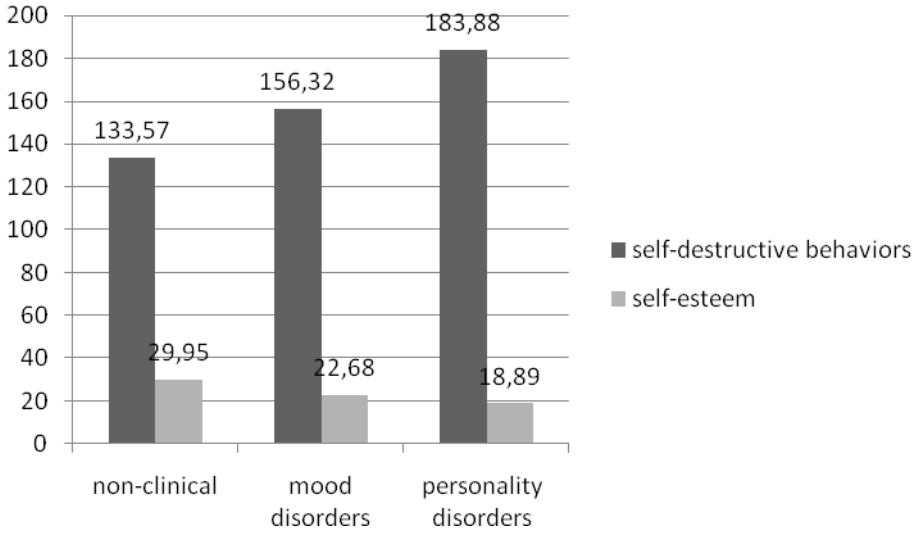
Table 4.
Results of ANOVA analyses for mean level of self-destructive behaviors and self-esteem in groups identified according to clinical affiliation.

	non-clinical group N=43		mood disorder group N=22		personality disorder group N=35		F	p	η^2
	M	SD	M	SD	M	SD			
self-destructive behaviors	133.57	27.20	156.32	39.89	183.88	26.27	27.292	<.001	.36
self-esteem	29.95	5.83	22.68	5.19	18.89	4.28	45.506	<.001	.48

ANOVA analysis showed there are significant differences in the mean number of self-destructive behaviors in different clinical groups $F_{(2,97)}$=27.292; p<.001. Post hoc analyses conducted with Bonferroni test showed all the differences reached the level of significance, with p=.001 for the difference between non-clinical group and personality disorder group, p=.002 for the difference between non-clinical group and mood disorders group, and p=.019 for the difference between mood disorders, and personality disorders groups.

There were also significant differences $F_{(2,97)}$=45.506; p<.001 in the level of self-esteem characteristic for people without clinical diagnosis, and both groups with mood and personality disorders on the level of p=.001, and the difference between respondents from the mood disorders group and personality disorders group on the level of p=.025 (differences between groups were assessed with Bonferroni test). Detailed data is presented in figure 1.

Figure 1.
The mean level of self-destructive behaviors and self-esteem in non-clinical, mood disorders and personality disorders group.



The mean level of self-destructive behaviors and self-esteem, with ANOVA analyses were also calculated in groups identified based on the duration of therapy. Detailed information is presented in table 5 below.

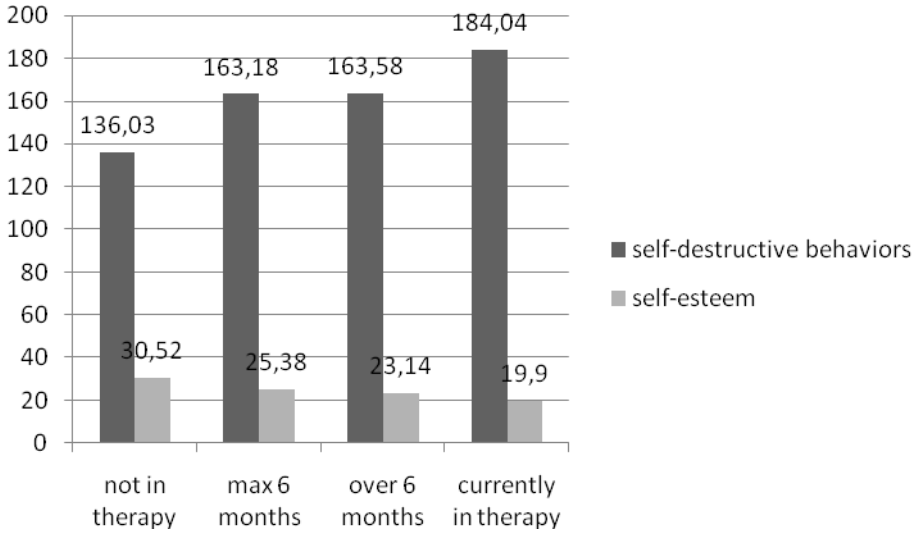
Table 5.
Results of ANOVA analyses for mean level of self-destructive behaviors and self-esteem in groups identified according to the duration of therapy.

	not in therapy N=23		max 6 months N=26		over 6 months N=22		currently in therapy N=29		F	p	η^2
	M	SD	M	SD	M	SD	M	SD			
self-destructive behaviors	136.03	35.41	163.18	30.46	163.58	33.74	184.04	32.52	9.181	<.001	.22
self-esteem	30.52	5.95	25.38	7.28	23.14	6.55	19.90	4.46	13.567	.001	.30

Statistical significance was reached for the differences between the mean number of self-destructive behaviors according to the therapy duration $F_{(3,96)}=9.181$; $p<.001$, with the differences between group not participating in therapy and the one currently in therapy on the level of $p=.001$, between group participating in therapy for the maximum of six months in comparison to the group currently in therapy on the significance level $p=.017$, and between group participating in therapy for over six months in comparison to the group currently in therapy on the significance level $p=.029$ (all the pairwise comparisons conducted with Bonferroni test).

Similarly, significant differences $F_{(3,96)}=13.567$; $p<.001$ were observed between the mean self-esteem level in people not attending therapy and those in therapy for the time longer than six months, and individuals currently attending therapy sessions on the level of $p=.001$. Additional difference was observed between people from the group that participated in therapy for the maximum of six months in comparison to the group currently in therapy on the level of $p=.007$ (pairwise comparisons analyzed with Bonferroni test). Graphic illustration of the results is given in figure 2.

Figure 2.
The mean level of self-destructive behaviors and self-esteem in groups according to the therapy duration time.



Additional, exploratory analyses were conducted in order to check whether there are any differences in the mean level of self-destructive behaviors and self-esteem level among people identified according to repression-sensitization. Detailed data is given in table 6.

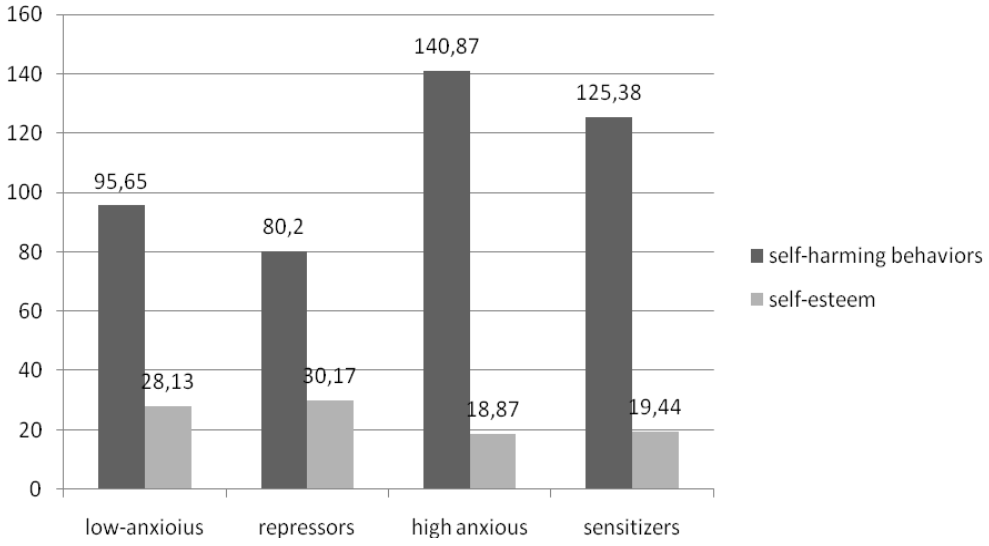
Table 6.
Results of ANOVA analyses for mean level of self-destructive behaviors and self-esteem in groups identified according to repression-sensitization affiliation.

	low anxious N=23		repressors N=30		high-anxious N=31		sensitizers N=16				
									F	p	η^2
	M	SD	M	SD	M	SD	M	SD			
self-destructive behaviors	95.65	28.39	80.20	25.22	140.87	27.11	125.38	30.44	28.704	<.001	.47
self-esteem	28.13	4.63	30.17	5.94	18.87	3.91	19.44	5.54	35.271	.001	.52

In both cases significant differences were discovered, with $F_{(3,96)}=28.704$; $p<.001$ for self-injurious behaviors, and $F_{(3,96)}=35.271$; $p<.001$ for self-esteem accordingly. It was shown that the differences between repressors, high anxious and defensive high anxious (sensitizers), and low anxious and high anxious reached the significance level of p=.001, while the differences between low anxious and sensitizers were equal p=.007 (measured with the Bonferroni test).

The level of self-esteem differed between low anxious, high anxious and defensive high anxious. Similar differences were also observed between repressors, high anxious and defensive high anxious. All the differences reached the significance level of p=.001 (assessed with Bonferroni test). Detailed information is presented in figure 3.

Figure 3.
The mean level of self-destructive behaviors and self-esteem in groups identified according to repression-sensitization affiliation.



Additional, qualitative analysis concerning the number of people from each clinical group in accordance to repression-sensitization affiliation was conducted, with detailed data given in table 7.

Table 7.
Number of people from low-anxious, high-anxious, repressors, and sensitizers types in the non-clinical, mood disorders, and personality disorders group.

	non-clinical	mood disorders	personality disorders
low-anxious	14	6	3
high-anxious	3	4	24
repressors	23	4	0
sensitizers	3	5	8

Analysis with the chi-square test proved that there are significant interconnections between analyzed variables $\chi^2_{(6)}=52.43$; p=.001. In the non-clinical group there were many low anxious respondents and repressors, while the group with personality disorders consisted mostly of high anxious persons.

Also the analysis showing the correspondence between repression sensitization and the duration of therapy was conducted, showing the significant connection between those variables $\chi^2_{(9)}=27.114$; p=.001. Details for this analysis are given in table 8.

Table 8.
Number of people from low-anxious, high-anxious, repressors, and sensitizers types according to the duration of therapy.

	not in therapy	max 6 months	over 6 months	currently in therapy
low-anxious	6	7	7	3
high-anxious	1	9	6	15
repressors	14	4	4	4
sensitizers	2	5	5	7

Most of the respondents that are not in therapy can be identified as repressors, whereas the most numerous group of study participants currently in therapy could be described as high anxious individuals. Among people who attended therapy for six months or longer there is great diversity of types identified based on the level of repression-sensitization dimension.

4. DISCUSSION

Results presented above are consistent with data showing connections between self-harming behaviors and high anxiety level (Chartrand, Sareen, Toews & Bolton, 2012), low self-esteem (Forrester et al., 2017), and low social desirability (Cislaghi, 2020). Interesting are the differences observed in the level of significance obtained for each correlation when the whole group was analyzed in comparison to the analyses conducted separately for non-clinical group, mood disorders and personality disorders. This result stays in agreement with the assumption that mood disorders are rather patterns of people's dysfunctional emotions while personality disorders are more stable dispositions. On the other hand, it is a bit surprising, that the connections between self-injurious behaviors and social desirability in individuals with personality disorders weren't significant, since this type of dysfunction is strictly connected to ways people relate to others (Skodol, Shea, Yen, White & Gunderson, 2010). It is said that self-harming behaviors serve two important functions connected to intrapersonal affect regulation, and interpersonal bonding (Klonsky et al., 2015). According to the results presented above it might be hypothesized that the non-clinical and mood disorders groups are more focused on intrapersonal functions of self-destructive behaviors while personality disorders group is more prone to interpersonal role of such activities. This assumption needs to be further empirically investigated even though there is some evidence for its validity (Guénolé et al., 2021; Colle, Hilviu, Rossi, Garbarini & Fossataro, 2020). The group mostly involved in long term therapy are persons with personality disorders. It is possible that individuals suffering with personality disorders undergo changes resulting in modification of their own perception of self-harm,

and see more interpersonal aspects of this type of behavior (Cipriano et al., 2017). More research in that area is therefore needed in order to better understand the function of self-destructive activities.

Negative correlations obtained for self-harming behaviors and self-esteem, beside its concurrence with previous research (Hetrick et al., 2020; Forrester, et al., 2017), should be analyzed very carefully in face of the needs of people engaged in it. It is possible that improvement of self-esteem throughout psychotherapeutic methods may serve as a way for reducing the intensity and frequency of self-harming behaviors (Clarke, Allerhand & Berk, 2019). This hypothesis needs additional, more explicit, empirical verification. Data proving the negative correlations between self-harm and social desirability are also in congruence with results already published in the literature (Cislaghi, 2020). On the other hand, this result may serve as an important suggestion for specialists working with individuals involved in self-injurious behaviors (Wijana, Enebrink, Liljedahl & Ghaderi, 2018). It might be crucial to direct patients towards better understanding and acceptance of their problem in order to reduce the risk of therapy dropout (Brophy & Holmstrom, 2006). It seems possible to encourage self-harming people in helping others with the same problem. This could be the best improvement method for persons with self-injurious tendencies, and their progress in therapy. This assumption needs to be further empirically investigated.

There are not so many studies describing the connections between repression-sensitization and self-injurious behaviors. Therefore, additional studies in this area are needed. Interestingly, a lot of persons participating in the study and describing themselves as non-clinical group were identified as repressors. More studies concerning this data are needed. Especially in the light of previous results showing problems connected with repression (Myers, 2010). It is said that repressors underestimate their inner emotional and mental conditions, and are more prone to experience physical health problems. It is therefore needed to look at their conditions and to identify their features. The same is needed for patients with personality disorders since most of this group consisted of high anxious individuals. More specific data on that issue might be helpful also for planning therapeutic interventions especially for hospitalized individuals.

There are certain limitations that should be taken into consideration, starting with a relatively small, and mostly female sample. Also, most of the analyses were based on correlations, that preclude cause and effects investigation. More data on interrelationships between self-harming behaviors and repression-sensitization construct are needed. On the other hand, it is important to underline that the results obtained in the study described above are consistent with previous results. They underline the role of self-injurious behaviors in affect regulation. Obtained outcomes may serve as a foundation for further studies aiming at reducing the amount and intensity of self-destructive behaviors, increase of social acceptance for people engaged in such behaviors, and techniques focused on improvement in therapy.

5. CONCLUSION

The main aim of the conducted research was to explore the connections between self-harming behaviors, self-esteem, and repression-sensitization coping style in people suffering with personality disorders and mood disorders, and in people without clinical diagnosis. The results relative to the first two variables are congruent with data already published in the literature. It was proved that the highest mean level of self-destructive behaviors was characteristic for people with personality disorders, and the lowest for

persons from non-clinical sample. Conversely, the highest level of self-esteem was observed in non-clinical sample, while the lowest it was for people with personality disorders. It was also confirmed that people still undergoing therapy have the highest level of self-harming behaviors, and the lowest level of self-esteem, while for people not engaged in the therapy, and not involved in it in previous time in their life the results are reversed. The evidence concerning functioning of low anxious, repressors, high anxious, and sensitizers were not analyzed in previous studies, and they might constitute new lines of research in the field of clinical studies. The results obtained for those coping styles have to be taken into consideration with caution, and need to be verified throughout additional research. Nevertheless, it was discovered that self destructive behaviors were the most frequent for high anxious individuals and sensitizers. The smallest amount of such activities was declared by repressors. The opposite pattern of results was observed for self-esteem, with the highest results gained by repressors, then low anxious group, sensitizers, and the lowest results characteristic for high anxious. It is also crucial to observe the frequency of respondents from each of the four groups while conducting clinical studies. The results obtained in the study described above showed that in the personality disorder group there were many people disclosed as high anxious, while the non-clinical sample consisted in large part from repressors.

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AUTHOR INFORMATION

Full name: Angelika Kleszczewska-Albińska
Institutional affiliation: Warsaw Management University
Institutional address: Kawęczyńska 36 Street, 03-772 Warsaw, Poland
Short biographical sketch: PhD in psychology, certified cognitive-behavioral therapist, schema therapist during certification. Experienced, certified child psychologist. Working in the field of psychotherapy and counselling with children, adolescents, and adults. In the scientific field specializes in research on repression and sensitization of emotional stimuli. Works mostly in the clinical psychology, psychology of individual differences, and psychology of emotion.

Chapter #12

THE IMPACT OF HAPPINESS AND CHRISTIAN FAITH ON YOUTH'S RESILIENCY IN TIMES OF THE COVID-19 PANDEMIC

Getrude C. Ah Gang[1] & Eric Manuel Torres[2]
[1]*Faculty of Psychology and Education, University Malaysia Sabah, Malaysia*
[2]*Catholic Theological College, University of Divinity, Australia*

ABSTRACT
Youths with happiness and strong religious faith, it can be assumed, experience increased psychological resiliency when dealing with unforeseen and challenging events, such as the COVID-19 pandemic. To examine this assumption, a study was conducted involving 229 Christian youths, all students at public and private universities in Sabah, Malaysia. Participants had a mean age of 22.09 years (SD = 4.34) and were predominantly female (179; male = 49; undisclosed = 1). The study found that happiness contributed 4.7% of the variance of the participant's resilience, while their religious faith contributed 4.1%. Furthermore, the Christian faith showed a moderation effect on the effect of happiness on resiliency. To wit, youths with high levels of happiness and strong Christian faith demonstrated high resiliency, and this finding supports the abovementioned research assumption. Therefore, it is suggested that when facing life challenges, including the COVID-19 pandemic, young adults ought to create a positive ambience, e.g., promoting happiness, enhancing religious faith via daily prayer, perceiving faith as a source of comfort and life's purpose, and engaging in faith-based/church activities, as a way to strengthen resiliency.

Keywords: happiness, religious faith, Christianity, resiliency, youths, COVID-19 pandemic.

1. INTRODUCTION

Youths in this post-modern era, in contrast to previous generations, generally live immersed in a technologically sophisticated milieu. With ever-advancing computer software and 'smart' devices, such technological tools might assist the youth of today in adapting and coping with various challenges, including academic, social, and economic. In the academic setting, nowadays youth can readily access a wealth of online educational and scholarly resources while undertaking academic assignments. Moreover, students can – as has been particularly the case during the COVID-19 pandemic – arrange online study or discussion groups and operate online programs on electronic learning platforms. Therefore, it may be assumed that with the aid of modern technology, youths can easily adapt to the 'new normal' of online distance learning, and other social norms associated, yet the pandemic. Indeed, numerous universities have been on the path to digital transformation with the onset of the pandemic serving as a catalyst for this shift (Bozkurt & Sharma, 2020). Past studies (e.g., Cosmas, 2020; Organisation for Economic Co-operation and Development [OECD], 2020; Selvanathan, Hussin, & Azazi, 2020), however, have found that many youths are struggling to deal with academic and life challenges faced as a direct or indirect consequence of the pandemic. Although equipped with modern devices to access the internet, many youths showed concerns and worries regarding their academic challenges irrespective of their educational level. This helps us to reflect that although we

live in an era of technology and digitalization, not all psychological problems can be solved via such means, as stated by Cosmas, Gussago, Seok, and Ading (2022).

First-year students, for instance, reported lower psychological well-being and motivation in their studies amid the pandemic as revealed in Ah Gang's (2022) study. Previous research (e.g., Quirk & Quirk, 2020; Schnieders & Moore, 2021) has also shown the academic challenges experienced by first-year university students. Many factors contribute to their lack of psychological well-being and motivation. These include the feeling of isolation from campus life and the inaccessibility of in-person interactions with fellow students and instructors. Learning from home, as experienced by most first-year students during the pandemic, may lead to the accumulation of elevated stress levels and other difficulties. Although most young adults are continuing with their post-secondary education, such challenges and concerns have been linked with increased uncertainty of their ongoing education, e.g., re-enrolment, thus potentially becoming a barrier to course persistence and completion (Schnieders & Moore, 2021). These factors are likely impacting first-year students' psychological well-being and motivation in learning, and in turn, contributing to certain decisions to suspend study.

Final-year students similarly face their share of worries and concerns, not least regarding missing out on opportunities for professional placement to consolidate learnt skills and build confidence, as well as potentially improving job prospects after graduation. For instance, Choi, Jegatheeswaran, Minocha, Alhilani, and Mutengesa (2020) have indicated that a majority (59.3%) of final-year medical students in the UK felt less prepared to commence Foundation Year training owing to a lack of clinical practicum consequent to the COVID-19 pandemic. Ensuring that students are better able to recover and 'bounce back' from academic and life difficulties experienced during the pandemic may require boosting their inner strengths. This can derive from various sources that help improve one's sense of happiness or positivity in addition to finding purpose or meaning in one's life and thereby increasing resilience.

To better understand this phenomenon, a study – presented in this chapter – was conducted to examine the effects of happiness (defined broadly as a sense of general enjoyment of life and well-being) and religious faith on resilience among Christian students. These two elements are highlighted because, during the pandemic, students likely experience more negative emotions than positive ones. Moreover, many youths today, if they hold a religious faith, may not perceive it as a source of resiliency, particularly when facing unexpected circumstances such as the pandemic. Indeed, secularization theory suggests that with the advancement of knowledge in modern societies, the importance of religion will continue to weaken, resulting in increasingly secular societies (Gjelten, 2017). This is already observable in modernistic, as opposed to merely modern, societies where the role of religion is increasingly questioned. Accordingly, data collected from the World Values Survey and European Values Study reveals that, with few exceptions, the world is gradually becoming less religious (Inglehart, 2021). Moreover, although modern technology is good and its progress encouraged, there seems to be an obsession with technology, particularly among today's youth. As a consequence, there is a discernible detachment from concrete familial and community interaction in preference to virtual contact. For instance, a study by Huisman, Edwards, & Catapano (2012) indicated that despite the convenience of technology bringing information to one's fingertips and connecting friends from around the world, its use can also cause stress and encroach on family time, such as daily conversations within the immediate family unit. With the increasing use of technology and more 'screens' at one's disposal, it stands to reason that, without adequate life/family balance, these issues will likewise increase.

2. BACKGROUND

Among youths, particularly those deemed vulnerable, the COVID-19 pandemic has fomented a crisis that poses considerable risks in terms of education, employment, mental health, and disposable income. Young people born between 1990 and 2005 have already lived through two major international upheavals within their first 15-30 years, namely the 2008/09 Global Financial Crisis and the COVID-19 pandemic. Undoubtedly, many young adults have been disproportionately impacted by these unprecedented events, either directly (say, as students or job seekers with dwindling opportunities) or indirectly (through the repercussions of these crises upon families and the wider community). Therefore, building resilience and the anti-fragility of public institutions should be pursued in tandem with the empowerment of young people (OECD, 2020). Despite experiencing various unexpected and testing events, some youths are able to regain resiliency by understanding their inner strengths. Previous studies (e.g., Cosmas et al., 2022; Cosmas, 2020; Ah Gang, 2021) have shown that the promotion of happiness and the strengthening of religious faith can be of help in youths to become more resilient when facing challenges posed by today's world. Indeed, certain students have started adopting new methods for practising their faith in the wake of COVID-19, including attending reduced-capacity services, convening for religious discussions over Zoom, and seeking support from Harvard chaplains (Koller & Peterman, 2021). Such strategies can lessen the pandemic's impact on academic performance and increase student resiliency.

Yet, it must be asked, *what is resilience?* Resilience has been addressed in terms of a psychological, social, emotional, and physical capacity or competence (Titus, 2011). Although resilience comes from within the person, sometimes it can be fortified via tangible and intangible supports from outside. However, although well-intentioned, external assistance from family, one's university, and other relevant authorities may not always be adequate for coping with academic and life challenges resulting from the COVID-19 pandemic. As Mahmud (2021) suggests, in addition to social support (an external factor), a person's resilience (an internal factor) ought to be strengthened as this will affect how the individual fares when experiencing difficulties and hardships. For example, university students have realized that modern technology cannot fully help them to overcome the several challenges emerging from the pandemic (Cosmas, 2020). Consequently, many youths find themselves limited in how to build their resilience as they navigate academic and social challenges in the era of COVID-19 and its immediate aftermath. A study conducted by Cosmas et al. (2022), revealed that the stronger the resilience, the happier were university students during the pandemic. In addition, holding a religious faith can assist students to counter unhealthy negative emotions such as regret, guilt, and disappointment.

During the ongoing pandemic, many young adults have realized the importance of identifying and rebuilding their inner strengths which, in turn, can facilitate their adaptation to new challenges. While, as abovementioned, the world is becoming less religious, it does not follow that religious faith is becoming less important. On the contrary, Dhima and Golder (2021) note that despite declines in religious attendance, religious belief itself remains high. Nevertheless, according to Ream (n.d.), researchers and policymakers generally underestimate the prevalence of religiosity among American youth, the significance of religion in their lives, and their self-agency in religio-spiritual development. Furthermore, it is known that religion can benefit health, including mental health. For instance, Koenig (2012) in a comprehensive systematic review, among other things, showed a positive correlation between religion and increased happiness and hope, in

addition to better coping with adversities and finding meaning. Thus, it is reasonable to suggest that religion may enhance and be a source of resilience by providing an adaptive alternative to maladaptive actions.

By participating in community-based religious activities, youths can acquire a sense of belonging and develop positive relationships with peers and adults, not to mention form a connection with God, or higher powers, thereby providing a sense of meaning and purpose in life (Ream, n.d.). This is no different to previous generations. For example, among the 'baby boomer' generation, Roof (1999) found that they sought religious involvement that helped address the complexities faced in their inner lives, which, in turn, facilitated finding personal meaning in life. Indeed, religious believers claim greater social self-esteem and psychological adjustment than non-religious individuals (Gebauer, Sedikides, & Neberich, 2012). Growing up in today's world can be complicated. Parents often worry about how their children will navigate the social, behavioural, and developmental challenges of life, especially during adolescence (VanderWeele, 2018). These challenges only intensify when entering another developmental stage, e.g., young adulthood, and all the more when facing globally unsettling events, such as the COVID-19 pandemic.

3. METHODOLOGY

3.1. Study Design

The COVID-19 pandemic has resulted in limited opportunities for researchers to conduct face-to-face studies. Hence, it was deemed that online methods were the safest and most practical means to collect data from university students. Potential participants were invited to join this study via a Google Form survey link circulated on various online platforms (e.g., WhatsApp and email). This strategy may have helped broaden the dissemination of the survey invitation leading to a wider array of students being approached from both public and private universities. Participants were recruited based on purposive and snowball sampling. As suggested by Crossman (2020), purposive sampling was employed to match population-specific characteristics required to meet the study's objective. Snowballing sampling was later used by encouraging students who already participated in the study to invite fellow students who likewise fulfilled the required characteristics by sharing the survey link. All participants were university students and Christians from a range of denominations, including Catholic, Methodist, the Evangelical Church of Sabah (SIB), the Protestant Church of Sabah (PCS), and the Basel Church of Sabah, among others.

3.2. Objectives

Based on previous research and recent events, this study was conducted with the aim of examining the effects of happiness and religious faith on the resiliency of Christian youths. In addition, the study also examined the moderation effect of religious faith on the relationship between happiness and resiliency among Christian youths. This study focused on Christian youths because it seeks to provide further insight into how the Christian faith can lift the resiliency of Christian youths, particularly in Sabah, Malaysia, during the pandemic. Although Christianity is the third most practised religion in Malaysia, it is the second in Sabah state. According to the Institute of Ethnic Studies (2018), 26.6% of Sabah's population are Christians and are majority from Bahasa speaking native indigenous community.

Based on the three study objectives, the study focuses on three corresponding research hypotheses: 1) 'The effect of happiness on the resiliency of Christian youths'; 2) 'The effect of religious faith on the resiliency of Christian youths'; and 3) 'The moderation effect of religious faith on the relationship between happiness and resiliency of Christian youths'.

3.3. Research Instrument

A questionnaire consisting of a demographic profile section and three measurement scales (i.e., happiness, religious faith, and resiliency) was used for the data collection. The **Demographic Profile** was employed to gather data about the participants' gender, age, and religion, as well as their university, academic year/level, and campus residency. The **Brief Resilient Coping Scale** (Sinclair & Wallston, 2004) was used to measure the students' resiliency coping skills, with their responses ranging from 1- 'does not describe me at all' to 5- 'does describe me very well.' The two sample items for this scale were 'I look for creative ways to alter difficult situations,' and 'I actively look for ways to replace the losses I encounter in life.' A higher score was defined as a higher resiliency. The **Subjective Happiness Scale** (Lyubomirsky & Lepper, 1999) was used to measure students' happiness during the three phases of the coronavirus lockdown, starting from 18 March 2020 to 28 April 2020. The two sample items were 'In general I consider myself …' and 'Compared to most of my peers, I consider myself....'. The response scale ranged from 1- 'not a very happy person' to 7- 'a very happy person.' A higher score indicated greater happiness.

The **Religious Faith Scale** (Plante & Boccaccini, 1997) was used to measure participants' religious faith by asking them to rate their level of agreement with three items based on a 5-point Likert-type scale, ranging from 1 ('strongly disagree') to 5 ('strongly agree').' The three items were 'praying daily,' 'I look to my faith as the source of inspiration,' and 'I look to my faith as a source of comfort.'

3.4. Results

A total of 229 Christian youths from various denominations participated in the study. A majority of participants were females, 179 (78.20%), with 49 (21.40%) males, and one did not disclose their gender. Participants' mean age was 22.09 years (SD = 4.34). Table 1 shows additional demographic information.

Table 1.
Demographic profile of Participants (N=229).

Variables	Number	Percentage
Academic Year		
Year 1	94	41.00
Year 2	52	22.70
Year 3	65	28.40
Year 4	14	6.10
Year 5	4	1.70
Residency		
Off campus	78	34.10
On campus	151	65.90
University		
Public	134	58.50
Private	95	41.50

The internal consistency for each scale in this study ranged from .71 to .95 (see Table 2). For the correlational values, each scale showed a positive and significant correlation (see Table 3). Each variable in this study (i.e., happiness, religious faith, and resilience) demonstrated normal distribution. Moreover, the three variables exhibited skewness and kurtosis scores less than 2.00 thereby indicating normal data.

Table 2.
The Reliability Values for Each Scale

Scale	Number of items	Alpha Values
Resilience coping	4	.71
Religious faith	10	.95
Happiness	4	.95

Table 3.
The Correlational Values for Each Scale

Scale	Happiness	Religious faith	Resilience
Happiness	-	.314*	.95*
Religious faith	.314*	-	.314*
Resilience	.216*	.95*	-

The study found that happiness contributed 4.7% to the variance of resilience among the Christian youth participants (β=.216, $t_{(1,227)}$=3.34,$p<.05$), while their religious faith contributed 4.1% (β=.213, $t_{(2,229)}$=3.19, $p<.05$). In addition, the Christian faith showed a moderation effect on the effect of happiness on resiliency, as shown in Table 4.

Table 4.
Hierarchical Regression Analyses of the Moderation Effects of Religious Faith on the Relationships Between Happiness and Christian Youths' Resiliency.

Variables	**B**	**R square**	**R square change**	**Sig.**
Step 1				
Happiness	.216	.047	.047	.00
Step 2				
Religious faith	.213	.088	.041	.00
Step 3				
Happiness x religious faith	1.33	.137	.049	.00

4. FUTURE RESEARCH DIRECTIONS

Suggested further research should examine distinct Christian denominations individually (e.g., Catholic, Anglican, Baptist, Methodist, etc.). In this current study, Christianity was taken collectively, without differentiating between denominations. This is because the study sought to understand broadly how Christian youths apply their religious

faith in coping with academic and life challenges faced during the COVID-19 pandemic. However, owing to each denomination's distinct approach to religious teachings, practices, and community activities, it is reasonable that each would have a different level of impact upon resilience among youths. This phenomenon merits further exploration and examination in future studies. It is not unusual for Catholic youth, for instance, to partake in retreats aimed at deepening one's relationship with God and spiritual renewal, in addition to specific events focused on young people, including World Youth Day (WYD). Indeed, retreats have been highlighted as important opportunities to attain calm and clarity amid modern life's noise and busyness (United States Conference of Catholic Bishops, n.d.). Similarly, since first held in 1986, WYD has been key for many Catholic youths' faith revival with attendance to the triennial international gathering's final Mass ranging from 500,000 to 5 million (Stefon, 2020).

Such religious activities, therefore, by providing a space for spiritual growth, faith-building, and encouragement may help in how Catholic Christian youth face challenges and changes in life. As has been remarked: "When a strong wind blows people can do one of two things: build windbreaks or set up windmills." (Catholic Archdiocese of Canberra and Goulburn, n.d.). That is, one can avoid change or make the most of it, utilising and building up resilience. In this vein, in a message dated 14 September 2021, Pope Francis praised young people for their resilience throughout the COVID-19 pandemic. Writing to youth, the Pope noted that "Whenever a young person falls, in some sense all humanity falls. Yet it is also true that when a young person rises, it is as if the whole world rises as well," and emphasised their great potential and strength of heart (Catholic News Agency, 2021; Francis, 2021). For these reasons, further research is warranted to investigate and measure how different Christian demonisations, not least the Catholic faith, impact resiliency in young people.

5. DISCUSSION

This study found that both elements – happiness and religious faith – can increase resilience among Christian youth. The findings indicate that the inner strength of Christian youths can benefit from positive feelings and faith, as demonstrated by increased resilience when facing academic and life stress amidst the COVID-19 pandemic. Nelson-Becker and Thomas (2020) define resilience as the ability to access one's inner wisdom and strength enhanced by time and experience. People are resilient because often there are few other choices, besides despairing and to isolate. One's tenacity in claiming a personal sense of spirituality and finding meaning in adversity is a testament to such resilience, as per the experience of Christian youths during the pandemic. According to Edara, Del Castillo, Ching, and Del Castillo (2021), when facing uncertainty due to unexpected events, such as the COVID-19 pandemic, people increasingly tend to put their trust and hope in God or the Divine. In the wake of devastating experiences, certain people feel a need to trust in God and have hope that the testing times will pass. Indeed, during the COVID-19 pandemic, many people seem to be relying on the power of the Divine for intercession and intervention – ultimately, trusting that God is not ineffective against evil (Torres, 2021). Every religion, be it Christianity, Judaism, Hinduism, Islam, or Buddhism, propounds that spirituality, as part of religious faith, helps people become more resilient in facing adversity during the pandemic (Cosmas et al., 2022). In addition, the higher a youth's spiritual intelligence, such as when applying spiritual values when dealing with problems and adapting to new environments, the higher a student's academic achievements and psychological well-being, as was found among Christian students belonging to the

Emmanuel Christian Fellowship at the Kanibungan, Pitas, Sabah (Midi, Cosmas, & Sinik, 2019).

Belief in the existence of God or the Divine signifies pleasant valence leading to resiliency and promoting overall wellness (Edara et al., 2021). Chen and VanderWeele (2018) highlight how a religious upbringing can profoundly help adolescents navigate life challenges as well as contribute to a wide range of health and well-being outcomes later in life. Their study involved a large sample of over 5,000 adolescents, with over eight years of follow-up, and controlled for many variables to try to isolate the effect of religious upbringing. Chen and VanderWeele (2018) found that those raised in a religious or spiritual environment were subsequently better protected from various challenges during adolescence, thereby leading to a happier life, and were more likely to engage in volunteer work, have a greater sense of mission and purpose, and higher levels of forgiveness.

Religious observance, prayer, and meditation can be vital resources for adolescents navigating the challenges of a busy modern life. A strong commitment, however, is often required to establish such practices. As was revealed in a recent study involving over 10,000 young people aged between 13 and 25 in the United States, although a minority (16%) outright do not believe in any higher power and over two-thirds (68%) feel some level of connection with a higher power, over half (52%) do not attend religious services or barely once a year and many are not members/participant of a religious community (e.g., 48% of 'Just Christians,' 44% of Catholics, and 54% Buddhists are not part of a religious community) (Springtide Research Institute, 2021). This would suggest that a significant proportion of young people, even among those who hold religious beliefs, do not have community support to establish religious practices.

The psychological and social impact students are facing during the COVID-19 pandemic can produce dysfunction in daily activities and, if prolonged, will undoubtedly increase their anxiety and fears. Indeed, according to a survey of over 500 youth aged between 18 and 25, about 58% indicated feeling scared and uncertain as a consequence of the pandemic's impact (Springtide Research Institute, 2020). Therefore, one way to overcome these negative effects is by strengthening resilience through happiness and religious faith. All of these may help students manage their stress and anxiety, aid in resolving the complexities encounter during a crisis, and shield them from traumatic situations (Mahmud, 2021).

6. CONCLUSION

This study of young Christian university students supports the original assumption that resilience can be enhanced through increasing happiness and faith. Both of these elements – happiness and faith – can be found through practising Christianity and their combination can synergistically boost resiliency among youth facing academic and life challenges amidst the COVID-19 pandemic.

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AUTHORS' INFORMATION

Full name: Getrude C. Ah Gang
Institutional affiliation: University Malaysia Sabah
Institutional address: Faculty of Psychology and Education, University Malaysia Sabah, 88400, Kota Kinabalu, Sabah, Malaysia
Short biographical sketch: Getrude C. Ah Gang is a senior lecturer in the Faculty of Psychology and Education, University Malaysia Sabah in the field of social psychology. She holds a Doctorate of Philosophy in Social Psychology from La Trobe University, Melbourne, Australia. Her research focuses on the field of social psychology, which focuses on attitude, social relations, ethnic identity and the self-resilience and psychological well-being of youths in the post-modern era. Apart from research, she is also actively involved in community work in rural areas.

Full name: Eric Manuel Torres
Institutional affiliation: Catholic Theological College, University of Divinity (Australia)
Institutional address: 278 Victoria Parade, East Melbourne, Victoria 3002, Australia
Short biographical sketch: Eric Manuel Torres is a Catholic moral theologian and bioethicist with a background in health care. Based in Melbourne, Australia, he is currently completing a doctorate (PhD) from Catholic Theological College/University of Divinity. He holds a Bachelor of Health Sciences and a Master of Orthoptics from La Trobe University, a Master of Nursing Science from the University of Melbourne, a Graduate Diploma of Theology and a Master of Theological Studies from Catholic Theological College/University of Divinity, and a Graduate Certificate of Specialist Inclusive Education from Deakin University. He also holds a Certificate III in Business Administration.

Chapter #13

THE ISLAND OF SHAME: A MICRO-SOCIAL PERSPECTIVE ON THE IMPACT OF SHAME ON MALTESE PSYCHOTHERAPISTS

Greta Darmanin Kissaun & Marilyn Clark
University of Malta, Malta

ABSTRACT
Anthropological literature indicates that Malta, by virtue of its central position in the Mediterranean, is somewhat structured by codes of honour and shame (Bradford & Clark, 2012; O'Reilly Mizzi, 1994: Schneider, 1971). Despite the awareness of the potential negative effects of shame on the psychotherapeutic relationship (Gilbert & Procter, 2006; Rustomjee, 2009), shame in psychotherapy has been largely under-researched. The current study aimed to explore how Maltese psychotherapists understand and manage feelings of shame in a particular social context. A qualitative approach was taken to explore the individual perspectives of ten Maltese psychotherapists and data gathered from semi-structured interviews was analysed by means of Interpretative Phenomenological Analysis - IPA (Smith, Flowers, & Larkin, 2009, 2021). The findings indicated that feelings of shame and inadequacy were frequently experienced by Maltese psychotherapists in various professional contexts, including clinical supervision. The perceived impact of these dominant societal codes on therapists' sense of self and professional practice were considered. Supervisory needs of trainee psychotherapists, such as clinical supervisors' sensitivity to affect states and empathy for their shamed identity, were discussed. Suggestions as to how personal therapy and supervision can help psychotherapists deconstruct and normalise feelings of shame and inadequacy by linking them to social and cultural dynamics were put forth.

Keywords: shame, lived experience, psychotherapists, cultural context.

1. INTRODUCTION

The current chapter is an outgrowth of a PhD Thesis, completed at Regent's University, UK, in 2017, exploring how Maltese therapists understand and manage the experience of shame. It aimed to explore the impact of societal codes of shame on the development and perpetuation of shame in therapists' lives, as well as how it affects therapists' personhood, sense of self and therapeutic work. Although there is growing awareness of shame dynamics amongst therapists in Malta, there is still a paucity of information regarding the effects of shame on therapists. This area remains largely under-researched in spite of the relevance of this emotion to Maltese culture. This points to the relevance of researching shame in psychotherapy against a cultural backdrop. Viewing shame from a relational and social lens can shed light on how characteristics of the Maltese context and the tightly-knit community affect Maltese psychotherapists, and in turn how it can impact their efficacy.

2. BACKGROUND

Shame may be examined from a multitude of perspectives. From an intra-psychic perspective, shame is construed as an emotion involving an evaluation of the self as one that is inherently imperfect. Wurmser (1997) defined shame as "the conviction of one's unlovability, an inherent sense that the self is dirty, untouchable, rotten - this abyss of unlovability contains such a depth of wordless and imageless despair…." (p. 96). Miller (1993, 1996) classified shame within "…a group of feelings about the self [that]…carry the conviction that one is small or inferior or defective" (p. 31). Tangney and Fischer (1995) and Dearing and Tangney (2014), considered shame and guilt to be self-conscious emotions that are distinct from other emotions because they require self-appraisal and self -representations.

Tomkins' Affect Theory (1962, 1963) encouraged a paradigm shift from considering shame to be solely an intra-psychic phenomenon, to emphasising relationships and the wider social contexts in which shame occurs. Tomkins (1962, 1963) viewed shame as an interruption of communication in interpersonal relationships and Wheeler (2008) suggested that an intersubjective view of shame is necessary as an alternative to the out-dated individualistic paradigm. This constructivist and inter-subjective model therefore underscores the social dimensions of the shame experience. From a social perspective shame may be conceptualised as a process of social control whereby participants in a community exert pressure on members of that community to conform (Braithwaite, 1989). Shame may be understood in either positive or negative terms. When construed in a positive sense, it indicates consideration of one's reputation and standing in the community's eyes and may contribute to social cohesion. On the other hand, negatively, shame refers to loss of social position and status and consequent mortification of the self. Although the process of shaming presents itself in all societies, micro-state dynamics such as gossip, social visibility and multiple role relationships operate in the Maltese context to allow it to become a dominant societal value (Clark, 2012). Shame is seen by Wiechelt (2007) as emerging both in the personal as well as in the social sphere, - it is experienced personally, as "exposure of a flawed self" (p. 400) by those subjected to the process of shaming. Shame may be still considered as "a perceived discrepancy between one's actual and one's ideal self" (Miceli & Castelfranchi, 2018, p. 711), however this discrepancy is construed as emanating from the person's perceived fit of the self within the community (Rozin, Lowery, Imada, & Haidt, 1999). Given the above, a micro-social perspective on shame is adopted in this paper.

Malta is a small island in the centre of the Mediterranean, located 93 km south of Sicily and 290 km north of Africa (Malta Tourism Authority, 2016). It has a population of 444,015 and its inhabitants occupy an area of merely 320 square kilometres. (Malta Population Worldometer, 2022). The population density of 1388 people/square km renders Malta one of the most densely populated countries in the world. (Malta Population Worldometer, 2022). A series of geographical contingencies, historical events and traditions have culminated in a social reality in Malta that is more overtly organised around shame and honour, in line with Kaufman's (1992) description of Mediterranean cultures. Clark (2012), described Maltese society as communitarian and claimed that honour and shame are an important means for managing individual and group reputation. The maintenance of one's social identity is therefore fundamental and depends largely on public opinion. Like most Mediterranean societies Malta is characterised by social, sexual and economic stratification, family solidarity and reliance on kin. According to Clark (2012) this impacts the dominant values in this society. Therefore, shaming is more likely to occur in societies such as Malta, characterised by specific cultural mechanisms that promote it. Malta appears to possess the characteristics mentioned by Clark (2012) that render inhabitants most vulnerable to

labelling, namely small size, communitarianism, interdependence, social values that promote shaming, effective gossip networks and multiple role relationships. O'Reilly Mizzi (1994) also mentioned specific social and environmental conditions, that are peculiar to Malta, yet are common to most Mediterranean cultures. These are: the code of honour and shame; the predominant role of the Catholic Church; gender divisions and the role of women; the physical layout and architectural style of Maltese communities.

Psychology and psychotherapy are relatively young professions in Malta. Despite the fact that the University of Malta was established in 1592, it was not until 1992 that the first undergraduate degree in psychology was offered. (Schembri Lia, 2017). The first institute of psychotherapy, the Gestalt Psychotherapy Institute of Malta, was founded in 1996, followed by the Institute of Family Therapy in 2011 and the Master in Family Therapy and Systemic Practice in 2012. To date there are currently 215 warranted psychologists and 183 registered psychotherapists listed on the Malta Psychology and Psychotherapy Profession Boards' registers respectively. However, perhaps due to the short time-span in which these professions developed, the increasing numbers of professionals are not accompanied by an increase in research in the area. Research on psychotherapy in Malta is therefore sparse, and research on shame in psychotherapy is even more lacking.

Dearing and Tangney (2011) referred to the international arena and asserted that in spite of twenty years of research on shame, comparatively little has been written on the role of shame in psychotherapy. Mahoney (2000) claimed that although the therapist is nowadays increasingly being "acknowledged as an active ingredient in the change process" (p. 9), very little research exists on the perceptions of therapists regarding their patients and their own shame in psychotherapy. Ayers (2003) exhorted that despite the anxiety that shame evokes in the therapeutic dyad, therapists need to be able to counter patient's painful experience of inherent defectiveness. She suggested that in order for the empathic response of therapists to function as an antidote to their patients' feelings of badness, therapists need to be in touch with all aspects of the therapeutic relationship, including their own shame. This is similar to what Morrison and Stolorow (1997) call "a three-person psychology" (p. 82) where the therapist's shame is also considered and shame is construed as a co-created experience between patient and therapist. The lack of research on therapists' shame, coupled with the relevance of shame to the Maltese context therefore provide a rationale for researching shame in psychotherapy from a cultural perspective.

3. METHODS

3.1. Design of the Study

A qualitative method of inquiry was deployed to elicit rich detail about Maltese therapists' subjective experiences. As Creswell (2007) asserted, it is only possible to gain "a complex, detailed understanding of the issue" (p. 40) through a qualitative design that generates knowledge gleaned from asking participants about the meaning they attribute to their experience. In view of this, semi-structured interviews were conducted with five female and five male psychotherapists whose years of experience ranged between six and 28 years. Interview questions aimed at eliciting participants' experiences of their own and their patients' shame during psychotherapy. Data was analysed by means of Interpretative Phenomenological Analysis (IPA), following the procedure proposed by Smith et al. (2009). The following table provides information regarding the participants of the study, who are referred to by their respective pseudonyms throughout.

Table 1.
Participants' details.

Name	Age Range	Years of service	Workplace	Profession	Theoretical Orientation
Melanie	35-45	13	Private Practice	Clinical Psychologist	Integrative, mainly Psychodynamic
Christa	35-45	12	Psychiatric Hospital	Clinical Psychologist	Integrative
Alana	55-65	28	Private Practice; Counselling Services	Psychotherapist	Integrative, mainly Gestalt
Eugenio	35-45	10	Psychiatric Hospital	Clinical Psychologist and Psychotherapist	Integrative, mainly Cognitive Behavioural Therapy
Maggie	35-45	10	Private Practice	Counselling Psychologist	Psychodynamic

Name	Age Range	Years of service	Workplace	Profession	Theoretical Orientation
Gerlinde	55-65	18	Private Practice; Counselling Services	Counsellor and Psychotherapist	Gestalt
Robert	55-65	10 years	Private Practice; Psychological Services	Psychotherapist	Gestalt
Jack	55-65	17 years	Private Practice; Counselling Services	Counsellor and Psychotherapist	Integrative, mostly Psychodynamic
Nial	35-45	6 years	Psychiatric Hospital	Counselling Psychologist	Psychodynamic
Alex	35-45	9 years	Private Practice	Counselling Psychologist	Integrative, mostly Humanistic-Existential

3.2. Researchers' Positioning

Given that phenomenology and hermeneutics provide the philosophical underpinnings of IPA, the "double hermeneutic" (Smith et al., 2009), is evident throughout the analysis and interpretation of the findings. This requires that in the first instance IPA researchers attempt, as far as this is possible, to adhere to the experience of the participants, by taking a phenomenological stance, referred to by Ricoeur (1970, 1976) as "the hermeneutics of empathy". Only at a later stage, do researchers take a stance that is more line with Ricoeur's (1970,1976) "hermeneutics of suspicion", and attempt to interpret the meaning participants assign to their experience. IPA is grounded in phenomenology, that in turn takes a constructionist approach, specifically, according to Willig (2009), a contextual

constructionist approach, espousing that all knowledge is contextual, and positing that different perspectives give rise to different insights into the same phenomenon. The epistemological position of the authors resonates with the tenets of contextual constructionism, namely that reality and meaning emerge from the interaction of human beings and the world they are interpreting. Contextual constructionism supports a relativist epistemology whilst at the same time a belief that external reality exists. This is in line with Maxwell's (2008) argument that the combination of ontological realism and epistemological constructionism may offer valid contributions to qualitative research.

4. FINDINGS AND DISCUSSION

4.1. Themes and Sub-Themes

For the purpose of the current study the focus has been narrowed to consider primarily the data pertaining to the participants' reflections on the broader context in which they live and practice psychotherapy, that culminated in a super-ordinate theme labelled *The Island of Shame*. *The Power of Religious Beliefs*, *Keeping up Appearances* and *The Ideal Therapist* emerged as subordinate themes and are illustrated in the following table, together with their respective illustrative quote. In the subsequent discussion participants are referred to by pseudonyms throughout in order to ensure anonymity.

Table 2.
Superordinate theme, sub-themes and illustrative quotes.

Superordinate Theme	Sub-ordinate Themes	Illustrative Quotes
The Island of Shame	The Power of Religious Beliefs	"Mmmm it's as if I don't feel I'm good enough, I think it all boils down to that. And so I feel very…even with my upbringing and the school I went to, religion and sexuality" (Melanie: 6-7.188-191)
	Keeping up Appearances	"Probably at the time…I felt ashamed…to take it to supervision for instance because this is a must not, this should not, you know, this is a…you know such…such a stupid mistake" (Alex: 16.505-510)
	The Ideal Therapist	"It's the same this idea of having an ideal child, an ideal therapist, it's a bit dangerous" (Jack: 32. 979-987).

4.2. The Power of Religious Beliefs

Participants portrayed themselves as highly prone to feelings of shame and inadequacy. Their descriptions of their shame as frequently occurring, intense and durable can be compared to what Claesson & Sohlberg (2002) referred to as "trait shame", or what Cook (1992) termed "internalised shame", that are considered distinct from situational shame. Participants attributed the development of their shame-proneness to the Maltese cultural context in which they had been brought up. Robert referred to his propensity to feel shame as a "shame personality": "I'm not sure, kind of, about personality or, or, or a shame personality, I think it's something that personally I was brought up into in a way, so it became like part of me" (Robert: 30.943-947). Manifestations of shame-proneness were identified as a pervasive sense of inadequacy, the tendency to judge themselves and their work very harshly, self-criticism, and excessive striving for perfection. Participants acknowledged their perfectionistic strivings and claimed that any sense of professional inadequacy they experienced would immediately elicit a sense of a flawed self. They are extremely distressed by professional blunders and tend to attribute their therapeutic failures to their own inadequacy. Robert doubted his competence: "I also felt not just afraid, inadequate afterwards, I felt very inadequate, I said "my God am I really cut out for such a job?" (Robert: 4.120-123). Jack referred to his sense of inadequacy in a similar vein: "…it's also got to do with my own personal issue of the fear of not being good enough in my work…" (Jack: 6.164-166). Nial also claimed that he tends to judge his work harshly: "The idea that…as a therapist I might have contributed to her suffering also creates a bit of shame in me now" (Nial: 22.653-655).

Participants described their social context as "shame-based": "I think that our culture, and particularly my up-bringing was very much related to shame" (Melanie 12.358-360) and Alana stated: "…I began realising that the Maltese culture is very shame-based, our upbringing" (Alana 21.611-612). Gans (1962) referred to the Maltese people as urban villagers and claimed that life in Malta revolves around the church and the local community. Religious rituals and traditions portray the theme of original human defectiveness and the need for atonement. Participants, who mostly attended schools that were church-run, attributed an element of their shame to their own and their parents' strict religious upbringing. Melanie attributed her shame to her rigid Catholic upbringing: "Mmmm it's as if I don't feel I'm good enough, I think it all boils down to that. And so I feel very…even with my upbringing and the school I went to, religion and sexuality" (Melanie: 6-7.188-191). Jack referred to shame as directly emerging from religious beliefs. He also opined that the influence of centuries of a religion based on the expiation of guilt still lingers albeit on a deep unconscious level. Jack also referred to "a parlance of good or bad, right and wrong", that lingers despite the process of secularisation that has been underway during the last two decades (Deguara, 2020). Despite the fact that the Maltese voted in favour of legalising divorce in 2011, and same-sex marriage in 2014, this does not appear to have reduced the stigma attached to them (Deguara, 2019). This may indicate that shame, the tendency to judge the self and others harshly and the fear of a wrathful god, still lurk on a deeper, unconscious level. In spite of appearances, Jack claimed, the church may still constitute a very influential form of social control: "I'm not sure about the dominance of the church anymore, I think it's still there, there are still residues of it, I mean it's been challenged and all that…you still see strands of conservative thought around (Jack: 23.709-715). He further asserted:

> …it's almost shameful to be either gay or lesbian or co-habiting…so what I'm saying is are we really out of shame or guilt induced by the past? I question it, because I'm sure if things are changing now, unconsciously we carry a past, so it's not easy to say…outside it might be liberating but I'm sure internally it's a different matter. (Jack: 23.709-721).

It is not uncommon to hear psychotherapists in Malta refer to their profession as a "calling" or "vocation". Gerlinde, who referred to herself as "a very religious person…" (Gerlinde: 2.43-46), described her work as "sacred" and claimed she is driven by her conscience. Repeated references to her self-sacrificial attitude and the importance of not giving in to "temptations" evokes a religious theme and conjures a sense of the need for expiation and self-sacrifice. Sussman (2007) claimed that therapists may have a need to feel benevolent, selfless and loving. He asserted, however, that messianic feelings of saintliness and spirituality also play a role in the aspiration of the perfected self. Fantasies of benevolence, together with omniscient and omnipotent fantasies of the therapist, are the components of a broader aspiration – that of attaining perfection. If these aspirations are not in the therapists' awareness they may identify with their patients' idealisations. This may be counter-therapeutic, in that it may foster patients' dependence, and could result in therapists' inability to bear negative transference, or unwillingness to challenge their patients (Di Caccavo, 2006). Similarly, Sussman (2007) claimed that if therapists derive satisfaction from the patient's idealisation, especially if they have chosen their career to compensate for feelings of unworthiness, they might attempt to engender a positive transference by being overly supportive and reassuring.

4.3. Keeping Up Appearances

According to Abela and Sammut Scerri (2010) the high population density has a huge impact on the Maltese psyche, that leads the Maltese to guard their personal lives fiercely. It is virtually impossible to be anonymous in Malta, where inhabitants are raised within an interdependent network. Islanders form part of each other's lives in multiple contexts, and relationships are more durable and emotionally charged than in larger societies (Deguara, 2019). Participants referred to their upbringing in a small, tightly-knit community, where one of the consequences is, as Clark (2012) stated, an elevated degree of social visibility: "In Malta you cannot hide who you are, if we were somewhere else you can have this enigma of your personal...but in Malta it's very difficult…" (Alana: 49.1515-1518). Christa stated: "…the fact that we are very well informed about each other decreases the chances of keeping something you are ashamed of secret, so that is an added burden…" (Christa: 28.912-915). According to participants it seems there is a cultural tendency to attempt to ward off one's shame by shaming or feeling superior to others. Alana stated: "If we've lived feeling I'm not good, when we're growing up with that, to cover it up, then I would say no it's not me who's not good, I'm ok it's you who's not ok" (Alana: 21.614-617). She continued: "…a lot of people who go into the church, erm work in the church, erm police and places of authority…now I'm in a position to…throw the shame onto others to preserve my own pride, my own shame…" (Alana: 21-22.620-624).

The small size of the island, coupled with psychology and psychotherapy being young professions, leads to the development of multiple roles, that serves to augment shame and heighten exposure. Participants highlighted the problem with dual or multiple relationships and expressed frustration at the difficulties in finding their own personal therapists and clinical supervisors. Even once they have secured a therapist/supervisor, it is difficult for professionals to disclose their innermost secrets and work difficulties, despite the confidential nature of the therapeutic or supervisory context. This is deemed by Jack as another reason why shame goes underground and is not worked through, although it continues to leak out and wreak havoc from its hiding place: "…You're known, you know them all, that's what I'm saying, so the shame remains…it's not worked through." (Jack: 30.907-1004). Jack indeed wonders whether therapy or supervision is safe in Malta: "That's what I question, is it actually safe enough in Malta…where therapists know each other, where the chances of

having dual relationships are so sky-high, where the same therapist who you go to may be in the same committee or the same conference or the same CPD (continuing professional development)…it is so difficult to really open up about the worst." (Jack: 28.863-871). It is not surprising that the heightened exposure described by participants leads to excessive concern with keeping up appearances. The need to be perceived positively at all times might serve to strengthen participants' defences even in the context of a safe, supportive environment, such as their own psychotherapy and supervision: "Probably at the time…I felt ashamed…to take it to supervision for instance because this is a must not, this should not, you know, this is a…you know such…such a stupid mistake" (Alex: 16.505-510)

4.4. The Ideal Therapist

The problem of multiple roles in the professional arena was believed to augment the pressure participants felt to conform to the image of the ideal therapist that might also interfere with their willingness to discuss shaming issues in their own therapy and professional dilemmas in clinical supervision. Participants, who claimed to have sustained injuries to their sense of self in childhood, are tempted to take on the role of "ideal therapist" that is mirrored, perpetuated and inflated by the idealisations of patients and the public. Alex stated "…it's like I was still not acceptant of this human side" (Alex: 8.248) and Alana referred to her lack of humility: "I'm obsessed, you know this word hubris, this word hubris … Where you feel nobody's managed with the client but I will" (Alana 29-30.884-888). Neri and Rossetti (2012) put forward the notion of a "psy complex" that they believed can act as a salve for therapists' narcissistic wounds. This serves to ward off shame and a sense of a flawed self by gaining recognition from the status of their profession, yet hinders their authentic self: "But that is the tyranny of the ideal, what the ideal therapist should be …what is an ideal therapist? There isn't one … I mean we all are envious; we are all competitive..." (Jack: 31.943-950). The myth of the ideal therapist, that, as one participant contended, only serves to strengthen therapists' defences and to drive their authentic self further underground, is fuelled by the warranting bodies and psychological associations. Ethical guidelines may inadvertently reinforce therapists' social veneer as the perfect professional. According to Jack, therapists' dark sides are driven underground and they are forced to present a professional front, a public false-self in order to appease the professional body, that to Jack, renders therapists akin to children trying to please their parents: " …sort of the authority, usually we are shamed when we are children by a parent and now it's like as professionals there's some entity or body that is helping to keep us in this inferior position…"(Jack: 32. 976-979). He asserted: It's the same - this idea of having an ideal child, an ideal therapist, it's a bit dangerous" (Jack: 32. 979-987).

5. IMPLICATIONS FOR THE PRACTICE OF PSYCHOTHERAPY AND SUPERVISION

Participants in this study reflected on their motivations for choosing to pursue a career in psychotherapy. Some considered the possibility of having chosen this career, that they consider to be a high-status profession, as a means of attenuating shame and feelings of inferiority. Trainee psychotherapists can be encouraged to link their wish to pursue this career to early wounds sustained. It would also be helpful for trainee psychotherapists to reflect upon how their professional self-esteem is inextricably linked to their personal self-worth and to understand how excessive striving for perfection and status might impact their

therapeutic interventions. Awareness of how Maltese cultural dynamics fuel the need to strive to maintain the image of super-psychotherapist is key.

The process of learning and obtaining feedback on performance in supervision may evoke shame, humiliation, and feelings of inferiority and vulnerability in therapists (Gill, 1999; Yourman, 2003). These emotions can affect the supervisory relationship if they remain undetected. Clinical supervisors would need to empathise with this difficulty and acknowledge the discrepancy of power inherent in the supervisory dyad rather than attempt to minimise it by naive claims of equality and reference to a collaborative relationship. Participants stated that they often refrain from disclosing difficulties in supervision for fear of appearing incompetent. Supervisee non-disclosure is a common occurrence, as described by Yourman (2003) and Gill (1999), yet a sense of heightened exposure coupled with multiple roles in the professional arena within the small community can further augment shame and render psychotherapists even more reluctant to divulge their own struggles with their patients to clinical supervisors. Yourman (2003) suggested that clinical supervisors pay attention to what is happening in the supervisor-supervisee dyad. A clinical supervisor who is attuned to the affective state of their supervisees may help decrease their shame by encouraging the expression of differences of opinion, a critique of the supervision, and to give open feedback about the supervisory relationship. The clinical supervisor's empathic acknowledgment of the difficulty of disclosing self-perceived errors in clinical judgment within a holding environment Gill (1999) is paramount. This would facilitate the articulation and normalisation of emotions that supervisees may feel are unacceptable.

6. FUTURE RESEARCH DIRECTIONS

The phenomenon of shame continues to present interesting avenues for further research and lends itself particularly well to examination from a trans-disciplinary perspective. This chapter has adopted a micro-sociological approach that has yielded a number of interesting observations. Consequently, some directions for future research are identified. In view of the identified importance of religious beliefs in fostering a climate of shame, and given the continued secularisation of Maltese society, the role of religion and rituals that facilitate shaming need to be examined in a rapidly changing Maltese cultural landscape. In a secularised society shaming rituals are often not exclusively religious. It would be valuable to explore the shaming rituals subtly at play in the training, warranting and continuous development processes required of this burgeoning psychotherapy profession. More specifically research may qualitatively explore the manner in which clinical supervisors recognise and negotiate shame in supervision. A grounded theory study could be conducted using theoretical sampling with the aim of constructing a theory on how shame should be managed in a supervisory setting. This chapter documented the importance of "keeping up appearances" and the challenges posed by the need to live up to an "ideal", in a context characterised by lack of anonymity and interdependence. This suggests that examining self-monitoring style and the impact of self-monitoring mechanisms among Maltese psychotherapists might be important. These findings could then inform the training and initial and continued supervision of these therapists.

7. CONCLUSION

The results of this study underscore the relevance of considering shame against the cultural backdrop, given that this emotion is a defining feature of Maltese culture. They also broaden understanding on how cultural dynamics serve to augment shame and fear of

exposure, leading to a loss of the psychotherapist's authentic self and engendering excessive conformity to the veneer upheld by society. Additionally, this study has implications for the training and supervisory needs of trainee therapists. It emphasises the relevance of therapists' ability to link their wish to become psychotherapists to early wounds sustained, and to learn empathy for their shamed identity. This will ensure that therapists' own relationships, including those with their clients, will cease to revolve around submission or superiority and can, instead, be based on equality and mutual respect (Di Caccavo, 2006). Awareness of how Maltese cultural dynamics fuel therapists' need to strive to maintain the image of the ideal therapist is key. In their own psychotherapy and supervision therapists can be encouraged to deconstruct and normalise their feelings of shame by linking their own personal experiences to social and cultural issues.

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AUTHORS' INFORMATION

Full name: Greta Darmanin Kissaun
Institutional affiliation: University of Malta
Institutional address: Room 244, Department of Psychology, Old Humanities Building, University of Malta, Tal-Qroqq, MSD2080, Malta
Short biographical sketch: Greta Darmanin Kissaun PhD is a resident senior lecturer and former Head of Department of Psychology at the University of Malta. She trained in Clinical Psychology at the University of Padua, Italy, and earned her PhD from Regent's University, London. She is also a clinical psychologist and psychotherapist in private practice and has worked extensively with severe mental health difficulties. In her role of co-ordinator of the professional Masters programme offered by the Department of Psychology, she has been supervising trainee clinical psychologists since 2005. Her research interests include psychopathology, psychotherapy and clinical supervision and some of her research addressing these areas has been published in local and international peer reviewed journals and edited books.

Full name: Marilyn Clark
Institutional affiliation: University of Malta
Institutional address: Room 113, Department of Psychology, FEMA building, University of Malta, Tal-Qroqq, MSD2080, Malta
Short biographical sketch: Marilyn Clark PhD is a Professor with the Department of Psychology at the University of Malta. She trained in social psychology at the University of Liverpool and was awarded a PhD from the University of Sheffield. Her main research interests surround the study of addictive and criminal careers, youth issues, victimisation and violence against journalists. She has published widely in a number of edited texts and peer reviewed journals. Apart from her commitments at University, Prof Clark has been engaged in a number of both local and international entities in her areas of specialisation. She is currently Executive Secretary of the Malta Chamber of Psychologists.

Section 2
Educational Psychology

Chapter #14

WILL PSYCHOLOGICAL FACTORS AMONG PARENTS AFFECT THEIR CHOICE OF PARENTING STYLE?

Yao Song & Raymond Wai-Man Chan*
City University of Hong Kong, Hong Kong
*Corresponding author

ABSTRACT
Parenting is vital to children's psychological development. Previous research mainly studied the impacts of parental control over child discipline but not the association between parental perceived controllability and parenting style. The purpose of this study was to fill up this gap. There were three independent variables to measure parental attributes on the control in this study, including self-efficacy, self-control, and perceived controllability over their children. A one-item scale measured parental efficacy: "How much can you do to control the time your child spends. "Parental self-control was measured by the frequency of mobile phone usage with absent-mindedness. Parental perceived controllability was measured by their child's expected time usage of mobile phones minus the child's exact time usage on a mobile phone. The difference indicated the strength of parental perceived controllability over child discipline. Result: Authoritative parenting was predicted by self-efficacy (β=0.255, p=0.001) and perceived controllability (β=0.202, p=0.011). Authoritarian parenting was predicted by a lack of self-control (β=0.433, p<0.001) but not self-efficacy (β=0.024, p=0.745). Permissive parenting was predicted by both lack of self-control (β=0.488, p<0.001) and lack of parental perceived controllability (β=-0.167, p=0.019). Implication: Authoritarian and permissive parents may have more difficulties in controllability than authoritative parents. Recommendations for future parent education will be discussed.

Keywords: parenting styles, parental self-efficacy, self-control, perceived controllability.

1. INTRODUCTION

Parenting has long been a focus of study among professionals, such as psychologists, educators, psychotherapists, sociologists, and social workers. While child development is one of the significant concerns in child-rearing, whether parenting is effective will directly determine the quality of child development outcomes.

In the study of parenting, scholars from different disciplines may have various focuses. For example, psychologists or psychiatrists might emphasize the association between parents' mental health and the parenting process and its impacts on child development outcomes (Tungpunkom, Maybery, Reupert, Kowalenko, & Foster, 2017). Social workers might focus more on studying the impact of parenting practices or parenting beliefs on child development (Zuar et al., 2021). Other family workers may work on the influence of various parenting styles on child development. However, parenting style is still a core focus of exploration in most studies. Previous research supported the claim that parents learn the practice of parenting style through intergenerational transmission (He, Liu, Chen, Huang, & Luo, 2020; O'Brien, 2010; Sun, Fu, Li, & Gong, 2021). In other words, parents learn their parenting styles through their observation and influence from their parents at the time of their childhood experiences, which may become their parenting styles and practices. Parents with

authoritarian parenting practices have their parents with an authoritarian parenting style, or authoritative parents have their authoritative parents. However, one may wonder if intergenerational transmission is the only explanation. Intergenerational transmission involves a process of social learning (Abraham et al., 2021). However, social observation may not be the only factor determining parenting style practice. One of the examples is personality (Kitamura et al., 2009). Empirical evidence reported that personality traits might mediate intergenerational transmission. However, the study between parental self-control and its impact on parenting styles is rare.

The importance of parental self-control in parenting is obvious. Gottfredson and Hirschi (1990) reported that parents with a low level of self-control are less likely to instill self-control in their children effectively. In other words, parents with low self-control are unlikely to exercise effective parenting practices but more likely to engage in inconsistent disciplinary practices with less parental love and affection (Boutwell & Beaver, 2010). There are few empirical studies exploring the relationship between parental self-control and parenting practices. For example, Verhoeven, Junger, Van Aken, Deković, and Van Aken (2007) reported that parents with lower self-control levels often used harsh parenting practices and psychological control in parenting. Meldrum et al. (2015; 2018) also found a negative association between parental self-control and effective parenting. Current empirical data seems to support the claim that factors other than intergenerational transmission may affect the choice of parenting style. At the same time, parental self-control is associated with effective parenting practices. Therefore, this study aims to fill up the research gap by exploring other factors, such as internal resources on "parental self-control," to explain parents' choice of which parenting style to practice.

2. BACKGROUND

The pandemic situation affects many people's daily life. Implementing social policies to minimize the possibility of getting infected, such as social distancing, work-from-home arrangements, and the change of class format from a face-to-face setting to online learning, might lead people to become more socially isolated by staying at home. Especially young children, who are more vulnerable to infection, are more likely to stay at home. Mobile phones or computers have become one of the most popular activities among young children. Online addiction is a primary concern that most psychologists or social workers worry about. The role of parents in controlling their children's mobile phone usage is critical and crucial. Because of this, the original objective of this study was to explore which parenting style was the most effective in controlling their children's behavior on mobile phone usage. Moreover, another objective of this study was to understand what other factors might affect the choice of parenting styles practiced by parents in the process of parenting.

The concept of "control" among parents is vital to determining parenting effectiveness. However, most previous research mainly focused on studying "parental control" on its effect on parenting, but not on parents' perception of their capacity for self-control in parenting. It wondered if the perception of their mastery over the external environment might explain the choice of parenting style. Given this, this study included four variables: parenting style, parental self-control, parental efficacy, and parental perceived controllability to explore their relationships.

2.1. Parenting Style and Parental Self-Control

Baumrind (1967) initially developed a three-model parenting style that combines parents' strategies, behaviors, and attitudes in child-rearing. Baumrind (1967) proposed two different dimensions in the process of parenting. They are responsive and demandingness. Based on this categorization, she defined three parenting styles: authoritative, authoritarian, and permissive. Authoritative parenting is a way of parenting in which parents are both responsive and demanding. Parents with an authoritative parenting style usually care about their children's needs, show parental warmth to them, and set rules with clear explanations and mutual agreement with the child (Santroc, 2007). Authoritative parents allow their children autonomy and encourage them to explore and learn independence.

Authoritarian parents have high parental demands but low responsiveness. They set strict rules with high standards but little negotiation or explanation. The parenting process involves little parental warmth and little communication with the child, but it is very controlling and demanding. Punishment is often used to control their child's behaviors in cases of disobedience. Permissive parenting is characterized as highly responsive but not demanding. In other words, permissive parents are nurturing and warm. They involve with their child's activities and want to be children's friends. However, there are no rules to let their child follow. The expectation of their child is relatively low, and they barely exercise any discipline to control or regulate their child's behaviors. Previous researchers have recognized that parenting styles correlate with psychological or behavioral characteristics (Berge, Wall, Loth, & Neumark-Sztainer, 2010; DeHart, Pelham, & Tennen, 2006; Park & Walton-Moss, 2012; Sarwar, 2016). A previous study reported that an authoritative parenting style strongly predicted positive outcomes in child behaviors (Schary, Cardinal, & Loprinzi, 2012). On the other hand, some other studies reported that the authoritarian parenting style was positively associated with controlling parenting (Chao, 1994). It negatively predicted the children's executive control (Zhang, Yan, Nan, & Cai, 2021). However, research on studying the association between parental self-control and parenting style is scarce.

2.2. Parental Efficacy

Self-efficacy is defined as an individual's belief in how well or poorly he or she will handle a specific task based on his ability (Bandura, 1989). The more self-efficacy an individual holds, the more likely he or she will achieve the desired outcome. Parental efficacy can be defined as the "beliefs or judgments a parent holds of their capabilities to organize and execute a set of tasks related to parenting a child" (de Montigny & Lacharité, 2005, p.387). Efficacious parents have strong confidence in influencing their child's behavior. They will put more effort into meeting their expectations and persist when meeting obstacles (Bandura, 1999).

On the contrary, parents with lower efficacy in a given situation will put in less effort. Previous research also supported a negative association between a lower level of parental efficacy belief and a higher level of authoritarian parenting practice with less easygoing parental behaviors (Evans, Nelson, Porter, Nelson, & Hart, 2012). Therefore, parents with a relatively lower level of parental efficacy belief will be more likely to choose an authoritarian parenting style to discipline their children to ensure their child's behaviors are under control.

2.3. Parental Perceived Controllability

Parental control is one of the core dimensions of parenting practice. Although the studies are rare, parents with authoritarian parenting style practices were more likely to have more parental control over their children (Cuzzocrea, Barberis, Costa, & Larcan, 2015).

On the one hand, it is essential to believe that parents who intend to socialize their children need to use authority and provide discipline. However, what will happen to parents if they perceive their parental authority and disciplinary power are not strong enough to socialize their children to behave? A study reported that parents with authoritarian parenting styles added restrictive parental control in the child-rearing style to reduce delinquency in their children (Pezzella, Thornberry, & Smith, 2016). Because of this, it predicts that parents with a lower level of perceived controllability may execute more parental control over their children to prevent or reduce negative external misbehaviors. It may make them more likely to practice an authoritarian parenting style.

This measure aimed to fill up the research gap. It explored the associations among four variables, i.e., parenting styles, parental self-control, parental efficacy, and parental perceived controllability in parenting. Previous research to study these four constructs is rare. Therefore, there are two hypotheses in this study.

(1) It predicts that parents who practice an authoritative parenting style will have more internal resources on parental attributes of a control, such as parental self-efficacy, self-control, and perceived controllability.
(2) It predicts that parents who practice an authoritarian parenting style will have fewer internal resources on parental attributes of a control, such as parental self-efficacy, self-control, and perceived controllability.

3. METHODOLOGY

3.1. Participants

Parents of children aged 3-6 were recruited as participants from an English Training Institution. A total of 159 parents were invited to complete the questionnaires, but only 157 participants provided valid data. Among these 157 parents, 38 (24.2%) were fathers, and 119 (75.8%) were mothers. All of them had a lone child in their families. Among these 157 families, 87(55.4%) of the participants' children were boys, and 70 (44.6 %) were girls. Children's age ranged from 3 to 6 years old, with 4.68 years as the mean age.

3.2. Measurements

3.2.1. Dependent Variable

Parenting Style. Parenting Style and Dimension Questionnaire (PSDQ)-Short Form was used to measure parents' parenting styles (Robinson, Mandleco, Olsen, Hart, Perlmutter, Touliatos, & Holden, 2001). The short version of PSDQ has 32 items to group parents into three parenting styles using a five-point Likert scale (1= never, 5=always). There are 12 items to measure authoritarian parenting style with three dimensions: verbal hostility, punishment, and physical coercion. The authoritative parenting style comprises 15 items and three dimensions: support and affection, regulation, and autonomy. There are five items to measure permissive styles in one dimension, indulgence. The scores for each dimension's items were added and averaged to get the score for that dimension. Similarly, the dimensions' scores for each parenting style were added and averaged to get the score for that parenting style. The higher scores on a particular parenting style represented the style of parenting practice the participant most likely used in parenting.

3.2.2. Independent Variables

The constructs as independent variables measured parental attributes on control, including parental efficacy, parental self-control, and parental perceived controllability over their children. This study was conducted during the pandemic in which parents allowed their children and themselves to use mobile phones.

Parental efficacy. Parental efficacy was measured by a one-item scale, as proposed by Bandura (2006), "How much can you do to control the time your child spends."

Parental self-control. This measure aimed to measure the level of self-control that the parents lacked. Therefore, the lack of parents' self-control was measured by studying how frequently they used their mobile phones with absent-mindedness. The Smartphone Use Questionnaire (SUQ-G and SUQ-A; Marty-Dugas & Ralph, 2018) was used to measure parents' smartphone use habits. The Smartphone Use Questionnaire, SUQ, comprised two dimensions: general (SUQ-G) and absent-minded (SUQ-A). Both dimensions consisted of 10 items on 7-point Likert Scale, where one represented "Never" to 7 "All the time." The Smartphone Use Questionnaires-General (SUQ-G) measured how often a participant used the mobile phone. Some of the item examples were “How often do you have your cellphone on your person?”, “How frequently do you send and receive text messages or emails?” The Smartphone Use Questionnaires-Absent-mindedness (SUQ-A) measured how frequently people used their mobile phones absent-mindedly without self-control. Examples of these items were "How often do you open your phone to do one thing and wind up doing something else without realizing it?" and "How often do you check your phone while interacting with other people (i.e., during conversation)?" The higher the scores on the frequency of mobile phone usage, the more likely the participant was to lack self-control in mobile phone usage.

Parental perceived controllability. Parental perceived controllability was measured by the parents' expected time consumption on a mobile phone minus the time consumed in their child’s mobile phone usage. Participants were asked to respond to the question, "how much daily smartphone screen time to your child do you think is suitable?" measured on a scale from 1 to 7 with a 0.5-hour interval, where 1= "do not use a smartphone," 2= "0-0.5 hour", 3= "0.5-1.0 hour", and up to 7= "more than 3 hours". Similarly, the time consumed by the child in mobile phone usage was measured by the question "how long does your child play with a smartphone on average per day?" on a 7-point scale where 1= "0 hours", 2= "less than 0.5 hours", 3= "0.5-1.0 hour", and up to 7= "more than 3 hours". The more significant the positive difference, the stronger it represented the parent's perceived controllability over child discipline.

3.2.3. Reliability tests

The reliability of all measuring scales reported a high Cronbach's alpha, having an excellent internal consistency. The Cronbach’s alpha of different scales, i.e., Parenting Style and Dimension Questionnaire (PSDQ)-Short Form, Smartphone Use Questionnaires (absent-mindedness), were 0.861 and 0.908, respectively.

4. FINDINGS

It was to initially run a Partial Correlation to understand the strength of associations among different measuring variables. The result is shown in Table 1. The authoritative parenting style got high partial correlation coefficients with parental self-efficacy (r=0.249, p<0.005) and parental perceived controllability (r=0.173, p<0.05). For authoritarian parenting style, it had strong associations with a lack of self-control (r=0.437, p<0.001). In contrast, permissive parenting style got high correlation figures with lack of self-control (r=0.498, p<0.001) and parental perceived controllability in a negative direction (r=-0.200, p<0.05).

Table 1.
Partial Correlations between Parenting Styles and measures of Parental Control Variables.

	Parental efficacy[1]	Lack of self-control[2]	Parental Perceived Controllabilty[3]
Authoritative	0.249***	0.055	0.173*
Authoritarian	0.023	0.437****	-0.144
Permissive	-0.071	0.498****	-0.200*

Note. All correlations are 2-tailed significance tests.
[1]Controlling for Lack of Self-control and Parental Perceived Controllability
[2]Controlling for Parental Efficacy and Parental Perceived Controllability
[3]Controlling for Parental Efficacy and Lack of self-control
****p<0.001, ***p < .005, **p<0.01, *p<0.05

On the other hand, the results supported all hypotheses. To put authoritative parenting style as the dependent variable, it measured the predictive power of parental self-efficacy, parental perceived controllability, and lack of self-control after controlling for child-rearing attitude. The results from multiple regression showed that the practice of an authoritative parenting style was significantly predicted by parental self-efficacy (β=0.255, p=0.001) and perceived controllability (β=0.202, p=0.011) but not lack of self-control (Table 2).

Table 2.
Multiple Regression Table with Authoritative Parenting Style as a Dependent variable after controlling child-rearing attitude.

Predictor	R	R^2	R^2 change	B	Std. Error	Beta	t-value	Significant level
Model 1								
Child-rearing attitude	.102	.010	.010	.075	.059	.102	1.272	.205
Model 2								
Child-rearing Attitude	.346	.120	.109	.118	.057	.161	2.065	0.041
Parental Efficacy				.167	.050	.255	3.325	.001
Lack of self-control				.026	.040	.050	.653	.515
Parental Perceived Controllability				.120	.046	.202	2.589	.011

Predictors: Parental efficacy, lack of self-control, and Parental perceived controllability.

However, if an authoritarian parenting style was a dependent variable to replace the authoritative parenting style, the practice of the authoritarian parenting style was predicted by lack of self-control (β=0.433, p<0.001) but not parental self-efficacy (β=0.024, p=0.745). The listed figures are reported in Table 3.

Table 3.
Multiple Regression Table with Authoritarian Parenting Style as a Dependent variable after controlling child-rearing attitude.

Predictor	R	R^2	R^2 change	B	Std. Error	Beta	t-value	Significant level
Model 1								
Child-rearing attitude	.092	.008	.008	.062	.054	.092	1.146	.254
Model 2								
Child-rearing Attitude	.457	.209	.200	.038	.050	.057	.765	.446
Parental Efficacy				.014	.044	.024	.326	.745
Lack of self-control				.209	.035	.433	5.982	.000
Parental Perceived Controllability				-.065	.040	-.118	-1.599	.112

Predictors: Parental efficacy, lack of self-control, and Parental perceived controllability.

Similarly, for the practice of a permissive parenting style, it was predicted by a lack of self-control (β=0.488, p<0.001) and a lack of perceived controllability (β=-0.167, p=0.019) but not parental self-efficacy (β=-0.059, p=0.397). The results are reported in Table 4.

Table 4.
Multiple Regression Table with Permissive Parenting Style as a Dependent variable after controlling child-rearing attitude.

Predictor	R	R^2	R^2 change	B	Std. Error	Beta	t-value	Significant level
Model 1								
Child-rearing attitude	.083	.007	.007	.061	.059	.083	1.039	.300
Model 2								
Child-rearing Attitude	.530	.281	.274	.023	.052	.031	.434	.665
Parental Efficacy				-.039	.046	-.059	-.850	.397
Lack of self-control				.257	.036	.488	7.080	.000
Parental Perceived Controllability				-.099	.042	-.167	-2.364	.019

Predictors: Parental efficacy, lack of self-control, and Parental perceived controllability.

The results showed that parents with authoritative parenting styles seemed to own more internal resources, such as self-efficacy and perceived controllability, in exercising appropriate parental control in child discipline than parents with authoritarian and permissive parenting styles. Parents who practice authoritarian or permissive parenting styles lack these internal resources. Perhaps, these parents may express their difficulty in exercising control in parenting differently.

5. DISCUSSION

Most of the previous research on parenting styles was mainly to study their influences on the outcomes in child development. Among this focus of studies, most findings supported the authoritative parenting style to be more effective with positive impacts on children's behaviors than the authoritarian parenting style. However, not much research is to study what factors influence the pathway of authoritarian parenting. Among this study theme, most of them supported the claim to explain the choice of parenting style by intergenerational transmission. Learning through observation and first-hand experience of being parented in childhood are important sources of learning how to be a parent. However, the concept of intergenerational transmission to explain the development of parenting styles seems inadequate.

Effective parenting requires parenting skills and knowledge and energy, and confidence in the process of parenting. The concern of whether parents' internal resources are adequate and robust enough for parenting seems to be an essential topic for parenting effectiveness. The findings in this study reported that the parental attribute of "control" significantly affected parents' intention to use authority and power in child discipline, leading to a higher possibility of exercising an authoritarian parenting style. In other words, parents exercising the authoritarian parenting style may represent a specific group of parents who fear losing power and authority in parenting. To secure their control over their children, using the authoritarian parenting style to enforce strict rules and ensure obedience may make them feel more secure in their role as parents, especially when authority and power are vital to parents.

The findings of this study can provide a new blueprint for developing a parent education curriculum. In addition to teaching parenting skills and re-establishing a parent-child relationship, how to increase a parent's internal resources, especially the sense of parental control, serves as a new direction for parent education. Building up parental self-efficacy is one of the critical elements in parent education. Parent educators can run workshops and seminars to help parents enrich their knowledge and learn new parenting skills. More importantly, parent educators are suggested to emphasize building up parents' self-confidence to let them develop a stronger sense of controllability in parenting. This parent education approach will no longer treat parenting as simply a skill training on child-rearing. Instead, parenting can now be viewed as a process of self-development and growth. The parents and their child can both be the ones to benefit.

6. CONCLUSION

The findings of this study may bring some new insights into parent education. Generally speaking, parent education has been commonly regarded as a skill and knowledge training in which incompetent parents were people who lacked parenting skills or were inadequate in parenting knowledge. However, this study supported a new direction of parent education. In other words, to train parents to be more competent, the focus is to consider how to boost their internal resources, especially the resources in self-control. Parents who perceive themselves

as lacking self-control may encourage them to use control in parenting. It may not be beneficial to both parents and their children. Parent education no longer focuses on parenting skill training. In addition, how to improve the psychological well-being of parents and build up their self-efficacy may be a direction for future focus in parent education.

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AUTHORS' INFORMATION

Full name: Raymond Wai-Man Chan
Institutional affiliation: City University of Hong Kong, Hong Kong
Institutional address: 83 Tat Chee Avenue, Kowloon Tong, Kowloon, Hong Kong.
Short biographical sketch: Raymond Wai-Man Chan is an instructor teaching at the City University of Hong Kong. He is a peer reviewer of some journals in social work and psychology. He teaches both undergraduate and postgraduate classes in the area of psychology and counseling. He also supervises postgraduate students' research projects across a range of topics in the field.

Full name: Yao Song
Institutional affiliation: City University of Hong Kong, Hong Kong
Institutional address: 83 Tat Chee Avenue, Kowloon Tong, Kowloon, Hong Kong.
Short biographical sketch: Yao Song is a graduate of the Master of Social Sciences in Counselling program in the City University of Hong Kong in 2021. The topic of her master thesis is "Parental Influence on Young Children's Smartphone Screen Time". She got her Bachelor of Arts in Mainland China in Economics and Law.

Chapter #15

SERIAL MEDIATION MODELS TESTING THE EFFECT OF A SCHOOL-BASED PREVENTION PROGRAM ON SMOKING AND ALCOHOL CONSUMPTION

Oľga Orosová, Beáta Gajdošová, & Jozef Benka
Department of Educational Psychology and Health Psychology, Faculty of Arts, Pavol Jozef Šafárik University in Košice, The Slovak Republic

ABSTRACT
The aim of this study was to investigate the in/direct effect of the Unplugged program on smoking (S) and alcohol consumption (AC) in schoolchildren one year after the implementation of Unplugged within a Solomon four group design. A randomized control trial using the Unplugged program was carried out among schoolchildren (13.5 years, SD = 0.59; 47.5% girls, 1420 schoolchildren in total). The data collection was carried out immediately before implementing the program (T1, experimental and control group with a pre-test), immediately after implementing the program (T2), and a year after program implementation (T3). The direct effect of Unplugged on AC^{T3} was confirmed and this effect was moderated by the pre-test. However, such effect on S^{T3} was not found. The effect of Unplugged on AC^{T3} was serially mediated by meaningful participation in community $(ComPart)^{T3}$ and satisfaction with $oneself^{T3}$. Only one shortcut mediation effect of Unplugged on S^{T3} through $ComPart^{T3}$ was confirmed. Teachers and school psychologists can promote schoolchildren´s 'health-related behavior by encouraging them to do activities that are not limited to the school domain which allows them to experience success, belonging, developing satisfaction with oneself through the successful implementation of the Unplugged program.

Keywords: unplugged, smoking, alcohol consumption, meaningful participation in the community, satisfaction with oneself, schoolchildren.

1. INTRODUCTION

Risk-related behaviour such as smoking and alcohol consumption are health problems that can negatively affect the life perspective of young people. The ESPAD Group (2020) reported that cigarettes are one of the most easily accessible drugs in Slovakia with over 70 % of pupils reporting access to be easy. The findings of previous research have confirmed that the perceived availability of cigarettes is the strongest predictor of smoking. Indeed, it was found that the schoolchildren reporting a higher level of perceived availability of cigarettes were about two times more likely to smoke (Orosová, Gajdošová, Bačíková-Šlésková, Benka, & Bavol'ár , 2019). The ESPAD group also found that "2.9 % of the pupils began smoking cigarettes on a daily basis at age 13 or younger" and that "the rates were highest in Slovakia (6.0 %) and Bulgaria (5.8 %)" (ESPAD Group, 2020, p.13). The results of this national study suggested that the 30-day prevalence of smoking that was reported by schoolchildren (M = 11.52 years) had risen from 3.0% to 8.2% over 22 months.

In terms of alcohol consumption, the ESPAD Group (2020) reported that 33% of the pupils who participated in the ESPAD study had first tried an alcoholic drink age 13 or younger and that alcohol was perceived to be easily available. In most countries, the rates

of availability of alcohol among boys and girls were found to be similar. A previous study has confirmed that the strongest predictors of reporting alcohol consumption among Slovak schoolchildren are descriptive normative beliefs and the availability of alcohol (Orosová, Gajdošová, Bačíková-Šlésková, Benka, & Bavol'ár, 2020). Schoolchildren with a higher level of descriptive normative belief change and availability of alcohol were twice as likely to report alcohol consumption at the follow-ups (at four follow-ups over the 22 months). Slovakia reported an increase in current alcohol use of five or more percentage points between 2015 and 2019 (ESPAD Group, 2020).

Interventions directed at schoolchildren are essential in preventing drug use initiation, delaying the age of first use and reducing the rates of drug use (Miller & Hendrie, 2009). The European Monitoring Centre for Drugs and Drug Addiction (2019) introduced Unplugged as an effective school-based prevention program designed to reduce substance use in adolescents aged 11-14 across different contexts. The Unplugged program is based on the comprehensive social influence approach and life skills training components. It is designed to delay or prevent the onset of substance misuse among schoolchildren (Faggiano et al., 2010, Kreeft et al., 2009). The Unplugged program incorporates components focused on critical thinking, decision-making, problem-solving, creative thinking, effective communication, interpersonal relationship skills, self-awareness, empathy, coping with emotions and stress, normative beliefs and knowledge about the harmful health effects of substances (European Monitoring Centre for Drugs and Drug Addiction, 2019, Caria, Faggiano, Bellocco, Galanti, & EU-Dap Study Group, 2011). The experimental evaluation of the effectiveness of the Unplugged program indicated positive effects over 18 months for alcohol abuse and for cannabis use, but not for cigarette smoking among pupils in seven European countries (Austria, Belgium, Germany, Greece, Italy, Spain, and Sweden) which participated in the study (Faggiano et al., 2010). However, in other EU countries such as Czechia, it was found that the Unplugged produced positive effects on reducing current tobacco and marijuana use among adolescents (Gabrhelik et al. 2012). A systematic review of School-Based Alcohol and other Drug Prevention Programs confirmed that Unplugged has the best evidence of effectiveness in European studies (Agabio et al., 2015).

The current study was focused on the direct and indirect effect of this EU-Dap Unplugged program (Vigna-Taglianti et al., 2014) on smoking and alcohol consumption among Slovak schoolchildren. The research design of the present study was based on previous findings suggesting that participation in meaningful instrumental activities (individual perceptions of participating in psychologically and personally significant activities that are not limited to the school domain) were associated with adolescents' life satisfaction and perceived quality of life (Proctor & Linley, 2014, Huebner et al., 2004). Indeed, they have been identified as one of the important protective factors of substance use (Hodder et al., 2018, Zimmerman & Maton, 1992) and could support positive adolescent empowerment and self-esteem (Chinman & Linney, 1998). Some person-based, environment-focused and activity-related elements such as having fun, experiencing success, belonging, experiencing freedom, developing an identity, authentic friendships, the opportunity to participate, role models enhancing meaningful participation (Willis et al., 2017). The current study focused on the issue weather implementing Unplugged could enhance meaningful community participation, satisfaction with oneself, and risk-related behavior of schoolchildren.

Firstly, it was hypothesized that there would be a direct effect of Unplugged on schoolchildren's smoking and alcohol consumption one year after program implementation. It was expected that a lower percentage of schoolchildren from the experimental group, who had taken part in Unplugged, would report smoking and alcohol consumption in comparison

with the schoolchildren from the control group who had not. Secondly, it was hypothesized that there would be a direct effect of Unplugged on schoolchildren's meaningful participation in the community (ComPart), as part of a serial mediation. It was assumed that Unplugged would have a favourable effect outside the home on school group activities, sports and artistic activities and on their willingness to help other people. There has been evidence to suggest the importance of meaningful free-time substance-free activities in drug use prevention that can contribute to the development of new skills, fostering of self-esteem, a sense of meaning, social connectedness, mental well-being and resilience (Santini et al., 2020). Thirdly, it was hypothesized in this recent study that there would be a direct effect of schoolchildren's participation in the community on satisfaction with oneself as well as a direct effect of satisfaction with oneself on their smoking and alcohol consumption. In order to further clarify the effect of Unplugged, the present study tested a serial mediation model by proposing a theoretically based hypothetical causal chain.

2. DESIGN

This study was a randomized control trial using a Solomon four-group design which enabled testing for the presence of pre-test sensitization (Nakazwe & Chanda, 2018, Braver & Braver, 1988).

3. OBJECTIVE

The aims were to: 1) test whether the Unplugged program affects smoking and alcohol consumption as reported by schoolchildren a year after program implementation within a Solomon four group design, controlling for smoking or alcohol consumption as reported by schoolchildren immediately after program implementation, the pre-test, and gender; and 2) investigate whether the Unplugged program may affect smoking and alcohol consumption as reported by schoolchildren a year after program implementation through two mediating mechanisms: Meaningful participation in the community (ComPart) and Satisfaction with oneself. In addition, the hypotheses were tested as serial mediations in which Unplugged would affect Meaningful participation in the community, which would then be associated with Satisfaction with oneself. This would finally lead to a lower percentage of schoolchildren in the experimental group who would report smoking and alcohol consumption a year after program implementation.

4. METHODS

4.1. Sample and Procedure

A randomized control trial using the Unplugged program was carried out among schoolchildren at 24 primary schools. The sampling used a list of primary and secondary schools in Slovakia retrieved from the Institute of Information and Prognosis of Education. The schools were selected from different municipalities on the basis of their geographical locations in East, Central and West Slovakia with six clusters based on population size.

Twelve schools were assigned to the experimental group (n = 798) while twelve schools were assigned to the control group (n = 622). The sample consisted of 1420 schoolchildren in total. The mean age of the schoolchildren was 13.5 years, SD = 0.59; 47.5% girls. In this design, both the experimental and control groups had two subgroups: a

pretested group and an non-pretested group. The number of schoolchildren in the pretested experimental group was 397 while the number of schoolchildren in the non-pretested experimental group was 401. The number of schoolchildren in the pretested control group was 333 and the number of schoolchildren in the non-pretested control group was 289.

The data collection was carried out immediately before implementing the program (T1, experimental and control group with a pre-test), immediately after implementing the program (T2) and a year after program implementation (T3).

The data collection was carried out with the informed consent of parents/guardians. The questionnaires were filled in during one lesson in the presence of a trained research team member, without a teacher being there. All the data that was collected was anonymized.

The protocol of this study was reviewed and approved by the Ethics Committee at the Faculty of Arts of P. J. Šafárik University.

4.2. Measures

4.2.1. Smoking and Alcohol Consumption

Smoking and alcohol consumption were measured by single item measures: "How often (if ever) have you smoked cigarettes / drunk alcohol during the last 30 days?" The items were rated on a 4-point scale: 1-not at all; 4- 5 or more times (Hibbel et al., 2012). For the purpose of this study, the items were dichotomized (0=not used, 1=used).

4.2.2. Meaningful Participation in Community (ComPart)

There were 3 items which assessed opportunities for meaningful participation in the community (the Resilience Youth Development Module of the California Healthy Kids Survey, (Furlong, Ritchey, & O'Brennan, 2009)). The scale measures schoolchildren's meaningful participation or involvement in relevant, engaging and interesting activities with opportunities for responsibility and contribution in the community. The response scale used was: not at all true, a little true, pretty much true and very much true. A sample item was: "I help other people". The mean scores were created based on the schoolchildren's responses across all items, with higher scores indicating higher meaningful participation in the community. The Cronbach's alpha for the subscale in this questionnaire was 0.69 (T3).

4.2.3. Satisfaction with Oneself

Satisfaction with oneself ("How satisfied are you usually with yourself?") was measured on a five-item Likert scale from very dissatisfied to very satisfied (Hibbel, Guttormsson, Ahlström, & Kraus, 2012).

4.3. Statistical Analyses

The chi-square test for independence, binary logistic regressions and the serial mediation analyses through the Hayes´ *PROCESS* tool (Model 6) (Field, 2013) were performed in SPSS 25. The mediation effects were tested on 5000 samples by means of Bootstrapping. The controlled variables in the logistic regression and the serial mediation analyses were smoking^{T2} or alcohol consumption^{T2}, as well as the pre-test and gender.

The respondents were compared with regard to the number of waves in which they had participated. There were no significant differences in smoking, alcohol consumption, ComPart or satisfaction with oneself between the respondents who had taken part in different numbers of waves (i.e. only participated in the first wave, up to all waves).

5. RESULTS

5.1. Descriptive Analysis

A chi-square test for independence indicated no significant associations between the groups (the experimental group and the control group) in either smoking or alcohol consumption immediately after implementing the program (T2), and a year after program implementation (T3) (Table 1).

Table 1.
Descriptive characteristics of the control and experimental group at two follow up measures.

			Smoking				Alcohol consumption			
			T2		T3		T2		T3	
	ComPart	S	no	yes	no	yes	no	yes	no	yes
CG	Mean 8.21	Mean 3.42	415	39	364	70	361	91	294	138
	SD 2.88	SD 1.16	91.40%	8.60%	83.90%	16.10%	79.90%	20.10%	68.10%	31.90%
EG	Mean 8.56	Mean 3.39	572	52	491	106	477	144	430	164
	SD 2.70	SD 1.15	91.70%	8.30%	82.20%	17.80%	76.80%	23.20%	72.40%	27.60%

Notes: control group (CG), experimental group (EG), T2 (immediately after program implementation), T3 (one year after program implementation), ComPart = Meaningful participation in the community, S = Satisfaction with oneself

5.2. The effect of the Unplugged Program on Smoking and Alcohol Consumption

In order to test whether the Unplugged program affects smoking and alcohol consumption as reported by schoolchildren a year after program implementation (T3) within a Solomon four group design, binary logistic regressions (Table 2) were conducted in which the control variables were regressed (smoking or alcohol consumption as reported by schoolchildren immediately after program implementation (T2), the pre-test, and gender) and the Unplugged program. It also explored whether the effect of Unplugged on smoking and alcohol consumption was moderated by control variables. All interaction effects without a statistically significant contribution to the model were eliminated from the analyses.

The final model for smoking which contained the control variables and Unplugged was statistically significant, X^2 (4, N = 816) = 137.37, p < .001. The main and moderated effects of Unplugged on smoking as reported by schoolchildren a year after program implementation were not statistically significant.

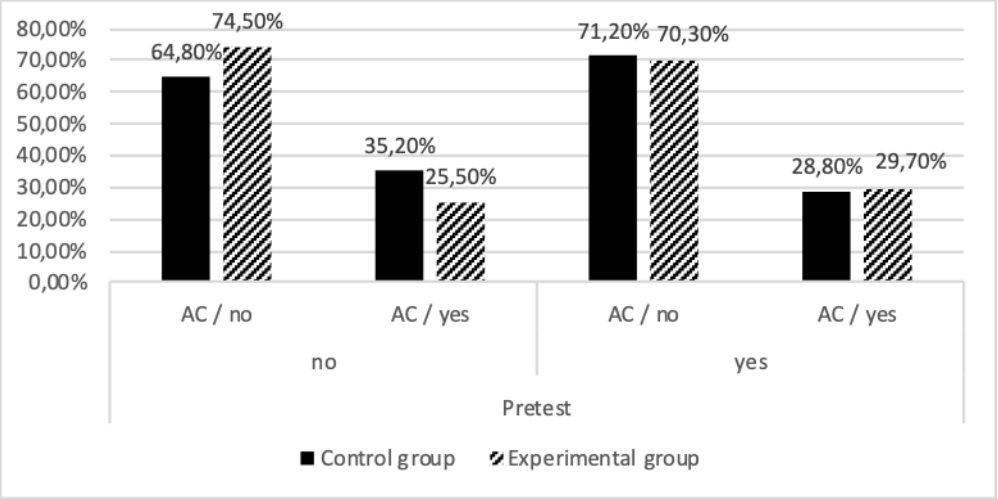
The model for alcohol consumption which contained the control variables, Unplugged, and one interaction Unplugged x Pre-test with a significant contribution to the model was statistically significant, X^2 (5, N = 809) = 127.96, p < .001. The effect of Unplugged on alcohol consumption as reported by schoolchildren a year after program implementation was confirmed and this effect was moderated by the pre-test (Figure 1). The percentage of schoolchildren without a pre-test who reported alcohol consumption a year after program implementation was significantly lower in the experimental group compared to the control group.

Table 2.
Binary logistic regressions, the contribution of the control variables and the Unplugged program on smoking and alcohol consumption a year after program implementation (T3) among schoolchildren.

Smoking				Alcohol consumption			
	Exp(B)	95% C.I.for EXP(B)			Exp(B)	95% C.I.for EXP(B)	
Smoking ^{T2}	28.318***	14.806	54.162	AC^{T2}	7.427***	5.082	10.854
Pre-test	1.964**	1.269	3.04	Pre-test	0.783	0.476	1.289
Gender	1.669*	1.089	2.557	Gender	1.069	0.764	1.496
Unplugged	0.899	0.589	1.374	Unplugged	0.393****	0.243	0.635
				Unplugged x Pre-test	2.005*	1.022	3.936
R^2	0.26			R^2	0.21		

[1]Notes: AC = alcohol consumption, T2 = immediately after program implementation, R^2 = Nagelkerke R Square
*p < .05, **p < .01, ***p < .001

Figure 1.
Alcohol consumption (AC) among schoolchildren in the control group and experimental group with / without a pre-test a year after program implementation (T3).



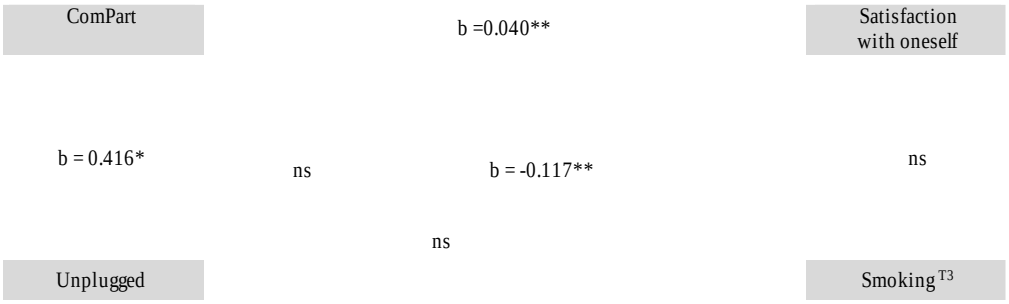
5.3. Serial Mediation

A serial multiple mediation model was created using community participation and satisfaction with oneself as the mediators. Smoking ^{T2} or alcohol consumption^{T2}, the pre-test, and gender were controlled throughout these analyses. In the serial mediation, the mediators were assumed to have a direct effect on each other, and the independent variable (Unplugged) was assumed to influence the mediators in a serial way that ultimately influences the dependent variables (smoking or alcohol consumption one year after program implementation) (Figures 2, 3).

The data did not support the serial mediation hypothesis with regard to smoking. Indeed, the long-way specific indirect effect of Unplugged -> ComPart -> satisfaction with oneself -> smoking one year after program implementation was not statistically significant (Figure 2). The direct effect of the Unplugged program on smoking one year after program implementation was also not statistically significant (Figure 2). Only one shortcut mediation, which included one of the explored mediators, was statistically significant. This means that Unplugged affected schoolchildren's ComPart as well as the direct effect of ComPart on smoking being confirmed (effect: -0.049; 95 % CI: -0.1169 to -0.0002). In other words, a higher level of ComPart among schoolchildren in the experimental group was associated with a lower likelihood of the schoolchildren reporting smoking one year after program implementation (Table 1, Figure 2).

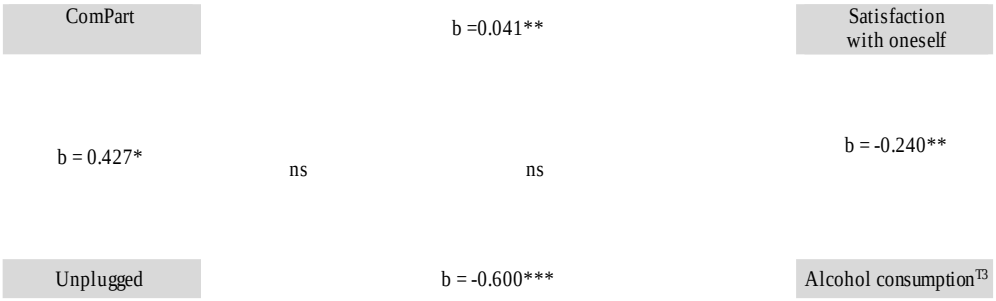
In terms of alcohol, the results of the data analyses supported the serial mediation hypothesis. The long-way specific indirect effect of Unplugged -> ComPart -> satisfaction with oneself -> alcohol consumption one year after program implementation was statistically significant (effect: -0.004; 95 % CI: -0.012 to -0.0001, Figure 3). The direct effect of the Unplugged program on alcohol consumption one year after program implementation was statistically significant (effect: -0.600, $p < 0.001$). 68.1% of schoolchildren in the control group and 72.4% in the experimental group did not report alcohol consumption one year after program implementation (Table 1).

Figure 2.
Serial mediation model for smoking.



Notes: smoking ^{T2}, pre-test, and gender were controlled throughout these analyses,
T2 = immediately after program implementation, T3 = one year after program implementation, ComPart = Meaningful participation in community, *p < .05, **p < .01

Figure 3.
Serial mediation model for alcohol consumption.



Notes: alcohol consumption ^{T2}, pretest, and gender were controlled throughout these analyses,
T2 = immediately after program implementation, T3 = one year after program implementation, ComPart = Meaningful participation in community, *p < .05, **p < .01, ***p < .001

6. DISCUSSION AND CONCLUSIONS

The results of this study did not support either the direct effect of the Unplugged program on smoking or the serial mediation hypothesis, the long-way specific indirect effect Unplugged -> ComPart -> satisfaction with oneself -> smoking one year after program implementation. However, one shortcut mediation was confirmed which was the effect of Unplugged on schoolchildren's smoking through ComPart. This finding is consistent with previous findings that have supported the importance of community protective factors among younger adolescents in particular. This is in contrast to peer and school factors which have been identified as stronger factors among older adolescents (Cleveland, Feinberg, Bontempo, & Greenberg, 2008). Inverse associations between community meaningful participation and multiple substance use measures were found. The association between lower level of ComPart and tabacco use (ever and recent) was observed (Hodder et al., 2016), but was inconsistent with the findings suggesting effectiveness of the universally implemented school-based intervention program in reducing the prevalence of tobacco, alcohol use, or in increasing the protective factors addressing also to ComPart which were not confirmed among students nor among student subgroups defined by sociodemographic characteristics or previous substance use (Hodder et al., 2017, 2018).

The results of the current study related to alcohol consumption have confirmed the long-way mediation that represent a causal chain of explored mediators (Demming, Jahn, & Boztuğ, 2017). Two shortcut mediations, which each include only one of the explored mediators, were not statistically significant. It means that (i) Unplugged affected schoolchildren's ComPart although the direct effect of ComPart on alcohol consumption was not confirmed, (ii) Unplugged did not affect satisfaction with oneself directly although a direct effect of satisfaction with oneself on alcohol consumption was found. These findings support previous findings which have confirmed that after-school programs, volunteering, community, social group activities, as well as helping behaviour were associated with improved self-esteem and mental health (Santini et al., 2020, Santiniet al., 2020, Durlak & Weissberg, 2007, Wilson, 2000), supporting the association between self-esteem and

alcohol consumption (Richardson, Kwon, & Ratner, 2013). Based on the results of this study, schoolchildren's ComPart did not affect alcohol consumption directly but indirectly through satisfaction with oneself.

The explored mediation effects confirmed that the development of personal skills and social skills as well as normative education reached through the implementation of the Unplugged program produces a higher level of ComPart. This generally means that schoolchildren's meaningful participation in activities supporting their interests such as sports or other activities with opportunities to exercise their responsibility and their contribution beyond school activities is related to a higher ComPart. These results further suggest that ComPart is a significant predictor of smoking reported by schoolchildren, as well as satisfaction with oneself which in turn reduces the probability of reporting alcohol consumption.

A direct effect of Unplugged on schoolchildren's alcohol consumption one year after Unplugged implementation was confirmed simultaneously controlling for alcohol consumption^{T2}, the pre-test, and gender. These results have extended previous findings related to the effectiveness of Unplugged in reducing episodes of drunkenness among pupils in seven European countries (Vigna-Taglianti et al., 2014). There was no effect of the intervention found for current alcohol use among adolescents in the Czech Republic (Gabrhelik et al., 2012).

The findings of this study contribute to the growing body of evidence of the need to systematically evaluate school-based drug use prevention programmes. However, the limitations and strengths of this study must also be highlighted. The most significant limitations of this study were that the measures were self-reported and satisfaction with oneself was assessed by a single question (Hibbel et al., 2012) as an available balance between practical needs and psychometric concerns of research with repeated measures design (Robins, Hendin, & Trzesniewski, 2001).

The main strength was that it was a cluster randomized controlled trial conducted with a Solomon four group design to filter out the effects of pre-test sensitization (Mai, Takahashi, & Oo, 2020).

It can be concluded that there was a direct effect of Unplugged on AC^{T3} and that this effect was moderated by a pre-test. However, a similar effect on S ^{T3} was not found. The effect of Unplugged on AC^{T3} was serially mediated by meaningful participation in the community ^{T3} and satisfaction with oneself ^{T3}. There was one shortcut mediation effect of Unplugged on S ^{T3} through meaningful participation in the community^{T3} confirmed in the current study.

Finally, an evaluation of the effectiveness of prevention programs carried out in schools should consider fidelity, quality of implementation and teachers' leadership. It should also clarify and refine the requirements for school administrations regarding the personal and organizational capacity, especially support from the principal is needed for prevention activities (Fikretoglu, Easterbrook, & Nazarov, 2022, Orosová & Majdanová, 2021, Sanchez et al., 2021, Payne, Gottfredson, & Gottfredson, 2006). The key finding of this study and the key message for school staff is the impact of the Unplugged as a drug use prevention program supporting schoolchildren's participation in meaningful activities that are not limited to the school domain. Teachers and school psychologists can promote health-related behavior by encouraging schoolchildren to participate in activities that allow to them to experience success, belonging, developing satisfaction with oneself through the successful implementation of the Unplugged program.

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AUTHORS' INFORMATION

Full name: Olga Orosova, PhD., Prof.
Institutional affiliation: Department of Educational Psychology and Health Psychology, Faculty of Arts, PJ Safarik University in Kosice
Institutional address: Moyzesova 9, Kosice 040 01, Slovak Republic
Short biographical sketch: Olga Orosova is a professor of Educational, Counseling, and School Psychology. She is a principal investigator of research projects focusing on the factors of risk behavior among adolescents and young adults and the effectiveness of drug use prevention programs.

Full name: Beata Gajdosova, PhD., Assoc. Prof.
Institutional affiliation: Department of Educational Psychology and Health Psychology, Faculty of Arts, PJ Safarik University in Kosice
Institutional address: Moyzesova 9, Kosice 040 01, Slovak Republic
Short biographical sketch: Beata Gajdošová is the head of the Department of Educational and Health Psychology. She also serves at the university as the coordinator for students with special needs. Her research is mainly focused on intrapersonal factors and their role in health related behaviours. She is active in psychological counselling work and psychotherapy based on working with clients in The Client-Centred counselling and psychotherapy. She is a member of the European Health Psychology Society, International School Psychology Association and of the Slovak Psychotherapeutic Society.

Full name: Jozef Benka, Mgr., PhD. et PhD
Institutional affiliation: Department of Educational Psychology and Health Psychology, Faculty of Arts, PJ Safarik University in Kosice
Institutional address: Moyzesova 9, 040 01 Košice, Slovak Republic
Short biographical sketch: Jozef Benka completed two PhD programs in Health Sciences at University of Groningen, the Netherlands and in Social Psychology at Pavol Jozef Šafárik University in Košice, Slovakia. While his teaching activities focuses especially on Personality psychology, Psychology of emotion and motivation and Self-determination theory, his research interests are mainly about quality of life in chronic disease and also about life perspective, wellbeing and risk behaviours of students and young adults.

Chapter #16

SOCIAL-EMOTIONAL COMPETENCES, POSITIVE EXPERIENCE AT SCHOOL AND FUTURE ORIENTATION: DEVELOPMENT AND RELATIONSHIPS IN PRIMARY SCHOOL CHILDREN

Teresa Maria Sgaramella, Lea Ferrari, & Margherita Bortoluzzi
Department of Philosophy, Sociology, Education and Applied Psychology, University of Padova, Italy

ABSTRACT
Studies on Social-Emotional Learning (SEL) have shown the benefits of acquiring these competencies on academic performance and current wellbeing and life success. The chapter aims to deepen the understanding on how these developmental assets may vary in primary school children together with the relationship of these patterns with positive experience at school.
Additionally, studies on future time perspective show the relevance and impact of a positive orientation towards future throughout adolescence. A second study question will investigate what the possible role of Social-Emotional Competences (SECs) on attitudes and expectations towards future in primary school children.
One hundred and fifty-four, 8 to 11 years old, primary school students participated in the study.
Specific patterns seem to characterize younger and older primary school students. Specific relationships and patterns of association emerge between main dimensions of Social-Emotional Competences, Positive Experiences and belonging at school, and Future Orientation. The need to address these issues and dimensions early in primary school emerge, to identify vulnerable patterns and promote educational and prevention actions.

Keywords: social-emotional competences, school engagement, future orientation, primary school children.

1. INTRODUCTION

Children's development is universally recognized as marked by new tasks and changes in their importance. Successful achievement of old and new developmental tasks leads to well-being and success with later tasks, whereas failure leads to unhappiness in the individual, disapproval by the society, and difficulty with later tasks. That is, child's functioning now and later is impacted by success or failure on these tasks. A developmental lens, however, not only drives to focus on changes but also on stable functioning. The content of specific skills differs along with changing developmental tasks as children mature. However, some skills reach, high level of organization quite early in the development and remain surprisingly constant for long periods. Using a developmental perspective would allow for variation in what should be attained across age periods as well as identifying the specific goals for the educational actions to support and promote wellbeing of children in their everyday life.

This perspective applies also to Social-Emotional Learning (SEL). The related competences are, in fact, as well characterized by stability and change over time (Dave, Keefer, Snetsinger, Holden, & Parker, 2021; Denham, 2018). Broad Social-Emotional

Competences (SECs) can be then described focusing on specific age groups or grade levels and, at the same time, exploring patterns emerging at diverse ages while facing the diverse developmental tasks, from elementary to middle and high school. More specifically to deepen our understanding of their role in children development the following research questions have been addressed: Do and how do these developmental assets vary in primary school students of different ages? What are the relations between SEL competences that primary school children recognize themselves and both current wellbeing experienced at school and their attitudes towards their future?

2. BACKGROUND

2.1. SEL, Positive Experience and Climate in School

SEL is recognized as a process that allows children to foster their SECs including the abilities to understand and manage emotions, set and achieve positive goals, feel and show caring and concern for others, establish and maintain positive relationships, and make responsible decisions (Weissberg, Durlak, Domitrovich, & Gullotta, 2015; Osher, Cantor, Berg, Steyer, & Rose, 2020). The multidisciplinary work, mainly of psychologists and economists also provide evidence that the positive results obtained by primary school students attending SECs programs last across years, giving a significant sense of return of investment thus fostering an emerging SEL psycho-economic infrastructure that is globally impacting policy makers decisions and orienting the future of SEL policies (Williamson, 2021).

From a psychoeducational perspective, relevant for this study, several studies suggest that nurturing social and emotional learning is vital to lifelong successes. Improvements in SEL, emotional regulation and perceived resilience have been recently found in elementary children who took part in a 11 week training program (Green, Ferrante, Boaz, Kutash, & Wheeldon-Reece, 2021) and, more impressively, children with greater SECs not only have positive relationships and better mental health, are also more likely to be ready for college, succeed in their careers, and become engaged citizens (Green et al, 2021; Greenberg, Domitrovich, Weissberg & Durlak, 2017). In addition to individual level benefits, research show at group level class climate and school functioning improve (Greenberg et al., 2017; Jones, Barnes, Bailey, & Doolittle, 2017). SEL is in fact recognized as able to transform life environments, facilitating participation of all and reducing inequalities (Jagers, Rivas-Drake, & Williams, 2019).

Finally, very recently research has highlighted two meaningful research paths, the first orienting to the integration of SEL with career education and the future readiness goals (Howard & Ferrari, 2022), and the second showing the impact of SECs as relevant drivers to social engagement and a positive future time perspective for early adolescents after COVID19 (Sgaramella, 2022).

2.2. The Meaning and Role of Future Orientation

Future orientation is an umbrella term that encompasses a variety of components essential to envisioning future outcomes (Steinberg et al., 2009). Exemplars of these components include expectation, how likely a given event is expected to occur in the future, perceived likelihood of attaining specific goals, anticipation of future scenarios and consequences among others. The ability to mentally travel into the future and imagine future events or situations, imagine the feelings associated with a certain experience (Atance & O'Neill, 2005) is connected with self-regulatory skills (Daniel, Stanton,

& Epstein, 2013; Daniel, Said, Stanton, & Epstein, 2015) and performance on self-regulated learning tasks (Bembenutty & Karabenick, 2004), with better financial behavior (Jacobs-Lawson & Hershey, 2005), motivation and achieving future goals (Shell & Husman, 2001).

Extended evidence is provided on the relevance of these assets throughout adolescence. In situating themselves in the future, adolescents experience higher motivation to engage in behaviors instrumental to attaining their envisioned goals, and to avoid barriers, tend to be more academically engaged and have better achievement when they think about and act upon their future, less likely to engage in problematic and risky behaviors (Chen & Vazsonyi, 2013; Lindstrom Johnson, Pas, & Bradshaw, 2016; Peetsma & Van der Veen, 2011).

It is then recognized that future orientation could have various developmental implications. But less is known about the development of these assets in primary school children although literature suggests that this period of life is central in the development of executive processes such as anticipating future events and consequences of current actions, understanding the others' behavior and dealing effectively with social problem solving (Zelazo et al., 2003; Housman, Cabral, Aniskovich, & Denham, 2022) and, additionally, that these skills are particularly relevant later during adolescence (Moffitt, et al., 2011). Considering its relevance in designing positive future selves, identifying the role of social-emotional experience and determinants would be essential to promoting positive outcomes and to better inform educators in terms of how to mobilize efforts to support healthy student developments.

2.3. Objectives

The study aims first to delineate possible age differences in SECs in primary school children. We predicted significant differences based on the developmental meaning recognized to this period in both cognitive and relational development.

Secondly, we aimed to investigate the relationships between SECs and positive experience at school, that is with positive climate and experience at school.

Finally, the relationships between SECs components and both expectations about future relationships and future goals, that is two components of positive future orientation, were explored. We predicted significant correlations between dimensions investigated and expected a predictive value of SECs components.

3. METHOD

3.1. Participants and Procedure

One hundred and fifty-eight primary school students, 85 boys and 73 girls, living in the North-East area of Italy participated in the study. Their age ranges from 8 to 11 years old. According to their age, for the study presented here they were grouped as younger group (second year primary school; M_{age} = 8.5, SD = .7) and older one (third to fourth year; M_{age} = 9.8, SD = 1.2). The first group included 40 boys and 33 girls and the second one, 45 boys and 40 girls.

All study procedures were also approved by the board of the schools involved in the program. Additionally, a Certificate of Confidentiality was issued by the study proponents, to protect the privacy of the study participants.

3.2. The Study Context

Data collected in a psychoeducational action promoted by the PSsmile project (Social-Emotional Capacity Building in Primary Education, http://smile.emundus.lt/) have been used to address research questions. The project aims to contribute building emotionally stable, inclusive and healthy communities in primary education institutions where significant adults, namely parents and teachers, reach a better understanding of what is SEL education, take care of their own Social-Emotional functioning and support its development in children. Outcomes from the project are a Methodological Guide for teachers, a training and assessment procedures for teachers, a curriculum for primary school students that has been already implemented and an App for parents and teachers.

3.3. Measures

The study is based on the answers collected using three tools addressing the following dimensions:

Knowledge About Emotions (based on a tool developed within an Erasmus+ Learning (The Learning to Be Project, https://learningtobe.net/) it addresses knowledge and experience about several emotions. The total score is based on the descriptions of the 10 emotions proposed and valued on a three-point scale ranging from *not appropriate* (1) to *effective* (3).

Social-Emotional Experience, from the Learning to Be project, with quantitative (15 items) and qualitative (3 items) questions, it addresses social and emotional experience, focusing on self-awareness and self-management skills and their use to establish and maintain positive relationships; decision making skills and responsible behaviors in personal, school and community contexts. Children are asked to rate their experience on a three-point scale ranging from *never* (1) *to always* (3) and to describe their relationships with a single element (1) or more than two elements (3).

Engagement in school life, based on the tool developed by Furlong, You, Renshaw, O'Malley & Rebelez (2013), consists in a 20 self-report, developmentally appropriate questionnaire on wellbeing and school engagement. Children are asked to rate each sentence on a four-point scale from *strongly disagree* (1) to *strongly agree* (4) and then summed to form a total score where a better school experience is indicated by higher score.

Future Orientation for Relationships and Goals (from Saigh, 1995) examines children orientation towards their future. It consists of 10 items covering interpersonal *Relationships* and 12 items addressing future *Goals* (4 items). Children are asked to rate the extent to which they agree with each item on a 5-point Likert-type scale, ranging from 1 *(strongly disagree*) to 5 *(strongly agree*). Higher scores in the two components investigated indicate higher positive orientation towards future.

Basically, quantitative data and qualitative answers converted into quantitative indices were then used in the analyses that are described in this chapter.

3.4. Results

Age group differences were investigated to highlight specific patterns in main study variables through Analysis of Variance. Data analysis was realized using IBM SPSS Statistics, version 27. Data screening showed that most of the reviewed variables were normally distributed and that there were no differences in mean scores as related to gender. Age related patterns are reported in Figure 1.

Statistically significant differences did not emerge in knowledge and experience about emotions between the two groups [F (1, 157) = .151, p = .698]. The analyses revealed a statistically significant difference in mean score reported on the social-emotional experience [F (1, 156) = 3.967, p = .049; η^2_p = .25]. The two groups also differed significantly with respect to Engagement in school life [F (1, 157) = 11.930, p= .001; η^2_p =.71]. Similarly, as regards future the two groups differed significantly both in expectations about future relationships [F (1, 157) = 10.459, p= .001; η^2_p = .63] and about future goals [F (1,157) = 5.684, p = .018, η^2_p = .35].

Table 1.
Mean based patterns emerging in the two groups of primary school students on the dimensions investigated.

	Younger	*Students*	*Older*	*Students*
	Means (s.d.)	*Score range*	*Means (s.d.)*	*Score range*
Knowledge about emotions (*Maximum score 30*)	15,03 (3,83)	3-18	15,04 (3,52)	5- 25
Social-Emotional experience (*Maximum score 54*)	37,51 (4,37)	15-45	36,14 (4,23)	23-45
Engagement in school life (*Maximum score 80*)	70,93 (9,21)	42-80	50,13 (7,27)	33-80
Orientation to future relationships *(Maximum score 50)*	36,62 (6,12)	20-50	33,75 (5,01)	20-47
Orientation to future goals *(Maximum score 60)*	52,67 (5,92)	36-60	50,13 (7,27)	30-60

Based on preliminary correlations, specific regression analyses were conducted to highlight predictive relationships amongst dimensions investigated. As regards the relationship between respectively knowledge and experience about emotions and social-emotional experience, and engagement in school life, the overall regression was statistically significant [R^2 = .089, F (2, 155) = 7.611, p= .001]. Social-emotional experience significantly predicted Engagement in school life (β = .258, p= .001), moreover, knowledge about and experience with emotions did not predict school engagement (β = -.133, p = .084).

When addressing the relationship between respectively knowledge and experience about emotions and Social-Emotional experience with future orientation in relationships, the overall regression was statistically significant [R^2 = .060, F (2, 155) = 4,960, p= .01]. Social-emotional experience significantly predicted positive orientation towards future relationships (β = .245, p= .002) while knowledge about and experience with emotions did not predict positive orientation towards future relationships (β = -.041, p= .599).

Finally, when addressing the relationship between knowledge about and experience with emotions and social-emotional experience, and positive future expectations, the overall regression was statistically significant [R^2 = .041, F (2, 155) = 3.281, p= .04]. Again, social-emotional experience significantly predicted positive future expectations (β = .196, p= .01) while knowledge about and experience with emotions did not significantly predict positive future expectations (β = -.041, p = .599).

The results described provide evidence for specific patterns of SECs in primary school children of different ages. Additionally, the predictive relationships identified between social-emotional experience and engagement in school life confirm results in the literature and more specifically describe the contribution of positive social-emotional relationships on wellbeing experienced at school (Jones et al., 2017). Children with strong social skills are more likely to make and sustain friendships, initiate positive relationships with teachers, participate in classroom activities, and be positively engaged in learning.

4. FUTURE RESEARCH DIRECTIONS

The results open to further research questions. Besides more clearly identifying the age period crucial for their appearance, longitudinal studies may highlight the impact of an early and supported development of these dimensions and the strength of their relationship on later adolescence life.

More specifically studies should investigate the role of knowledge they develop on emotion and social skills as distinct from direct experience of these skills in the two age groups identified in this study. Diverse paths for educational actions might follow for more at-risk children. Flexible programs that allow higher level of personalization might help to better respond specific students' needs and meet social justice goals (Green, et al., 2021).

The limited percentage of variance explained that characterize some of the relationships addressed, may again resonate the meaning of the age intervals considered and the need to identify more adequate tools to measure the Social-Emotional experience and future orientation in younger primary school students. Addressing these issues in larger studies may allow grouping participants into even more circumscribed age ranges and highlight more specific, both qualitative and quantitative, changes in the paths to positive and integrated development of competences.

5. DISCUSSION AND CONCLUSION

A first contribution of the study described in this chapter is the evidence provided for specific patterns of SECs professionals interested in supporting a positive development should be aware of. A closer look to the patterns emerged shows, in fact, a general trend towards 9 to 11 years old children being less confident in their SECs as well as their Orientation towards the Future. There are at least two possible general determinants underlying this pattern.

The first calls for developmental differences in cognitive resources used for addressing the tasks proposed, namely a shift towards the use of newly (hence less automatic) acquired skills such as the ability to plan, organize, initiate, and hold information in mind for future-oriented problem solving.

The seconds might be a contextual one, related to the increased requests from the educational context that often characterize the experience of children of this age and may impact on their confidence on the ability to effectively carry out the new tasks according to the expectations.

Professionals interested in supporting a positive development should then open their attention to and consider at least these two determinants in making 9 to 11 years old children more cautious in their opening to context and future, hence more exposed to vulnerability in their positive identity development. More attention and deeper study should

be devoted in the future to explore the meaning and impact of these two determinants on development.

The current study explored two possible pathways (i.e., through engagement in school life and future orientation) by which Social-Emotional Competencies can influence psychological development for primary school students of different ages.

As regards the engagement in school life, professionals should reflect on the usefulness of SECs to increase a positive class climate and school functioning, as an effective strategy to transform life environments, facilitating participation of all and reducing.

The relationships between SECs and future orientation, on the other hand, seem to hold both when focusing on aspects related to more intraindividual dimensions and when orienting the attention to social future life. This underlines the relevance of addressing these dimensions in the activities to support the development of active and socially responsible future adults.

Evidence provided should inform the programming of SECs curricula that help all students acquire and apply the knowledge, skills, and attitudes to deal effectively with daily tasks and challenges and achieve success in current and future school, work, and life.

Generally, the education systems have not primarily been organized around the social and emotional aspects of learning (Elias, 2019). However, increasingly Social-Emotional Competencies are seen as "part of a comprehensive strategy to strengthen students' academic performance, improve school and classroom climate, and lessen conduct problems" (Green et al., 2021; Herrenkohl, Lea, Jones, & Malorni, 2019). Long term benefits (i.e., when 18 years old; Taylor, Oberle, Durlak, & Weissberg, 2017) and a return of investment (Belfield et al. 2015) are some of the impressive supporting data that are playing a role in fostering an emerging SEL psycho-economic infrastructure that is globally impacting policy makers decisions and orienting the future of SEL policies (Williamson, 2021).

Evidence of changes in the developmental tasks underlines the need to address these issues early in primary school and understand the variability that may lead to vulnerability in the development emerge, and, stemming also from current societal challenges and consequences of the global pandemic, to promote educational and prevention actions.

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AUTHORS' INFORMATION

Full name: Teresa Maria Sgaramella
Institutional affiliation: Department of Philosophy, Sociology, Education and Applied Psychology, University of Padova (Italy)
Institutional address: Via Venezia 14, 35131 Padova, Italy. phone: +39 049 8271297
E-Mail address: teresamaria.sgaramella@unipd.it
Short biographical sketch: Teresa Maria Sgaramella PhD. She is an associate professor in psychology at the Department of Philosophy, Sociology, Pedagogy and Applied Psychology, University of Padova, Italy**.** She teaches Psychology of Adult Development Across Cultures, Developmental and Educational Psychology, Rehabilitation Counseling. Research interests deal with Integrative Positive Development (IPoD) from childhood through adulthood with a focus on the role of social and emotional competencies, executive skills, and systemic influences and their role on well-being and positive future selves. A specific attention is devoted to developing educational and rehabilitation innovative programs

Full name: Lea Ferrari
Institutional affiliation: Department of Philosophy, Sociology, Education and Applied Psychology, University of Padova (Italy)
Institutional address: Via Venezia 14, 35131 Padova, Italy. phone: +39 049 8271296
Email address: lea.ferrari@unipd.it
Short biographical sketch: Lea Ferrari, PhD. She is an associate professor in psychology at the Department of Philosophy, Sociology, Pedagogy and Applied Psychology, University of Padova, Italy. She teaches Psychology of disability and inclusion, Managing diversity in working contexts, Career counseling and vocational guidance in multicultural contexts. Her teaching and research efforts concern the field of positive development and social and emotional learning from early ages to adulthood with a focus on nurturing resources and talents to promote flourishing in career and life. Attention is devoted to variables, processes and programs that promote the full participation and wellbeing.

Full name: Margherita Bortoluzzi
Institutional affiliation: Department of Philosophy, Sociology, Education and Applied Psychology, University of Padova (Italy)
Institutional address: Via Venezia 14, 35131 Padova, Italy. phone: +39 049 8271297
Email address: margherita.bortoluzzi@unipd.it
Short biographical sketch: Margherita Bortoluzzi, currently holds a research grant on development of social and emotional skills in school context. Her main interests are the assessment and cognitive-behavioral interventions with children experiencing disability and non-adaptive behaviors and in supporting their families.

Chapter #17

PRELIMINARY STUDY ON THE EDUCATIONAL EFFECTS OF ONLINE MORAL DILEMMA DISCUSSIONS FOR COLLEGE STUDENTS IN JAPAN

Aya Fujisawa
Department of Child Studies, Kamakura Women's University, Japan

ABSTRACT
This study focused on Japanese moral education for students in the teaching profession and empirically examined the educational effect of using online moral dilemma discussion (OMDD). As a pre-test, the participants filled up a questionnaire survey comprising the standard for public space (SPS) scales and communication skills (CS) by way of Microsoft Forms. Participants were then assigned to one of the following categories: paired OMDD, OMDD with five participants, and OMDD with five participants and a facilitator. Two Heinz dilemmas were used in OMDD as a topic of discussion. After the completion of OMDD, the post-test was carried out in the same way as the pre-test was. Accordingly, in the post-test for SPS, the score for "care for others" was significantly high, and the score for "egocentric" was significantly low. Regarding the result of multiple comparisons using the Bonferroni method, the OMDD score with five participants was determined to be higher than that of OMDD with five participants and a facilitator. Regarding CS, nonverbal, assertion, and discussion were significantly higher in the post-test. These results were discussed.

Keywords: online moral dilemma discussion, face-to-face moral dilemma discussion, facilitator.

1. INTRODUCTION

Discussion, one of several face-to-face educational activities, has various educational effects. For example, in the field of Japanese moral education, moral dilemma discussions (hereinafter referred to as "MDD") were proposed by Kohlberg (1985). MDD participants discuss how to deal with stories in which multiple values conflict. MDD is known to enhance certain moral and versatile skills (Araki, 2014; Blat & Kohlberg, 1975; Fujisawa, 2018a; 2018b). Organization for Economic Co-operation and Development (2015) stated that moral education is important for every country to enable children to happily live their whole life. However, since 2020, the COVID-19 pandemic has engendered the expectation that educational activities will not take place face-to-face. It is difficult to conduct face-to-face moral discussions in morality classes in Japanese schools, although the Ministry of Education, Culture, Sports, Science and Technology in Japan promotes "thinking and deliberating" morality classes for Japanese public schools and in-service teachers. Even though online tools enable non-face-to-face discussions, few studies have been conducted on the educational effects of online discussions. Therefore, the purpose of this study is to clarify the educational effect of MDD using online tools (hereinafter referred to as "OMDD," as an abbreviation for "online moral dilemma discussion") for Japanese university students in the teaching profession who need to perform "thinking and deliberating" morality classes when they become in-service teachers, with a focus on the field of Japanese moral education.

1.1. Empirical Research on Moral Discussion

Even as Japanese moral education has adopted various discussion formats, it is for only a few teaching methods that empirical verification has been conducted and evidence has accumulated. However, a body of empirical evidence has accumulated around MDD (Blatt & Kohlberg, 1975), which is derived from Kohlberg's theory as one of the methods through which students can discuss topics in moral education. Before advocating for the effect of MDD, Kohlberg theorized that morality has six stages of development. Morality develops from Stage 1 to Stage 6 along with cognitive development, and moral development is promoted by MDD (Blatt & Kohlberg, 1975). Among the moral dilemma tasks used when conducting MDD, Heinz's dilemma is well known (Mr. A's wife is dying of an illness; however, according to her doctor, she may be saved if she takes a certain medicine. The medicine is sold by a pharmacist at 10 times the cost of its development. Even if Mr. A scraped up the money, he would only collect half of the price, so he negotiated with the pharmacist to check whether he could pay the rest of the amount later. However, the pharmacist replied that he could not do that because he had developed the medicine to make money. He concluded that he could not do that because pharmacists want to make money. On that day, Mr. A broke into the pharmacy to steal the medicine. What should Mr. A have done? The Defining Issues Test (DIT), developed by Rest (1979), is also used to measure stages of moral development alongside Kohlberg's theory worldwide (Bayley, 2011). After that, DIT2 was also developed.

In Japan and other countries, it has been clarified that morality develops according to the stage of moral development with aging (e.g., Sakurai, 2011). Additionally, Japanese researchers and teachers have also collaborated and spent more than 40 years comprehensively accumulating knowledge on teaching materials around moral dilemmas of interest to students, how to perform MDD depending on the age of students, and the educational effects of MDD (Araki, 2014). The interesting point concerning MDD is that it can encourage students to engage in free discussion by adopting a moral dilemma wherein multiple values conflict with each other as teaching materials. Although some issues have been noted around MDD, in general, conducting MDD not only enhances morality (Blatt & Kohlberg, 1975; Araki, 2014; Oser, Althof, & Higgins-D'Alessaidro, 2008; Oser, 2013; Lind, 2019) and business ethics (Oser & Schalafli, 2010) and influences prosocial formation (Salvador, 2019) but also activates thinking and deliberating skills (Fujisawa, 2018c). It was revealed that other social abilities related to morality (e.g., cooperation, part of general skills, and perspective-taking ability) were enhanced (Araki, 2014; Fujisawa, 2018a; Fujisawa, 2018b).

1.2. Usage of Online Tools in Japanese Public Schools

As mentioned earlier, the educational effect of face-to-face discussions using MDD (hereinafter referred to as "FMDD") has been reported on, but in present-day Japan, face-to-face discussions are restricted because of the COVID-19 pandemic. However, since 2018, the Ministry of Education, Culture, Sports, Science and Technology in Japan has promoted the implementation of morality classes that emphasize thinking and deliberating (e.g., Nishino, 2017). What should we do now that face-to-face discussion activities at school are restricted?

Scientific and technological advances have made it easier for us to incorporate online tools into our lifestyles in general. And with COVID-19, that trend is accelerating. Even in Japanese schools, owing to the COVID-19 pandemic, the schedule of the Global and Innovation Gateway for All school concept was moved ahead, and tablets were distributed to

all elementary and middle school students by the government (MEXT, 2022). The online environment of public schools was improved as a result. Therefore, conducting "thinking and deliberating" morality classes using online tools has become an option in every public school. However, many in-service teachers are currently unfamiliar with the use of online tools well in Japan. Therefore, to engage in moral discussion using online tools at school, student-teachers must gain experience in moral discussion using online tools. There is also the question as to whether discussion lessons using online tools have an educational effect.

1.3. Research on Discussions using Online Tools

Studies conducted to date in Japan have connected classrooms of different schools that offer morality classes online, but few discussion studies have been conducted wherein individual elementary and middle school students use online tools. However, the research targeting university students (Tiene, 2000) indicates that they affirm online discussion, with a preference for face-to-face discussion, and regard online discussion as supplementary to face-to-face discussion. Hedayati-Mehdiabadi, Huang, & Oh (2020) also showed that in case some conditions for online discussion are met, conducting ethical education using online discussion for university students can lead to fresh awareness. Cain & Smith (2009) compared OMDD conditions with FMDD conditions for pharmacy students. They described that participants in this study could ponder on the OMDD condition, while anonymity in OMDD tends to be critical and hinder constructive discussion. Bell & Liu (2015) conducted OMDD with college students. They conducted DIT2 before and after OMDD and clarified that DIT2 scores increased after OMDD. They state that the participants are first- to fourth-year college students and are students of the same online course. However, whether their relationship was an acquaintance and how they conducted the online discussion procedures were not clarified. From these results, online discussions can be accepted by university students in an emergency such as the present one, and for a possible context to be created for constructive discussions if the discussions are held between acquaintances.

McCarron, Olesova, & Calkins (2021) provided a holistic exploration of fostering knowledge construction in collaborative, student-led, asynchronous online discussions and also showed the limits of student-led online discussion. However, although MDD is conducted between teachers and students, discussions among students and between students and facilitators are rarely compared in MDD research. Therefore, it is meaningful to compare student-led online discussions with facilitator-led online discussions.

Given these results, Fujisawa (2022) established FMDD and OMDD for student-teachers and implemented MDD. Because of employing the SPS scale (Sugawara, Nagafusa, Sasaki, Fujisawa, & Azami, 2006; Nagafusa, Sugawara, Sasaki, Fujisawa, & Azami, 2012) and the communication skills (CS) scale before and after MDD, "public values," within the SPS scale, were shown to be higher in OMDD than they were in FMDD. Based on these results, it may be possible to obtain almost the same educational effect in both OMDD and FMDD; however, some research questions remain. First, previous studies did not show details of OMDD procedures, such as the number of participants in the discussion and the relationships among the participants in the discussion. They further clarified the conditions under which online discussion in OMDD has an educational effect. Second, little is known about the effectiveness of online discussions, and it is meaningful to examine the reproducibility of previous studies.

1.4. The Purpose of this Research

This study aims to clarify the educational effect of OMDD by setting up multiple online discussion conditions using MDD for university students in the Japanese teaching profession and to discuss the applicability of online tools to future educational situations.

2. METHODS

Participants: Forty-six Japanese female university students were enrolled in the teaching profession course of a university for women with a scale of about 3,000. Before this experiment, this study was reviewed by the research ethics committee of the university to which the author belongs. Moreover, the experiment was conducted primarily after the participants' consent had been obtained.

Procedures: Before the implementation of OMDD, the participants were divided into one of the following conditions: OMDD with pair (n = 18), OMDD with five participants (n = 14), and OMDD with five participants and a facilitator (n = 14) (n indicates the number of valid responses). OMDD with five participants and OMDD with five participants and a facilitator were conducted by five participants each. All participants answered the questionnaire survey before and after OMDD. The questionnaire survey was conducted by way of Microsoft Forms. All participants conducted OMDD through Zoom from individual personal computers or tablets in private rooms after completing the online pre-test responses. Under all conditions, Heinz's dilemmas (1) and (2) were used as the discussion material. Specifically, first, instructions were provided on how to use OMDD to the entire class and then all participants responded to Heinz's dilemma (1). Next, using the breakout room function of Zoom, OMDD was carried out under each condition. Subsequently, Heinz's dilemma (2) was implemented in the same manner. These discussion procedures are similar to those conducted face-to-face by Fujisawa (2018b). Finally, as a post-test, a questionnaire survey with the same content was conducted using the same procedure as that used in the conduct of the pre-test under all conditions.

Survey contents: The questionnaire contained the following content similar to what Fujisawa (2022) used.

SPS scale (Sugawara et al., 2006; Nagafusa et al., 2012) with 25 items (five subscales): This scale aims to evaluate the standard that is given importance concerning egocentric behavior in a public space in pursuit of one's profit and freedom without concern for the impression it creates on others. Peer standards denote the importance one places on aligning with one's peers. Regional standards influence the importance given to approval from the local community. Care for others refers to the importance one places on caring about unrelated others. Public values denote a concern for public interest and fairness for society as a whole. The score for each subscale was calculated by totaling the scores for each item on the scale. Previous studies (Nagafusa et al., 2012; Fujisawa, Azami, Sugawara, Nagafusa, & Sasaki, 2006) have confirmed the reliability and relevance of the scale. The score for each subscale was calculated by summing up the item scores for each subscale. Each subscale included five items. The Cronbach's α coefficients of each subscale in this study were .76, .81, .75, .54, and .70, respectively. The five subscales correlate with the five stages of the DIT (Fujisawa et al., 2006). Responses were elicited on a five-point scale, for which "Does not describe me at all" is assigned one point and "Describes me very well" is assigned five points.

CS Scale (Ueno & Okada, 2006): This scale, which consists of four factors, namely, listening and speaking, nonverbal skills, assertion, and discussion, was also administered. Listening and speaking includes skills to listen to the other person and give an opinion to the other person. Nonverbal skills include nonverbal skills in discussion. Assertion is one of the CS to build better relationships. It refers to CS that openly conveys one's opinion while respecting the other person rather than unilaterally imposing one's own opinion or putting up with it. The discussion includes the skills needed to have the discussion. According to the manual of Ueno and Okada (2006), synthetic scores were produced for each field scale.

Scoring: Regarding the SPS scale, it was concluded that the higher the score, the higher the score of the participant's applicable behavioral standard. The relevant manual was also used to calculate each subscale score of the CS scale. High scores in each subscale indicated a high degree of the particular factor.

3. RESULTS

Before the analysis, the basic statistics for each subscale of the SPS and the CS scales were shown in Table 1 and Table 2. When the pre-test was tested for the three conditions (OMDD with five participants, OMDD with five participants and a facilitator, and OMDD with a pair), no homogeneity was shown among the conditions. Therefore, an analysis of covariance with the pre-test score as a covariate was adopted in subsequent analyses.

For the five subscales of SPS, ANCOVA was performed with the pre-test score as the covariate, the post-test score as the dependent variable, and the condition as one factor. Thus, the survey time of all subscales was significant (egocentric: $F(1,46) = 51.0$, $p < .001$, biased $\eta^2 = .6$; peer standards: $F(1,46) = 111.5$, $p < .001$, biased $\eta^2 = .7$; regional standards: $F(1,45) = 92.6$, $p < .001$, biased $\eta^2 = .7$; care for others: $F(1,46) = 99.3$, $p < .001$, biased $\eta^2 = .7$; public values: $F(1, 45) = 36.4$, $p < .001$, biased $\eta^2 = .5$). Scores were higher in pre-tests than they were in post-tests in the categories "egocentric," "peer standards," "regional standards," and "public values." Only in the category "care for others" was the score high in the post-test. Regarding the types of online discussion conditions, there was a significant difference only in the category "care for others." Regarding the results of multiple comparisons using the Bonferroni method, the OMDD score with five participants was determined to be higher than that of OMDD with five participants and a facilitator.

For the four subscales of the CS scale, ANCOVA was performed with the pre-test score as the covariate, the post-test score as the dependent variable, and the condition as one factor. As a result, it was significant for the entire survey time (listening and speaking: $F(1,46) = 17.1$, $p < .001$, biased $\eta^2 = .03$; nonverbal: $F(1,46) = 59.5$, $p < .01$, biased $\eta^2 = .6$; assertion: $F(1,44) = 39.7$, $p < .001$, biased $\eta^2 = .05$; discussion: $F(1,46) = 95.9$, $p < .001$, biased $\eta^2 = .7$). Listening and speaking scored higher in the pre-test than it did in the post-test, and for nonverbal, assertion, and discussion, they were higher in the post-test than they were in the pre-tests. There was no significant difference in the types of online discussion conditions.

4. CONCLUSION

In this study, the educational effects of OMDD were examined by setting three conditions: OMDD with five participants, OMDD with five participants and a facilitator, and OMDD with a pair. Each SPS and CS is described as follows.

As a result, this study has come to the same conclusion as Fujisawa (2018a), who conducted FMDD in terms of the categories “egocentric” and “care for others” among the SPS. However, peer standards, regional standards, and public values had lower scores in the post-test unlike what was shown in previous studies. These results suggest that implementing MDD reduces self-centered thinking regardless of whether online tools are used. In addition, the results of this study suggest that no face-to-face OMDD increases care for others. These results suggest that OMDD may have educational effects similar to FMDD for some SPS subscales. Regarding care for others, the score was higher after OMDD with the five participants than with a pair and with the five participants with the facilitator. These results differed from McCarron et al. (2021), who described the effects of student-led online discussion on other abilities. The results of this study suggest that face-to-face discussions might be more effective when it comes to things that are directly related to them, such as their peers and community.

Regarding the CS scale, there was no significant difference between OMDD conditions, as shown in Fujisawa (2022); however, in this study, the scores of nonverbal, assertion, and discussion scores increased after OMDD. From the above, it was suggested that CS might improve when performing MDD even using online tools. Conversely, the scores in listening and speaking decreased after OMDD. One possibility is that OMDD is performed online and the timing of speaking is slightly delayed compared with face-to-face communication, thereby making it difficult to communicate as smoothly as face-to-face communication. Alternatively, because OMDD is conducted online, it is possible that the audio of the discussion is not always more audible than the audio of the face-to-face discussion. Therefore, it makes sense to use some alternative features in online discussions. For example, Zoom, which was used in this study, also has the function of adding subtitles. Therefore, in some cases, adding subtitles at the time of OMDD might allow discussion participants to better understand the other participants’ talk. These results suggest that CS may be a mix of skills that can be refined face-to-face and skills that can be refined non-face-to-face (online). Therefore, it is meaningful to clarify the skills that can be nurtured by face-to-face discussions and those that can be nurtured by non-face-to-face (online) discussions and to use the discussion tools properly according to the skills that teachers want students to develop.

4.1. Future Tasks

Although face-to-face discussions are currently restricted, this study partially suggests that using online tools rather than giving up face-to-face discussions might have educational effects similar to what face-to-face discussions have. In particular, the student-teachers featured in this study also need to learn how to teach “thinking and deliberating” morality classes. Therefore, it is significant that they were able to experience moral discussion online without having to meet face-to-face. Moreover, online discussion has educational significance even after face-to-face discussion has become possible. This is because online tools can be used to conduct diverse moral discussions not only by specific persons (students in the same class or on the same campus) but also by different persons. Therefore, the use of online tools is expected to offer students with various attributes opportunities to discuss. Therefore, it will be meaningful to examine the educational effects of online moral discussion even in normal social situations in the future. Moreover, it is also meaningful to examine not only moral discussion in Zoom but also moral discussion in virtual reality, which is more natural to discuss.

Table 1.
The basic statistics of the subscale scores of the scale for public space.

		Pre-test					Post-test				
		Egocentric	Peer standards	Regional standards	Care for others	Public values	Egocentric	Peer standards	Regional standards	Care for others	Public values
OMDD with five participants (n = 14)	*M*	9.9	11.8	21.6	20.9	22.2	10.6	11.2	21.2	21.9	21.8
	SD	3.1	4.1	2.3	2	2	4.1	5	2.8	1.5	1.9
OMDD with five participants and a facilitator (n = 14)	*M*	10.4	12.6	20.1	21.1	22.2	9.9	11.4	20.1	20.5	22.4
	SD	3.3	4.8	3	2.4	1.7	3.4	4.8	3.6	3.4	2.7
OMDD with pair (n = 18)	*M*	9.4	11.7	19.3	21.2	22.1	8.7	11.4	19.6	21.2	21.9
	SD	3.1	3.9	3.1	1.9	2.8	3	3.3	3.6	2.2	2.8

Table 2.
The statistics of the subscale scores of the communication skills.

		Pre-test				Post-test			
		Listening and speaking	Non verbal	Assertion	Discussion	Listening and speaking	Non verbal	Assertion	Discussion
OMDD with five participants (n = 14)	*M*	1.8	2.0	12.4	3.6	1.9	2.1	13.4	3.9
	SD	0.4	0.8	2.4	0.9	0.5	0.7	2.4	1.1
OMDD with five participants and a facilitator (n = 14)	*M*	1.7	1.9	12.4	4.2	1.6	1.7	12.5	4.1
	SD	0.6	0.5	2.9	0.8	0.5	0.7	2.0	1.0
OMDD with pair (n = 18)	*M*	1.8	1.8	13.6	4.1	1.7	1.9	13.8	4.1
	SD	0.5	0.8	2.2	0.9	0.6	0.7	2.6	0.9

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AUTHOR INFORMATION

Full name: Aya Fujisawa
Institutional affiliation: Kamakura Women's University
Institutional address: 〒247-8512 Ohuna6-1-3 Kamakurashi Kanagawa, Japan

Short biographical sketch: I was born in the Kyoto prefecture. I am interested in moral psychology and have received a Ph.D. (Human Developmental Sciences) from Ochanomizu University in Tokyo. I was offered my current position after working as a fixed-term lecturer at Tokyo Gakugei University. In the past, I was a researcher at the Research and Legislative Bureau of the National Diet Library as a member of "Projects on Problems Concerning Youth." I also contributed as an expert committee member (Human Science) for the National Personnel Authority Examination and was designated a committee member of the Japan Society for the Promotion of Science Research Fund. In addition, I conduct research on the sociality and morality of children in collaboration with schools and kindergartens.

Chapter #18

CLINICAL AND ETIOPATHOGENIC PERSPECTIVES IN BIPOLAR AFFECTIVE DISORDER

Mirela Dinică[1], Dan Alexandru Grigore[2], Ana Maria Cojocaru[2], & Simona Trifu[3]
[1]Romanian Association of Clinical Hypnosis, Relaxation and Ericksonian Therapy Bucharest, Romania
[2]"Alex. Obregia" Clinical Hospital for Psychiatry, Bucharest, Romania
[3]Neuroscience Department, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania

ABSTRACT
Bipolar affective disorder (BAD) represents a psychiatric pathology defined by changes in mood and voluntary activity, with a marked resonance on role functionality. Although it is relatively common, BAD is still an under-diagnosed disorder, mainly due to the misdiagnosis of unipolar depression. The diagnosis and treatment of BAD are two aspects of real importance, due to the high morbidity and mortality rates of this pathology, so an early identification of the symptoms and an individualized therapeutic approach improve the prognosis of the disease and, implicitly, the quality of life of the patients. Although the attitude of the general population in relation to psychiatric pathologies has had a positive evolution during the last years, towards the acceptance of these patients, the stigmatization is still present in the society. Along with stigmatization, the fluctuating awareness of the disease, the low adherence to treatment, the predisposition to engagement in activities with potentially negative consequences and the use of psychoactive substances represent factors that contribute to the decrease in the quality of life of patients with bipolar affective disorder.

Keywords: affective disorder, diagnostic, therapy, bipolar disorder, manic episode.

1. INTRODUCTION

The term manic-depressive psychosis was introduced by the German psychiatrist Emil Kraepelin, at the end of the XIXth century, it including at that time, all affective disorders (McClellan, Kowatch, Findling, & Work Group on Quality Issues 2007). Bipolar affective disorder is a mental disorder that mainly affects mood, emotions, thinking, and behaviour. Patients with bipolar disorder present periods of euphoria or agitation (defined as manic states), which alternate with states of depression (overflowing energy is combined with feelings of sadness and uselessness).

Aretaeus of Cappadocia described the manic episode in a way similar to what we know today and he noted the connection between melancholic and manic symptoms that occur cyclically. Jean Falret (1854) described the affective disorder as folie circulaire, and Jules Baillarger (1880) called it folie à double forme. In 1917, Emil Kraepelin classified all the forms of affective disorders he had described until then (mania, melancholia, recurrent depression, etc.) into a single clinical entity, with the same etiopathogenic (genetic) substrate, called "manic- depressive psychosis" (Ebert, 2010). In addition to this disorder of an endogenous nature, he also identified other affective disorders of exogenous origin that can occur during unpleasant life events (McClellan et al., 2007).

2. BACKGROUND

According to DSM-V, the diagnostic criteria of bipolar I disorder reflect the modern understanding of classic manic-depressive disorder and affective psychosis, described in the XIXth century, which differ from the classic description only in that neither psychosis nor the presence throughout the whole life of a depressive episode is no longer a mandatory requirement. However, the vast majority of individuals whose symptoms meet the criteria for a full manic episode syndrome also experience major depressive episodes during their lifetime.

Bipolar II disorder, within which the requirement is the presence throughout life of at least one major depressive episode and at least one hypomanic episode, is no longer considered to be a "milder" condition than bipolar I disorder, especially because individuals with this condition are depressed for a long time and because the instability of mood, characteristic to individuals with bipolar II disorder, is typically accompanied by a significant deficit in professional and social functioning.

The diagnostic of cyclothymic disorder is established in adults who have presented at least two years (in children, one whole year) of hypomanic and depressive periods, without having ever met the criteria for a manic, hypomanic or major depressive episode.

Many abuse substances, some recommended medications and some medical conditions can be associated with manic-type phenomena. This fact is reflected by the diagnostics: bipolar disorder and related disorders induced by substances or drugs.

The manic episode is manifested by a well-defined period, characterized by an abnormal and persistently euphoric, expansive or irritable mood, as well as by goal-directed activity and abnormally or persistently increased energy, lasting at least one week and present almost all day long, almost daily.

The hypomanic episode is manifested by a well-defined period, characterized by an abnormal and persistently euphoric, expansive and irritable mood, as well as by activity directed towards a goal or abnormally or persistently increased energy, which lasts at least four consecutive days, and which is present almost all day long, almost daily (American Psychiatry Association, 2013).

Prevalence rates for bipolar disorders are as follows: bipolar I disorder – 0.4-1.6%; bipolar II disorder < 1%. The average age of onset of bipolar disorders is between 20 and 30 years. Worldwide, approximately 4% of the population suffers from bipolar disorder. The prevalence of the disease is similar in both sexes, as in the case of different cultures and/or ethnic groups. A World Health Organization study conducted in 2000 demonstrated that the prevalence and incidence of bipolar affective disorder are very similar throughout the world. However, the severity and evolution of the disorder can be very different in different areas of the globe. Genetic factors are determinant regarding the risk of developing bipolar disorder, but, at the same time, environmental factors are also involved. People with bipolar disorder who exhibit psychotic symptoms can sometimes be mistakenly diagnosed as having schizophrenia. The ages of onset of the condition are late adolescence and young adulthood (15-44 years). A recent study highlights the fact that in 10% of cases of bipolar disorder, the onset of manic episodes occurred after the age of 50.

3. THE DETERMINING FACTORS

3.1. Genetic Factors

In the most recent studies, for bipolar I disorder, the concordance rates in monozygotic twins were 40%, compared to only 0-10% in dizygotic twins. The relatively low levels of concordance noticed in dizygotic twins suggest that family environmental factors have a limited importance in the genesis of the condition. The genetic studies carried out have highlighted multiple chromosomal regions and genes involved in the development of bipolar disorder. The studies also demonstrated the importance of heterogeneity, with different genes being involved in different families. As regards the parents, advanced paternal age increases the risk of developing bipolar disorder in the offspring, which is consistent with the hypothesis of an increase in the number of new genetic mutations, at the genomic level.

3.2. Physiological Factors

Abnormalities of the structure and/or function of certain brain circuits may be responsible for the development of bipolar disorder. The meta-analysis of magnetic resonance imaging studies carried out in subjects with bipolar disorder highlighted the increase in the volume of the lateral cerebral ventricles and the globus pallidus, as well as a hyperfunction of the deep cortical white matter (Arnone et al., 2009). There are also studies that have highlighted, in bipolar disorder, abnormalities in the hypothalamus-pituitary-adrenal axis caused by stress, as well as affecting circadian rhythms and melatonin secretion (Fries et al., 2014).

3.3. Environmental Factors

Individual psychosocial characteristics interacting with predisposing genetic factors lead to the emergence and evolution of bipolar affective disorder. Prospective studies have shown that recent stressful events and poor interpersonal relationships contribute significantly to the onset and relapses of bipolar disorder (Sam, Nisha, & Varghese, 2019). Numerous studies highlight that approximately 50% of adults diagnosed with bipolar disorder have experienced abuse and/or trauma in childhood, these cases being generally characterized by an earlier onset of the disorder, a more severe evolution and comorbid associations such as posttraumatic stress (Quidé, Tozzi, Corcoran, Cannon, & Dauvermann 2020; Watson et al., 2014).

3.4. Risk Factors

The main risk factors are: positive family history for bipolar affective disorder; drug or alcohol abuse; negative stressful life events (divorce, death of a loved one) or positive (marriage); the presence of another somatic disease; work in night shifts.

The onset/development of bipolar affective disorder risk factor is corelated:

• slightly increased risk for higher socio-economic groups (Sadock, Sadock, & Kaplan, 2017);

• increased risk when family history of mania/bipolar disease is present (Sadock et al., 2017);

• estimated morbid risk of 3-8% in first-generation relatives of the proband with BAD (Sadock et al., 2017);

• a child with a bipolar parent has a 10-25% risk of developing the disease (Sadock et al., 2017);

• the child with both bipolar parents has a 20-50% risk of developing the disease (Sadock et al., 2017);

• bipolar MZ twin concordance=40-70%, Bipolar BZ twin concordance=20% (Sadock et al., 2017);

• over 90% of individuals who have experienced a single manic episode will subsequently experience recurrent depressive episodes;

• about 60% of manic episodes occur shortly before a major depressive episode;

• women are more likely to exhibit rapid cyclicity and mixed states and have a different pattern of comorbidities than men, including higher frequency of eating disorders throughout life;

• women with bipolar disorder type I or type II are more likely to suffer from depressive symptoms compared to men. They also have a higher lifetime risk for alcohol use disorders compared to men and a much higher likelihood of associated alcohol use disorders than women in the general population;

• approximately 5-15% of individuals with bipolar disorder type II will eventually develop a manic episode that will change the diagnosis to bipolar disorder type I, regardless of subsequent evolution;

• the prevalence of cyclothymic disorder in clinical services specialized in affective disorders may be between 3% and 5%;

• there is a 15-50% risk that an individual with cyclothymic disorder will later develop bipolar disorder type I or type II. In children with cyclothymic disorder, the average age of onset of symptoms is 6.5 years (DSM-5).

4. DIAGNOSIS AND DIFFERENTIAL DIAGNOSIS

According to the Manual of Diagnostic and Statistical Classification of Mental Disorders DSM-5, BAD is divided into bipolar affective disorder type I (BAD I) and bipolar affective disorder type II (BAD II). To be able to put the diagnostic of BAD I, the presence of at least one manic episode is necessary, major depressive episodes being not mandatory for the diagnosis, instead the diagnostic of BAD II requires the presence of both a manic or hypomanic episode and a depressive episode.

Manic and hypomanic episodes are dominated by an elevated mood, with variable severity and duration. The difference between the two is marked by the level of functioning in social roles, the possibility of the presence of psychotic symptoms and the need for hospitalization, characteristics mostly specific to manic episodes.

Another aspect that deserves attention is that of the diagnostic of BAD in adolescents, where it should be established whether the hyperthymia in some of them remains within the normal limits of the variations encountered during emotional development or exceeds the limits of normality, already talking about something pathological (American Psychiatry Association, 2013).

Hypomania is a milder degree of mania, in which mood and behaviour abnormalities are too persistent and marked to be included in cyclothymia, but it is not accompanied by hallucinations or delusions. There is a mild, persistent elevation of mood (for at least several consecutive days), increased energy and volume of activity, and, usually marked feelings of “goodness” and mental and physical efficiency (which the patient perceives as completely natural). Sociability increases, verbal communicativeness, hyperfamiliarity, often sexuality increases, and the need for sleep decreases, but all these cannot seriously affect the ability to work or to lead to social rejection. Irritability, arrogance and rude

behaviour can take the place of the usual euphoric sociability. Mood and behavioural disturbances are not accompanied by hallucinations or delirium.

In the case of manic episode without psychotic symptoms the mood is elevated regardless of individual circumstances and can range from carefree joviality to almost uncontrollable excitement. Elevation is accompanied by an increase in energy, resulting in hyperactivity, slurred speech, and decreased need for sleep. Normal social inhibitions are lost, attention cannot be maintained, and there is often marked distractibility. Self-esteem is usually exaggerated, and grandiose or over-optimistic ideas are freely expressed. The loss of normal social inhibitions can lead to frivolous, uncontrolled, or inappropriate and inappropriate behaviour in relation to the circumstances.

If we are referring at manic episode with psychotic symptoms, in addition to the criteria for mania, delusions (especially delusions of grandeur, parentage, innovation) and/or hallucinations (most often voices, speaking directly to the patient) occur. In addition, the irritability, accentuated physical activity, and flight of ideas may be so intense that the patient will be unable to communicate normally. Includes: manic stupor.

Bipolar affective disorder is characterized by repeated episodes (at least 2) in which the subject's mood and activity levels are markedly disturbed. This disorder consists in some episodes of elevated mood, increased energy and activity (mania or hypomania), and in other episodes - of low mood, as well as a decrease in energy and activity (depression). (Hypo)manic episodes should also be classified as bipolar. It includes: bipolar affective disorder, psychosis or manic-depressive reaction and excludes: bipolar disorder, single episode manic and cyclothymia.

Comorbidities are common, and the most common are anxiety disorders (panic attacks, social anxiety disorder, and specific phobias) that occur in approximately three quarters of these individuals. ADHD, as well as any disruptive behaviour disorder, impulse and conduct control (intermittent exposure disorder, opposition and defiant behaviour disorder, conduct disorder) and all substance use disorders (alcohol use disorder) occur in over half of individuals. Adults with this disorder have a high frequency of association with severe and/or untreated medical conditions. Metabolic syndrome and migraine occur more often in individuals with bipolar disorder than in the general population. Over half of individuals whose symptoms meet the criteria for BAD also have an alcohol use disorder, and those who have both disorders are at higher risk for suicide attempts.

According to DSM-5, bipolar disorder can cause suicidal ideation and suicide attempts - one out of three patients resort to autolytic attempts or succeed in suicide, the average annual suicide rate in these cases being 0.4%, 10-20 times higher than in the general population. The standardized suicide mortality rate in bipolar disorder is between 18 and 25%. BAD contributes to a quarter of all successful suicide attempts. The history of suicide attempts and the percentage of days in which the individual was depressed in the last year are associated with a higher risk for a new attempt or for the success of suicide.

Swann (2002) notes that "depression is responsible in most cases of bipolar person's suffering". The author believes that "many of the unsolved problems of the diagnostic of bipolar disorder are related to the diagnosis of depression". In addition, he shows that there are bipolar persons who have only experienced clinically overt depressive episodes before the onset of hypo/manic manifestations and that there is a danger that they will be mistaken for unipolar depressive disorder and treated as such, which would have fatal implications for the subsequent evolution of bipolar disorder. Thus, the differential diagnosis of the depressive episode from the bipolar disorder aims to eliminate the other psychopathological conditions with depressive manifestation so that the current episode can be attributed with certainty to the bipolar affective disorder.

Differential diagnosis is very important for the determination of treatment methods. First of all, the differentiation of bipolar disorder from major depression (unipolar depression) will be considered, which is characterized by the absence of manic episodes, but during which states similar to a hypomanic episode may appear, transiently. Other conditions with which the differential diagnosis must be achieved are: borderline personality disorder, schizoaffective disorder, schizophrenia (Marneros, 2003).

Major depressive disorder may be accompanied by hypomanic or manic symptoms that do not meet full criteria (e.g., either fewer symptoms or a shorter duration than those/that typical for a hypomanic episode). It should be considered especially in the evaluation of individuals with symptoms of irritability that may be associated with major depressive disorder or bipolar II disorder (Vrasti & Papava, 2011). The diagnosis of "pseudo-depression" can be considered when there is a functional loss due to a somatic disorder, vegetative disorder (loss of appetite, weight loss, sleep disorders, etc.) as manifestations of the underlying somatic disease, stress and loss of hope due to the somatic illness and its treatments, pain or somatic adverse drug reactions present in the patient, because there is a whole series of drugs that induce depression. Under these conditions, depression can be directly determined by the somatic disease through specific pathophysiological mechanisms, it can only be favoured by the somatic disease in individuals with genetic vulnerability for depression, or it can be a psychological echo to organic suffering.

The differential diagnosis of the episode of mania/hypomania starts with the elimination of organic causes that could lead to the appearance of a similar clinical syndrome. This form of mania was called "secondary mania" by Krauthammer and Kereman (1978).

In cyclothymic disorder, there are numerous periods with hypomanic symptoms and others with depressive symptoms, which do not meet the symptoms or duration criteria for a major depressive episode. Bipolar II disorder is distinguished from cyclothymic disorder by the presence of one or more major depressive episodes. If a major depressive episode occurs after the first 2 years of evolution of the cyclothymic disorder, the diagnostic will be that of bipolar disorder type II.

Both bipolar I disorder and the other psychoses can have grandiose or persecutory delusions. Likewise, thinking may exhibit conceptual disorganization or relaxation of associations of ideas. Both can also include irritability and restlessness. According to the studies carried out by Reiser and Thompson (2005), the criteria for differentiating bipolar disorder (BAD) from psychoses (P) could be: predominance of affective symptoms (BAD > P); between episodes, psychotic symptoms continue in the absence of affective symptoms (BAD < P); family history of affective disorders in first-degree relatives (ADD > P); higher premorbid functioning (BAD > P); post-critical return (after episode) to the premorbid level of functioning (BAD > P); disorganized behavior (BAD < P); slow or insidious onset (BAD < P)

In the opinion of Marneros (2003), schizoaffective disorder differs from bipolar disorder, especially by the "mixed" aspect of affective symptoms, by high suicidality and by affecting functioning much earlier than in bipolar persons.

Differentiating either type I or type II bipolar disorder from BPD presents difficulties for any clinician, because many of the diagnostic criteria are shared by both clinical entities. The differential diagnosis becomes even more problematic if we are dealing with rapid cycle bipolar disorder. Frank (2005) claims that the cardinal features that distinguish the two entities would be for bipolar persons the longer affective periods, accompanied by vegetative changes in the case of depression or judgment disorders in mania, and for BPD

would be more specific, the desperate efforts to prevent abandonment and parasuicidal behavior. The studies carried out by Reiser and Thompson (2005) demonstrate that the two entities differ in that BPD presents impulsivity, significant periods of depression and major difficulties in controlling emotions. These patients also frequently present bouts of mania and suicidal ideation, a feeling of unfulfillment and instability in the formation of interpersonal relationships.

Anxiety disorders must be considered in the differential diagnosis and they can often be present as comorbid disorders with bipolar affective disorder.

Attention deficit/hyperactivity disorder (ADHD) can be misdiagnosed as bipolar disorder type II, especially in adolescents and children. Many symptoms belonging to ADHD such as: rapid speech, flight of ideas and reduced need for sleep overlap with hypomanic symptoms. Dual attribution of symptoms to both ADHD and bipolar II disorder may be obvious when the physician determines if the symptoms represent a distinct episode and if there is a marked increase from the usual (baseline) level required for the diagnosis of bipolar disorder type II.

Bipolar disorder type II must be differentiated from bipolar disorder type I by investigating the presence in the past of some episodes of mania, but also from other specified and unspecified bipolar disorders and related disorders, by confirming the presence of a complete hypomanic and depressive syndrome.

In children and adolescents, the diagnostic is controversial. Careful psychic and physical evaluation are necessary to exclude other pathologies such as: ADHD, psychoses, learning disorders, problems with alcohol consumption.

5. THERAPEUTIC OPTIONS

5.1. Medication and Psychotherapy

The approach of an early comprehensive therapeutic attitude can reduce the severity of symptoms and improve the evolution of the disease. BAD treatment has the role of restoring euthymia in the acute phases, preventing relapses, to minimize residual symptoms and to improve functionality. The risk of a manic or depressive turn makes the treatment of BAD a complex one.

In order to maximize the effectiveness of the treatment and to establish the optimal therapeutic approach, it is necessary to evaluate the ability to adhere to the treatment, the functionality, the existence of the psychosocial support network and the presence or absence of the risk of suicide.

Effective diagnosis and treatment, established since the first episode, are positive prognostic factors in the evolution of the disease, being able to improve or even remove the cognitive deficit already installed, preventing brain structural changes, provided that relapses are avoided during the first year of treatment. Cognitive impairment has been shown to be directly proportional to the number of episodes of BAD, with low adherence to treatment having a significant negative impact on neurocognition (Leclerc, Mansur, & Brietzke, 2013).

A number of medications and psychotherapy techniques are used in the treatment of bipolar disorder. Self-aid techniques are applied in order to recover the subjects and relieve symptoms.

The goals of the treatment are the following:

- reducing the severity and frequency of episodes, stabilizing the mood
- restoration of social functioning
- reducing the risk of suicide and future relapses

• increasing the patients' ability to control their disorder and their own lives 10

In order to achieve these goals, it is necessary to combine psychotherapy with pharmacological treatment under the careful supervision of a specialist psychiatrist, because studies have shown that this association leads to a significant decrease in relapses.

Psychotherapy is used to reduce the intensity of key symptoms of bipolar affective disorder, timely identification of risk factors in triggering disease episodes, reduction of negative emotions in the patient's interpersonal relationships, recognition of prodromal symptoms of relapses and favouring factors that have proven useful in maintaining the state of remission. The patient can be better motivated to follow the prescribed pharmacological treatment.

Psychotherapy objectives: • Main objective – reduction of functional impairment • Secondary objectives: – emotional / family support – patient education – helps the patient adapt to a chronic disorder – teaches the patient to recognize prodromal symptoms – increases the patient's ability to adapt to the psychosocial consequences caused by the disorder – develops the patient's coping mechanisms to deal with stressors from the external environment.

Cognitive-behavioral therapy, family therapy, group therapy, crisis intervention and psychoeducation proved to be the most effective relapse prevention techniques, while interpersonal, social rhythm and cognitive-behavioral therapy were the most effective in the treatment of residual depressive symptoms.

Pharmacological treatment is the central therapy of the bipolar affective disorder. Its objectives are the complete remission of symptoms of the current episode, the decrease in the recurrence rate of the symptoms and the improvement of the patient's quality of life.

The side effects of pharmacological treatment can be important considering polypragmasy and they are represented by:

• weight gain (almost all mood stabilizers and neuroleptics produce this effect)
• type 2 diabetes (neuroleptics)
• extrapyramidal (neuroleptic) symptoms
• dermatological (Carbamazepine, Lamotrigine)
• sexual dysfunctions (SSRIs, neuroleptics)
• drug interactions (Carbamazepine, Lamotrigine)

Alarm signs: weight gain of approximately 2 kilos/month

Hospitalization may be necessary, especially in the case of manic episodes of bipolar disorder type 1. Hospitalization may be voluntary or involuntary, as the case may be. Long-term hospitalization is rare at the present time, the treatment of the condition being done on an outpatient basis, but sometimes it is necessary. Other services that have specialized teams can be also involved in therapy, the so-called partial or day admissions. In most cases, the treatment is done for life, even if the symptoms have disappeared.

In the acute phases, antipsychotic medication is elective, but to prevent relapses, an agent with long-term efficacy is preferable, such as lithium or haloperidol, Risperidone, Olanzapine, Quetiapine, Aripiprazole, Carbamazepine, Ziprasidone, Asenapine or Valproate.

The first-line treatment for manic episodes in patients who are not under treatment is an oral antipsychotic. According to some studies, haloperidol, followed by Risperidone and Olanzapine, represents the most effective treatment in manic episodes.

If monotherapy is ineffective, the antipsychotic can be combined with a mood stabilizer, preferably lithium or Valproate. Associated symptoms, such as restlessness or psychomotor agitation, can be relieved by short-term administration of a Benzodiazepine.

In the case of manic relapses in patients already under antipsychotic treatment, increasing the antipsychotic dose and eventually its association with a mood stabilizer are considered.

The association of Olanzapine with Fluoxetine in the treatment of the depressive episode in BAD has been shown in some studies to be the most effective. Other researches show that Ziprasidone and Quetiapine have the lowest rate of manic reversal. As therapeutic alternatives for the relief of depressive symptoms in bipolar disease, we have Lurasidone, Valproate and SSRIs (selective serotonin reuptake inhibitors). Antidepressant agents present a high risk of manic reversal and low efficiency, reason for which they are not part of the first-intention medication. However, results have been noticed in some cases, fact justifying their association with a mood stabilizer (Udriștoiu & Marinescu, 2014).

As regards the maintenance treatment, it is recommended to continue the therapeutic scheme from the acute episodes, if it was an effective one. At this stage, the net superior benefit of lithium in the prophylaxis of BAD and in combating suicidal risk was demonstrated.

For many individuals with bipolar disorder, a good prognosis is the result of a proper therapy. Because bipolar disorder is often undiagnosed, under-diagnosed or misdiagnosed, treatment is not correct and is not instituted in time. Although it can be a disabling medical condition, many patients with bipolar disorder lead a normal and full life (drug treatment is necessary). Between episodes of illness, persons with bipolar disorder can have periods of total or near-total normality. A recent prospective study, carried out on cases of bipolar disorder type I and II, throughout 20 years, showed that the life of the patients can be from good to acceptable and up to unsatisfactory. During periods of severe mania/depression, the social life of the patients was on average mediocre, depression being more frequently associated with disability than mania. The social and occupational functionality of these patients, between episodes of illness, was on average good, more or less normal. However, subclinical symptoms remained distressing, excepting hypomanic episodes, which were associated with increased functioning. Other studies have confirmed the severity of the disorder – the standardized mortality rate of any cause among patients with bipolar disorder is approximately twice that of the general population. In the USA, bipolar disorder is considered the mental disorder with the highest costs. The risk of suicide is high, especially during depressive episodes (McClellan et al., 2007).

5.2. Diagnostic Tools

The Mood Disorder Questionnaire (MDQ) can be used for bipolar disorder screening. A positive test result does not certainly indicate the presence of bipolar disorder, but it is a signal for further diagnostic evaluation. A negative test result necessarily involves the absence of the disorder and makes the diagnosis of BAD less likely.

In case of a positive result of the MDQ test, an additional psychiatric assessment is required. Such assessment will be based on longitudinal history, longitudinal history from an informant, physical examination.

The Mood Disorder Questionnaire (MDQ) (Hirschfeld, et al., 2000) is a brief, self-report, screening tool from the bipolar spectrum of disorders. Psychometric quality was assessed (Hirschfeld, et al., 2003) among the general (USA) population (sensitivity = 0.28 and specificity = 0.97). Due to low sensitivity, the tool is not suitable for testing the general population. MDQ is suitable for monitoring bipolar disorder in adults with depressive symptoms or a diagnostic of major depression (e.g., high-risk patients).

Young mania rating scale (YMRS) – is the most used scale to evaluate manic symptoms. It was published in 1978 (Young, Biggs, Ziegler, & Meyer, 1978) with the intention to provide an observation scale just as there is an observation scale for depression. It is designed to assess the severity of symptoms and to evaluate the effectiveness of anti-manic treatment. The items of the scale were selected based on clinical descriptions of mania and reflect the symptoms existing in both mild and severe forms of mania (Young et al., 2000).

Quick Inventory of Depressive Symptoms (self-report) (QIDS) is most often used to assess depression within BAD.

The 30-item Inventory of Depressive Symptomatology (IDS) (Rush et al. 1986, 1996) and the 16-item Quick Inventory of Depressive Symptomatology (QIDS) (Rush et al., 2003) were designed to assess the severity of depressive symptoms. Both IDS and QIDS are available in clinical (IDS-C30 and QIDS-C16) and self-assessment (IDS-SR30 and QIDSSR16) versions. The IDS and QIDS assess all criteria on the symptom domains designated by the American Psychiatric Association to diagnose a major depressive episode. These assessments can be used to detect depression, although they have predominantly been used as measuring tools of symptom severity. The seven-day period prior to assessment is the usual time frame for assessing symptom severity. The QIDS-C30 and QIDS-SR16 cover only the nine symptom domains used to characterize a major depressive episode, with no items to assess atypical, melancholic symptoms, or symptoms frequently associated with it. All 16 items on the QIDS are included in the IDS. The IDS-C30 and IDS-SR16 include symptom criteria, as well as frequently associated symptoms (e.g., anxiety, irritability) and items relevant to melancholic characteristics or atypical symptoms. Both IDS and QIDS are easy to administer in either the clinical versions IDS-C30 and QIDS-C16, or the self-assessment version (IDS-SR30 and QIDS-SR16); they require minimal training. Both versions are sensitive to change with medication, psychotherapy, or somatic treatments, making them useful for both research and clinical purposes. The psychometric properties of the IDS and QIDS have been established in various study samples.

6. FUTURE RESEARCH DIRECTIONS

Future researches should focus on highlighting the clear differences between mania and hypomania within BAD and on identifying genes that confer vulnerability. At the same time, optimizing psychosocial interventions and destigmatizing the patient with bipolar affective disorder. It is also important to solve the diagnostic controversies, the controversies on the relevance of auxiliary symptoms, in parallel with the resolution of the controversies regarding the administration of antidepressants. The new drugs, with increased efficacy and tolerability represent an important point of research that has not yet been sufficiently developed at the present time; and, last but not least, the understanding of the evolution and superior quality management, together with early identification, diagnosis and treatment.

7. CONCLUSION/DISCUSSION

An integrated and individualized approach can diminish the problem of the effectiveness of BAD treatment, with the implicit reduction of mortality and morbidity associated with this pathology. Maintaining remission is the clear proof of the effectiveness of the treatment, and it represents a necessary aspect in stopping the evolution of the cognitive deterioration within BAD.

The most important goal of the management and correctly administered treatment in the case of bipolar affective disorder is to preserve the functionality of the individual, translated by maintaining autonomy, cultivating some harmonious personal and professional relationships and adherence to long-term treatment. For this purpose, psychosocial measures are encouraged, the reintegration of the psychiatric patient being closely related to raising the awareness and combating stigma.

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AUTHORS' INFORMATION

Full name: Mirela Dinică
Institutional affiliation: Romanian Association of Clinical Hypnosis, Relaxation and Ericksonian Therapy and the College of Psychologists from Romania
Institutional address: Romania, Bucharest 040713, Street Stoian Militaru 71
Short biographical sketch: Psychologist Mirela Dinică has 11 years of experience in psychological, pedagogical, medical, business schools in Romania. She has worked for the past 6 years at the clinical psychologist and psychotherapist specializing in adult and elderly psychology in 5 residential centers for the elderly (retirement homes). She has published 2 book chapters and over 20 magazine articles, being invited as a psychologist specialist on various television shows in Romania. She has been working for over 6 years as a psychotherapist specializing in clinical hypnosis and ericksonian

therapy and cognitive-behavioral psychotherapy, supporting many people who are dealing with depression, phobias, anxiety, PTSD, etc. She is a member of the Romanian College of Psychologists since 2012, a member of the Romanian Association of Clinical Hypnosis, Relaxation and Ericksonian Therapy since 2013 and a member of the Institute of Forensic Psychology since 2021.

Full name: Dan Alexandru Grigore
Institutional affiliation: "Alex. Obregia" Clinical Hospital for Psychiatry
Institutional address: Sos. Berceni no. 4, Bucharest, Romania
Short biographical sketch: M.D. resident in psychiatry, license in medicine "Carol Davila" University of Medicine and Pharmacy, Bucharest

Full name: Ana Maria Cojocaru
Institutional affiliation: "Alex. Obregia" Clinical Hospital for Psychiatry
Institutional address: Sos. Berceni no. 4, Bucharest, Romania
Short biographical sketch: M.D., Graduated "Carol Davila" University of Medicine and Pharmacy in 2019, third year resident doctor in Psychiatry at "Professor Doctor Alexandru Obregia" Clinical Hospital of Psychiatry, first year PhD student at Doctoral School of "Carol Davila" University of Medicine and Pharmacy, currently in training in Integrative Psychotherapy at Romanian Association of Integrative Psychotherapy since 2021.

Full name: Simona Trifu
Institutional affiliation: "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania
Institutional address: Str. Dionisie Lupu no. 37, Sector 2, Bucharest, Romania
Short biographical sketch: Senior Psychiatrist, hab. associate professor Department of Clinical Neurosciences, Psychiatry Discipline – Clinical Hospital of Psychiatry "Alex. Obregia" of "Carol Davila" University of Medicine and Pharmacy, PhD in medicine UMF "Carol Davila", PhD in Psychology University of Bucharest, Master Degree in Public Health, Psychoanalyst, direct member of International Psychoanalytical Association, more than 200 published articles, 17 published scientific books.

Chapter #19

IS TELECOMMUTING FOR EVERYONE?
Telecommuting Attitudes and Personality: The Moderating Role of Education

Luís Andrade[1,2], Liliana Faria[2,3], & Ana Beatriz Marques[1]
[1]ISPA-Instituto Universitário; Portugal
[2]Universidade Europeia, Portugal
[3]Socius/CSG, ISEG-Lisbon University, Portugal

ABSTRACT
This study seeks to understand the impact of personality on attitudes towards telework, analyzing the moderating role of education in this relationship. The proposed hypotheses were tested by a linear regression model using data collected from 253 individuals of both sexes, aged between 18 and 75 years. It is concluded that there are personality traits that seem to make it easier to adapt to telework. The importance of applying the perspective of career construction in the processes of selection and management of individuals in the context of telework is discussed.

Keywords: telecommuting, attitudes towards telecommuting, personality, big five, education.

1. INTRODUCTION

The crisis caused by the pandemic of the new coronavirus SARS-Cov-2 (COVID-19) required that workers had to restrict themselves to their homes, demanding adaptations to a new reality of work, which privilege, or even oblige, telecommuting (Brynjolfsson et al., 2020).

Working from home then became the norm for millions of workers in the European Union (EU) and across the world. If, before the outbreak, only 15% of workers in the EU had ever teleworked, early assessments by the Joint Research Center (Fana, Tolan, Torrejón, Urzi Brancati, & Fernández-Macías, 2020) provide an estimate of around 25% of employment sectors, around 40% of people currently working in the EU have started telecommuting full time.

With the easing of restrictive measures, in several countries, some companies have stopped all or part of the remote activities of workers, while others have implemented digital solutions that allow their employees to continue telecommuting, either full time or in a hybrid regime. For some, the joy of being able to continue working from home, for others, the tragedy, because although today it is easier to adapt to telecommuting, this is not a guarantee that everyone will have working conditions and functions suitable for it. Each individual has their own preference regarding the organization of work and it is noticeable that their personality plays a clear role in the way they react to the change (Marhadi & Hendarman, 2020). It becomes, therefore, even more relevant to explore the theoretical foundations combined with an empirical analysis of telecommuting to provide insights for the future development of telecommuting.

Studies show that telecommuting is strongly influenced by job characteristics, which can deprive employees of telecommuting options, especially for manual workers and factory workers (Asgari & Jin, 2015; Kawakub & Arata 2022). Furthermore, telecommuting is shaped by location-dependent factors such as place of residence/work and distance/duration of travel, suggesting that individuals with long commutes tend to be more likely to choose telecommuting (Asgari & Jin, 2015; Iscan & Naktiyok, 2005).

With the exception of the study by Clark et al., (2012) and by Marhadi and Hendarman (2020), little attention has been paid to the association between personality and choice/frequency of telecommuting. Although the literature emphasizes the importance of selecting teleworkers, there is only speculation, from the broader field of personality research, about which types of individuals may be receptive to telecommuting: self-motivated, self-disciplined, flexible, innovative, organized, communicative, oriented task-oriented, reliable and with limited personal contact needs (Marhadi & Hendarman, 2020). Regarding personality and telecommuting results, it is believed that workers' personalities can influence flexibility, autonomy and social interaction (Zhang, Moeckel, Moreno, Shuai, & Gao, 2020).

There appears to be a theoretical and empirical research gap regarding the associations between teleworking behavior and personality, so the aims of this study are to explore the associations between personality and attitudes towards teleworking, and the moderating role of education in the relationship between the two.

2. BACKGROUND

2.1. Telecommuting and Attitudes Towards Telecommuting

For several decades, telecommuting has been promoted as one of the job search management systems, due to its potential to ease retention during peak periods and, also, to mitigate travel associated with work, simultaneously. with other benefits, such as autonomy, a better work-life balance, among others (Zhang et al., 2020).

Telecommuting, also known in the literature as work from home, remote work, remote workers or virtual work (Golden, 2007) is a type of work, in a context of legal subordination (with a bond or provision of services), in which the/ the employee is not, at least for most of the time, performing functions on the organization's premises and uses the Internet, computer equipment and other technologies to perform their tasks and functions and communicate with the organization, customers and suppliers. It can take place at the employee’s home, in satellite centers, in shared centers or offices, in a mobile or cross-border modality and take place on a full or part-time basis (Lee & Sirgy, 2019; Marhadi & Hendarman, 2020).

According to Goulart (2009), the implementation of telecommuting requires a change in the organizational structure and culture, since the relationship of trust between people becomes fundamental. With telecommuting, the need to grant autonomy and domain of decision increases, both on the part of the organization and on the part of the teleworker, who must assume a greater commitment so that a new form of management emerges. The 2002 European Framework Agreement on Telework (European Trade Union Confederation, 2002) states that, under telecommuting, it is the teleworker who is responsible for managing their working time. However, the workload and performance of the teleworker must be equivalent to that of workers who are in the organization's accommodation.

Gainey and Clenney (2006) suggested that flextime programs might be perceived as allowing workers to organize time off work to allow for frequent interaction, while telecommuting programs might not be perceived as offering the same flexibility as work, person and organization needed for a successful telecommuting experience. Iscan and Naktiyok (2005) measured demographic, household, perceived advantages and disadvantages and found that women, married employees, employees with children under five, employees whose home is large enough, employees whose home is relatively far away, and those who perceived more advantages for themselves, for the organization, and for society have more favorable attitudes towards telecommuting. Abdel-Wahab (2007) measured the attitude towards telecommuting in general and concluded that 50% of information workers, agreed that they were in favor of telecommuting, 25.9% were neutral and 24.1% were not in favor. In the study by Brynjolfsson, et al. (2020) it was possible to observe that younger people turned out to be more likely than older people to switch to telecommuting mode. A study by Tavares, Santos, Diogo, and Ratten (2020) on the characterization of telecommuting carried out in Portuguese communities in the context of the state of emergency caused by the COVID-19 pandemic, shows that adapting to telecommuting was easy or very easy and that it happened very quickly. However, reconciling telecommuting with family life/household/dedication to children and time management/programming were aspects considered among the main difficulties felt.

2.2. Personality

Each individual's interaction with the world is, in part, guided and shaped by his personality, a dynamic organization of psychophysical systems within the person, which determine his relationships with the environment. The Big Five model characterizes the personality of individuals in terms of five traits (conscientiousness, agreeableness, extroversion, emotional stability and openness to experience) that is, relatively enduring patterns of thoughts, feelings and behaviors, showing some degree of consistency in exposure to different situations (McCrae & John, 1992). To understand them, we briefly describe each of the Big Five traits and findings about their relationship with work and telecommuting.

Conscientiousness – Trait associated with organization, responsibility, care and rigor (McCrae & John, 1992). Considered a predictor of workplace performance (Barrick, Mount, & Judge, 2001), because it provides the organization and direction needed to produce targeted behaviors. Researchers speculate that teleworkers need to establish a work routine and be able to work independently, be self-disciplined and conscientious (Marhadi & Hendarman, 2020).

Extraversion - Trait associated with experiences of positive emotional states and a positive view of the individual in relation to his surroundings (Costa & McCrae, 2012). Individuals with high extroversion are described as active, enthusiastic, and outgoing (McCrae & John, 1992), tending to be highly social, talkative, affectionate, and possessing numerous friendships and good social skills (Schultz & Schultz, 1994). Extraversion is positively related to job performance in occupations that require social interactions (Barrick & Mount, 1991) and negatively related to the need for affiliation (Marhadi & Hendarman, 2020).

Agreeableness - Trait associated with characteristics such as altruism, affection and emotional support. Individuals with high agreeableness are kind, sympathetic, and deal with conflict cooperatively or collaboratively (McCrae & John, 1992). Research shows that agreeableness predicts performance in several interpersonal relationship-oriented jobs (Barrick et al., 2001). Pratt (2000) found that being able to trust others was very important

for working in virtual teams, reasoning that teleworkers must trust each other and collaborate to get the job done without the benefit of too much face-to-face communication.

Emotional stability - Trait associated with calm, joy, adjustment and stability. Often defined in terms of the lower pole of the trait and referred to as neuroticism. Individuals with a high level of neuroticism are described as anxious, self-pitying, tense, insecure, sensitive, unstable, and worried (Schultz & Schultz, 1994). Neuroticism is negatively related to attraction to innovative reward-based cultures (Barrick et al., 2001).

Openness to Experience - A trait associated with artistic, insightful and creative tendencies as well as aesthetic sensitivity, need for variety and broad intellectual interests (McCrae & John, 1992). Individuals open to experiences value novelty and diversity, are curious, imaginative and capture new ideas well (Costa & McCrae, 2012). Studies show a positive relationship between openness to experience and creative behaviors in the workplace (George & Zhou, 2001) with perceptions of flextime programs and telecommuting (Gainey & Clenney, 2006).

2.3. The Moderating Role of Education

The Human Capital Theory (Becker, 1994) postulates that humans are a form of capital that can be developed, and that investing in human development, through education, for example, increases the productivity of the workforce. However, evidence supporting a direct relationship between education and company performance remains inconclusive (Hallak, Lindsay, & Brown, 2011).

In a knowledge-based economy, individuals with more advanced levels of educational qualification will be better at obtaining, evaluating and absorbing new information, enabling them to implement new ideas at a faster pace. faster pace. Highly skilled employees are mainly those who are acquiring jobs within the organization that require them to make decisions and contribute strategically to the organization (Hallak et al., 2011).

Highly educated participants may be concerned about subjective norms because their job requires them to comply with knowledge sharing norms. In contrast, individuals with low levels of education may be more likely to take on jobs that do not require or meet any of the knowledge sharing norms (Al Mehairi & Binning, 2014).

2.4. Hypotheses

Taken together, the previous findings suggest the following hypothesis:

Hypothesis 1. Conscientiousness is positively related to attitudes towards telecommuting.

Hypothesis 2. Extroversion is negatively related to attitudes towards telecommuting.

Hypothesis 3. Agreeableness is positively related to attitudes towards telecommuting.

Hypothesis 4. Neuroticism is negatively related to attitudes towards telecommuting.

Hypothesis 5. Openness to experience is positively related to attitudes towards telecommuting.

Hypothesis 6. Education moderates the relationship between personality and attitudes towards telecommuting.

3. METHODOLOGY

This research adopted a quantitative approach to answer the research questions. Data were collected from a convenient sample.

3.1. Sample

A total of hundred and fifty-three subjects participated in this study (58.3% women and 41.7% men), aged between 18 and 65 years (M=39.90; SD=13.98). 52.6% of the participants had a Bachelor's degree, 23.3% a Master's degree, 21.7% a Secondary education, and finally, 1.2% a PhD and 1.2% a Basic education. 81% were workers (27.7% work in Management, 22.9% in Consultancy, 10.3% in Human Resources, 9.1% in Communication, and the remaining 20% in other areas (IT, Law, Engineering, Architecture, among others), 7.9% students, 7.9% student workers and 3.2% were unemployed. All participants reported having had telework experiences (in the case of students, distance learning). 31.6% of the participants were currently teleworking, 30.4% had teleworking experience for 1 to 3 months, 20.9% for 3 to 6 months, 11.1% for 6 to 12 months and the remaining 5.9% had teleworking experience for more than 1 year.

3.2. Measures

In order to meet the objectives of this study, two self-report questionnaires were used:

(i) Portuguese version of the Ten-Item Personality Inventory, by Nunes, Limpo, Lima and Castro (2018), originally developed by Gosling, Rentfrow, and Swann (2003). It consists of ten self-report seven -point Likert-type response items (1=strongly disagree and 7=strongly agree), grouped into 5 dimensions, according to the five personality traits assumed in the Big Five model: Extraversion, Stability Emotional, Conscientiousness, Agreeableness and Openness to Experience. The Cronbach's α of the Portuguese scale are: Agreeableness =.40; Conscientiousness =.50; Emotional Stability =.73; Extraversion =.68; Opening Experience =.45 (Nunes et al., 2018).

(ii) Telecommuting Attitudes Scale, by Clark et al., (2012). It consists of thirty-eight self-report seven-point Likert-type response items (1=strongly disagree and 7=strongly agree), grouped into four telecommuting dimensions: Work Preferences, Flexibility, Challenges and Benefits. The original scale in English was translated and validated for use in the Portuguese context. The translation technique that was used in this study followed the forward and then backward translation approach. The scale was translated and later presented to two specialist researchers fluent in Portuguese and English, having been analyzed at the conceptual, linguistic and contextual levels, having reached a consensus on its translation. Subsequently, the elaborated version was compared with the original version, to ensure that it kept the same meaning. When analyzing and interpreting the items related to each subscale, we felt the need to update the names of the subscales Work Preferences and Flexibility. Thus, the set of items that make up the subscale Work Preferences, for being related to the preferences for the face-to-face modality, Face-to-Face Work, were named Preference for Face-to-Face Work (7 items). In turn, the items of the subscale Flexibility, as they are related to the flexibility of being able to perform domestic tasks, besides work, i.e. flexibility with life in general, were renamed Work-life Balance (10 items). The remaining subscales kept their original names: Challenges (9 items) and Benefits (12 items), since their items were related to the defiance and advantages of telecommuting, respectively. The scale showed good levels of internal consistency (Preference for Face-to-Face Work=.89; Work-life Balance=.83; Challenges=.78; Benefits=.83).

3.3. Data Collection Procedures

The data collection process involved the construction of a questionnaire consisting of a general introduction about the purpose of the study and the conditions for participating in it, the set of two aforementioned instruments and a group of sociodemographic questions

for the purpose of characterizing the sample. In the introduction, all ethical issues related to the research were guaranteed (scope of the study, guarantee that participation is voluntary, confidential and that it can be terminated at any time, without prejudice, clarification regarding the fact that the data collected are exclusively for research purposes, informed consent, availability to share overall study results).

Before the global questionnaire was made publicly available, a pilot was carried out to test its validity. To this end, the questionnaire was administrated in face-to-face modality to ten individuals to whom it was explained that they should give their feedback about it, exposing all doubts/suggestions that arose during their response. Minor terminological adjustments were made based on the feedback obtained and the questionnaire was finalized. In the next phase, the questionnaire was made available online, using the Google Forms platform, on social networks (LinkedIn, Facebook) and shared with the researchers' network of contacts via email and the WhatsApp social network. The link to the questionnaire was available online for 1 month. All the responses collected, two hundred and fifty-three, were considered valid responses.

3.4. Data Analysis Techniques

Before testing our hypotheses, the scales were validated for our sample. An exploratory factor analysis was performed and we obtained KMO (Kaiser-Meyer-Olkin) values of .619 and Bartlett's test of sphericity of <.001. The choice of the number of factors in the Factor Analysis, was performed using varimax rotation method with Kaiser normalization, being the same selected when it comes to eigenvalues greater than one, where five and four principal component factors were used, for the Ten-Item Personality Inventory and the Telecommuting Attitudes Scale, respectively. In order to test the hypotheses, regression models it was employed (Baron & Kenny, 1986). The moderation effect was analyzed through the interaction between one or more independent variables and the respective effect on the dependent variable, which should have consequences on the magnitude and/or direction of the effect of the independent variable on the dependent variable, making this relationship more or less intense and more or less significant in the presence of the moderator variable (Baron & Kenny, 1986). A type I error probability of .05 was considered for all analyses.

4. RESULTS

Reading Table 1 allows us to verify that the Conscientiousness dimension significantly predicts the Challenges dimension (β= -.247; $p < .01$). This relationship is negative, which indicates that higher Challenges levels are related to a lower Conscientiousness of the subjects. In turn, Extraversion (β= -.216, $p < .05$) and Conscientiousness (β= -.221, $p < .05$) significantly predict the Benefits dimension. This relationship is also negative, which indicates that higher levels of Benefits are related to lower levels of Extraversion and Conscientiousness.

The results of the analyses performed on the moderator effect of the academic education variable, in the relationship between the variables personality and attitudes towards telecommuting (Table 2) indicated, on the one hand, a significant interaction between the Extraversion personality traits (β=.176; $p < .01$) and Emotional Stability (β= .014; $p < .05$) and the Challenges dimension and, on the other hand, the existence of a significant interaction between personality traits Extraversion (β=.138; $p < .05$), Conscientiousness (β= .145; $p < .05$) and Openness to Experience (β=.174; $p < .05$), and the Benefits dimension.

Table 1.
Linear regressions between personality and attitudes towards telecommuting.

Attitudes towards Telecommuting	Personality	R^2	Sig.	Beta	Sig.
Preference for Face-to-Face Work	Extraversion			.158	.127
	Emotional Stability			-.120	.092
	Conscientiousness	.042	.117	-.148	.041
	Agreeableness			.128	.204
	Openness to Experience			-.060	.405
Work-life Balance	Extraversion			-.105	.319
	Emotional Stability			.061	.397
	Conscientiousness	.011	.809	-.308	.601
	Agreeableness			-.119	.247
	Openness to Experience			.045	.541
Challenges	Extraversion			-.05	.616
	Emotional Stability			-.121	.081
	Conscientiousness	.102	<001*	-.242	<001*
	Agreeableness			-.048	.622
	Openness to Experience			-.071	.306
Benefits	Extraversion			-.216	.034*
	Emotional Stability			-042	.545
	Conscientiousness	.085	.002*	-.221	.002*
	Agreeableness			-.176	.076
	Openness to Experience			.029	.676

Based on these results, the moderation effect graph was drawn (Figures 1 to 5). The analysis of Figures 1 and 2 indicated that, on the one hand, the perception of Challenges is low, in a situation of low Extraversion and with lower education. Simultaneously, individuals with high Education, but lower extroversions tend to feel more Challenges and individuals with low Education and little extroverts feel less Challenges when compared to Telecommuting. On the other hand, individuals with low Education, being less or more emotionally stable, end up feeling less Challenges in the face of telecommuting compared to individuals with high Education. In turn, individuals with high Education tend to feel more Challenges when they have a low level of emotional stability. The opposite is also true, individuals with high Education and high emotional stability feel much less Challenges when telecommuting.

Table 2.
Linear regressions between personality and attitudes towards telecommuting, with a moderating effect of the variable Education.

Personality	Attitudes towards Telecommuting	R^2	Sig	Coefficients	Beta	Sig.
Extraversion	Challenges			Extraversion	-.079	.249
		.041	.032*	Education	.058	.397
				Ext._x_Educ	-.176	.010*
	Benefits			Extraversion	-.144	.036
		.042	.032*	Education	.070	.306
				Ext._x_Educ.	.138	.044*
Emotional Stability	Challenges			Emotional Stability	-.160	.019
		.050	.014*	Education	.055	.415
				Emo.Stab_x_Educ	.140	.041*
Conscientiousness	Benefits			Conscientiousness	-.230	.001
		.086	.000*	Education	-.036	.587
				Cons._x_Educ	.145	.032*
Openness to Experience	Benefits			Openness to Experience	-.014	.843
		.035	.060	Education	-.082	.238
				Open.Exp_Educ.	.174	.013*

Regarding Extraversion (Figure 3), it can be said that individuals with higher education and less extroverted end up considering that they have fewer benefits in relation to telecommuting. The opposite is also true, individuals who have less education and who are more extroverted end up considering that they also have fewer Benefits. Regarding Conscientiousness (Figure 4), it can be said that the more conscientious and highly educated individuals tend to feel that telecommuting brings them less benefits. In contrast, less conscientious and poorly educated individuals end up feeling that they have more benefits from telecommuting. Finally, concerning to Openness to Experience (Figure 5), it appears that the participants who consider that there are fewer Benefits when telecommuting are those with low education and with a high level of Openness to Experience and those with the opposite, participants with a high education and a low level of Openness to Experience.

Figure 1.
Moderation Effect between Extraversion and Challenges.

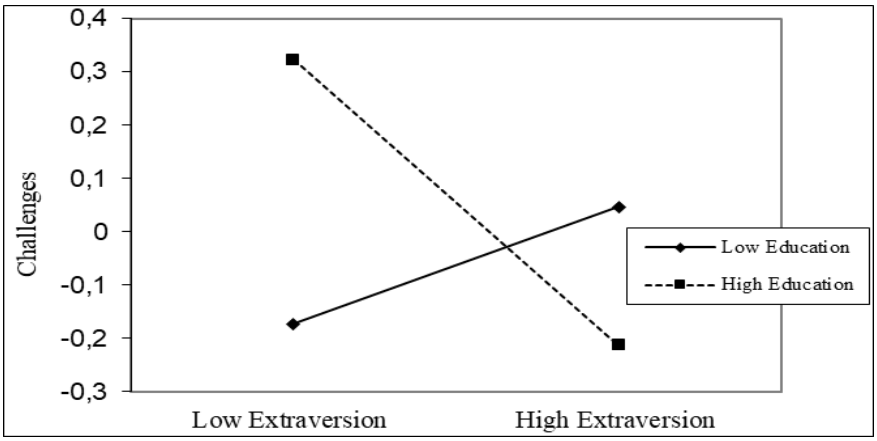


Figure 2.
Moderation Effect between Emotional Stability and Challenges.

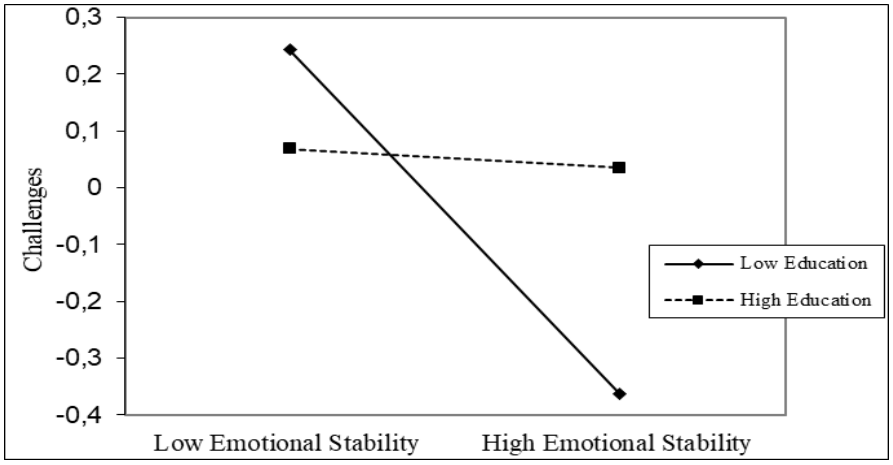


Figure 3.
Moderation Effect between Extraversion and Benefits.

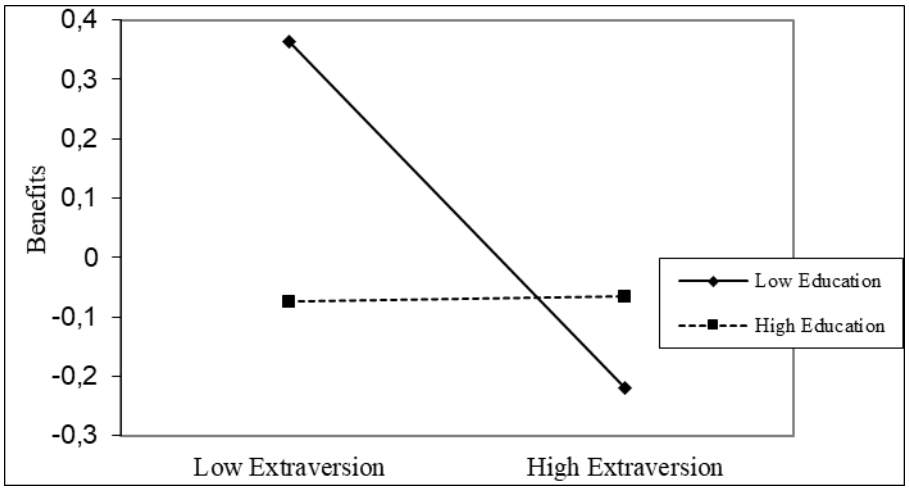


Figure 4.
Moderation Effect between Conscientiousness and Benefits.

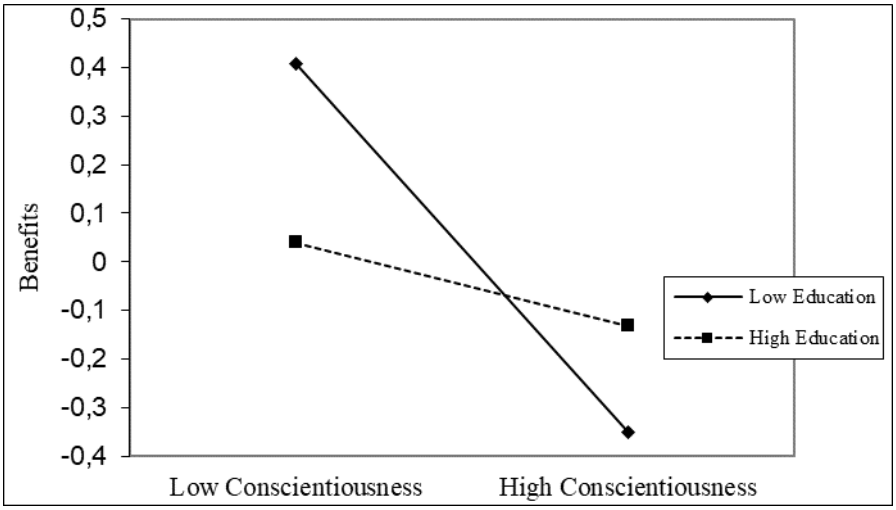
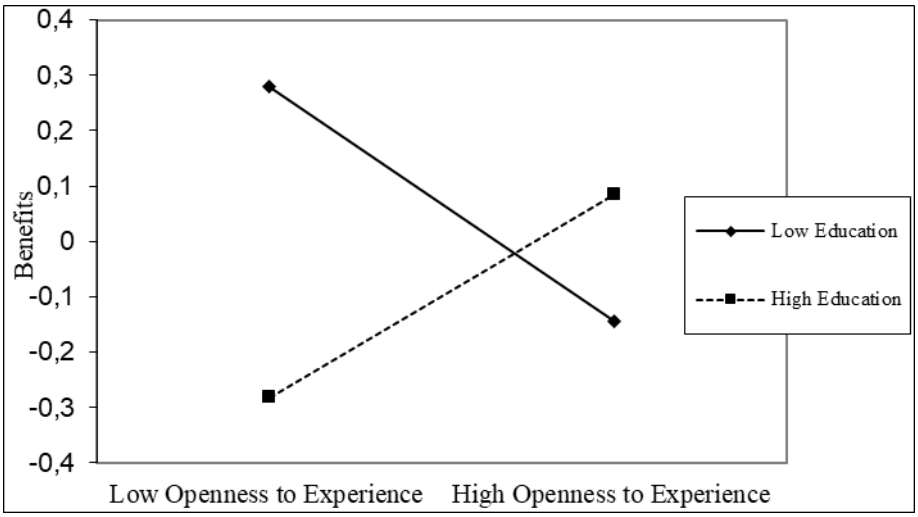


Figure 5.
Moderation Effect between Openness to Experience and Benefits.



5. DISCUSSION

The objective of the study was to understand the impact of personality on attitudes towards telecommuting, investigating the moderating role of Education in this relationship.

The results of the analyses carried out indicate that the Personality variable only has an impact on two dimensions of attitudes towards telecommuting: Challenges and Benefits.

Specifically, the Conscientiousness was found to have a negative effect on participants' perceptions of the Challenges and Benefits of telecommuting. These data allow us to speculate, on the one hand, that when individuals are conscientious, they believe less both in the Challenges and in the Benefits of telecommuting. On the other hand, because these individuals are by nature organized, responsible, self-disciplined, able to establish a work routine and work independently (Marhadi & Hendarman, 2020), the distance working modality is perceived by them as bringing neither benefits or challenges. It was also found that that the most extroverted individuals consider that there are fewer Benefits in Telecommuting. These results can be explained by the need that extroverted people have to socialize, to create friendships (Schultz & Schultz, 1994), which telecommuting can prevent them from. Individuals with a high level of extroversion like to be around people and realize that telecommuting reduces opportunities for interaction (Clark et al., 2012), leading them to identifying no benefits of this type of work.

The results indicate the existence of a moderating effect of Education in the relationship between Personality and Attitudes towards Telecommuting, exclusively in the Challenges and Benefits dimensions. Regarding the Challenges dimension, it was found that the perception of Challenges is low, in a situation of low Extraversion and with lower education. Assuming that an individual with a low level of Extraversion is a reserved and less sociable person, it can be concluded that as these individuals prefer a more reserved work environment (Clark et al., 2012), more closed at a social level, they do not feel that telecommuting brings them so many challenges because they even end up feeling more

comfortable being in a less collective environment. Similar to the previous dimension, the Emotional Stability dimension shows us that individuals with less education always end up feeling less Challenges compared to those with a higher level of them. On the other hand, those with high education and with a higher level of emotional stability feel that telecommuting does not have so many Challenges either, as they are optimistic, calm, stress-free, controlled, safe people, among others.

As previously mentioned, the Benefits dimension also showed significant differences under the effect of the moderating variable, specifically with three Personality dimensions: Extraversion, Conscientiousness and Openness to Experience. Regarding the Extraversion dimension, only individuals who have low education and who have a lower level of Extraversion consider that telecommuting brings them more benefits, the rest of the combinations (high education with high Extraversion; high education with low Extraversion; low education with high Extraversion) considers that telecommuting has fewer benefits compared to face-to-face work. These results were expected since if individuals with a low level of Extraversion and education feel that there are fewer Challenges, it is estimated that these same individuals feel that telecommuting, then, has more Benefits (Clark et al., 2012). Concerning the Conscientiousness dimension, it can be concluded that the only combinations that show us interesting results are those of individuals with higher education and more conscientious, who consider that teleworking brings them less benefits than face-to-face work. On the other hand, less educated and less conscientious individuals tend to feel that they have more benefits from teleworking than working face-to-face. Therefore, those who value more the benefits of teleworking are the individuals with low conscientiousness and low education. Finally, on the dimension of Openness to Experience, we conclude that the greater the openness to experience and, at the same time, the higher the level of education, the more the benefits of teleworking are perceived. That is, the personality allows the person to be open to new experiences, among which is the experience of working in telework because it is a new situation, which gives novelty and flexibility and as such, it is perceived as being beneficial (Clark et al., 2012; Gainey & Clenney, 2006).

In sum, our work reinforces evidence from previous studies attesting to the role of personality in the relationship with telecommuting Attitudes (e.g., Clark et al., 2012; Kawakub & Arata 2022). Furthermore, it confirms the moderating role of education in this relationship, offering additional insights for understanding the selection processes.

It is important to reinforce here the idea of several authors (e.g., Lent & Brown, 2013; Savickas, 2005; Tang, Li, Miesing, Mei, & Xu, 2022) that careers are built to express the self-concept of an individual reinforcing their goals in the reality of work roles and that career development is driven by adaptation to the environment. Thus, and because teleworking is often a negotiated decision between the worker and the employer, it is of great importance to continue to study the antecedent factors that influence workers' intention to work from home from a career-building perspective (Savickas, 2005).

6. LIMITATIONS, FUTURE DIRECTIONS AND PRACTICAL IMPLICATIONS

Some relevant limitations of this study that may lead to future studies are mentioned. First, the convenience sample was composed of working people, students, working-students and unemployed people and there is a large discrepancy in the number of different occupations of the participants, therefore, this sample is not representative of the population, and as such, the interpretation of results should be limited to the study sample.

Second, given the non-experimental and cross-sectional nature of the study design, it is not possible to establish causal relationships between the variables. Thirdly, the measures used were self-report measures, which are likely to be socially desirable, and to influence the results of the study. For the reasons presented, it is suggested that future studies be developed with representative and significant samples, in order to be able to generalize for the Portuguese population. In addition, longitudinal studies should also be developed in order to assess the adaptation to telecommuting, namely, the duration of previous telecommuting experience. Another suggestion refers to the inclusion of other or more variables in a similar study, namely job satisfaction and leadership, as well as studies related to the antecedents and consequences of career adaptability in predicting positive outcomes related to teleworking.

The results of the study allow us to trace some implications for the practice, at an organizational level. It is advisable that the human resources services of the companies carry out a brief psychological assessment before adopting any work method, whether it is a hybrid regime, a split-time regime, among others. But also, develop support mechanisms underlying teleworking. For example, telecommuting training programs designed to improve teleworkers' belief, guiding them to have rational expectations of results, set goals appropriately and improve their careers, cultivating career adaptability (Tang et al., 2022).

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AUTHORS' INFORMATION

Full name: Luís Andrade
Institutional affiliation: ISPA-Instituto Universitário & Universidade Europeia
Institutional address: R. Jardim do Tabaco 34, 1149-041 Lisbon, Portugal
Biographical sketch: PhD in Labor Sciences from the University of Cádiz; Master and Postgraduate in Social and Organizational Psychology (ISCTE) and Degree in Psychology in the area of Social and Organizational Psychology (ISPA). University Professor in several Portuguese Higher Education Institutions.

Full name: Liliana Faria
Institutional affiliation: Universidade Europeia & Socius/CSG, ISEG-Lisbon University
Institutional address: Estrada da Correia 53, 1500-210 Lisbon, Portugal
Biographical sketch: Degree and PhD in Psychology, in the field of Vocational Psychology. Assistant Professor at the Universidade Europeia, where she also serves as a member of the Pedagogical Council. Researcher at CSG – Research in Social Sciences at the ISEG (University of Lisbon). Psychologist, effective member of the Portuguese Psychologists Order, specialist in the field of education and with advanced expertise in vocational psychology and career development.

Full name: Ana Marques
Institutional affiliation: ISPA-Instituto Universitário
Institutional address: R. Jardim do Tabaco 34, 1149-041 Lisbon, Portugal
Biographical sketch: Degree in Psychology and master in the area of Social and Organizational Psychology (ISPA).

Section 3
Social Psychology

Chapter #20

THE INFLUENCE OF DEPENDENCE ON SOCIAL NETWORKS ON THE ASSERTIVE BEHAVIOR OF A PERSON

Valērijs Makarevičs[1] & Dzintra Iliško[2]
[1] *Faculty of Education and Management, Daugavpils University, Latvia*
[2]*Institute of Humanities and Social Sciences, Center of Sustainable Education, Daugavpils University, Latvia*

ABSTRACT
The requirement of assertive behavior in communicative professions is relevant for the field of medicine, pedagogy, politics and public service. The purpose of the study is to establish a link between assertive and non-assertive communicative behavior and addiction to social networks. For this purpose, Sheinov's tests were used, translated from Russian into Latvian. The results indicate to a high reliability of the translated version. The experiment involved 50 participants of Daugavpils University who study pedagogy. The study showed that the relationship between assertive behavior and social media addiction is non-linear. Statistically significant negative values of this relationship were obtained from assertive respondents in the age group under 30. In the same age group, statistically correct positive results were obtained, confirming the presence of such a dependence of non-assertive respondents of the same age group. The results of the study suggest possible changes in the content of courses intended for teachers and that can be used in trainings of assertive behavior.

Keywords: assertiveness, social networks, passivity, aggressiveness, success, anxiety.

1. INTRODUCTION

The requirement of assertive behaviour in communicative professions is relevant for medicine, pedagogy, politics and public service. The attention of researchers to the study of assertive behavior and its relationship with other personal and behavioral characteristics of a person first manifested itself after the Second World War. At the same time, it was reported that chosen behavior in situations of professional and personal communication affects not only social achievements of the individual, but also the results of his or her professional activity. Researchers showed their interested in the features of the personality and culture in which a person is grounded and which contribute to preventing manifestation of assertiveness (anxiety, a tendency to aggressive behavior, the place of residence, etc.).

Technological advances of recent years supplement the list of correlates of assertive behavior with dependence on smartphones and social networks. The problem is related to the clarification of relationships between these dependencies and assertive behavior since this relationship can affect adversely personal and professional growth of an individual.

2. THEORETICAL BACKGROUND

The following trends have been noted in the study of assertive behavior in recent years. The social geography of research on social networking and addiction on it is expanding. Assertiveness tests and other research tools have been created and applied for practical use, the purpose of which is to study the phenomena associated with assertiveness. Here comes also the problem of validity of these tests. The fact is that the criteria for assertive behavior are related to culture (Makarevičs & Iliško, 2022).

The behavior that in one culture may be interpreted as passive or aggressive, in another culture is understood as expected and normal in line with cultural norms. Therefore, there are lots of contradictions that researchers are facing from different cultures. Thus, on the one hand, scientific papers written by representatives of Muslim countries refer to higher level of assertive behaviour in men as compared to women (Furnham, 1979).

At the same time, researchers representing Christian countries in Europe and North America recorded opposite trends (Kumar & Fernandez, 2017; Pfafman & McEwan, 2014; Postolati, 2017). The solution to the problem is creation or adaptation of tests that meet the requirements and specifics of the modern cultural environment.

In relation to the problem of assertiveness, maintaining positive affect in the recipient and considering possible consequences of its expression (Pfafman, 2020). Others refer to the anti-manipulative function of assertiveness, its golden mean between the two poles of social behavior (passivity - aggressiveness) and its connection to self-actualization (Postolati, 2017; Peneva & Mavrodiev, 2013).

The behavioral repertoire, with passivity at one pole and aggressiveness at the other, suggests the existence of three types of personalities: assertive and non-assertive people, who, in turn, are divided into passive and aggressive (Sheinov, 2014a). Anderson and Martin point out that assertive individuals display high attachment, inclusion, and pleasure motives, aggressive individuals show increased control motivation and a tendency to use force to dominate, control, conquer, or damage another person's self-esteem (Anderson & Martin, 1995).

Assertiveness is a communicative trait that is most often manifested as a result of social or special learning (Parray, Kumar, & David, 2020).

Having said this, we can formulate the first goal of current research. It consists of selecting tests that refer to the requirements of the local culture by translating them into the state language (in this case, Latvian) by using them for research and diagnostic purposes. The research task is to find out the correlates of assertiveness.

A number of recent studies confirm the negative relationship between assertiveness and anxiety of the individual (Niusha, Farghadani, & Safari, 2012). It is also stressed that assertiveness increases individual's motivation for the academic achievement (Siota, 2018): assertive individuals show higher results in life satisfaction tests (Siota, 2018) and assertive behavior reduces the level of anxiety (Fornell &Westbrook, 1979, Pfafman, 2017).

On the other hand, it should be emphasized that assertive behavior of communication partners can be perceived as an aggression. But, as Chamberlain note that this aggression is perceived as instrumental but not as hostile (Chamberlain, 2009).

Research implies that there is an association between low levels of assertiveness (passivity) and higher levels of anxiety (Siota, 2018). A low level of assertiveness, in turn, may be associated with the dissatisfaction with life, which is compensated by dependence on social networks (Sahin, 2017). At the same time, the social abilities of the individual decrease (Khairunnisa & Putri, 2019), difficulties appear with the formation of social identity, which is compensated by communication in social networks (Wainne, 2018). In social networks, by

the use of anonymity, individuals demonstrate aggression that they cannot demonstrate in real communication (Black, Mezzina, & Thompson, 2016).

Researchers also reflect that socially anxious people may use social media to present themselves positively and demonstrate assertive behaviour (Casale & Fioravanti, 2015).

Social networks are a relatively new phenomenon that can change the usual way of life and doing things. Social networks can replace direct communication, which can affect the quality of life and socialization of an individual through technical devices that allows one to use both, communication network (smartphone) and, through a smartphone, to join global social networks. A positive relationship has been found between smartphone addiction and anxiety in adolescents aged 13-15 (Korniseva & Rudika, 2018). As indicated above, anxiety correlates with low life satisfaction. On the other hand, there is a negative relationship and moderate correlation between life satisfaction and social media addiction (Sahin, 2017). As indicated above, anxiety correlates with low satisfaction with life. On the other hand, there is a negative relationship and moderate correlation between life satisfaction and social media addiction (Sahin, 2017). These complex interrelated phenomena, which are described, show that assertive behavior, characterized by self-confidence and low levels of anxiety, has an antipode, which manifests itself as an addiction to social networks and an increased level of anxiety. Discovering a statistically meaningful and significant relationship between assertiveness and the degree of dependence on social networks was the second task of this study.

The interest of researchers in adolescence and youth and the search for ways to train assertive behavior is increasing. This is also necessary to take into account the peculiarities of the local culture and gender, since according to the results of some studies, women are more dependent on social networks (Andreassen, Pallesen & Griffiths, 2017; Biernatowska & Balcerowska, 2017). According to other studies, males are more dependent on social networks (Kircaburun, 2016).

There are many theories about social media addiction. According to Azizi, Soroush, and Khatony (2019), dynamic psychology theory and social control theory are among the most popular ones. The authors of the theory of dynamic psychology consider the origins of dependence on social networks in family's upbringing. Assertiveness is a communicative trait that has been observed as the most often manifested and is a result of social and special learning. According to Parrai and other scientists, special training in assertive behavior of high school students increases self-esteem and reduces the level of aggressiveness (Parray, Kumar, & David, 2020).

3. RESEARCH DESIGN, METHODOLOGY

The relevance of the study of addiction to social networks in connection with the assertive behavior and is well formulated by D. Evgin, who wrote that when considering a way in dealing with addiction to social networks, one can say that addiction to social networks has ceased to be a common problem and has become a disease interpreted as a global epidemic (Sumen & Evgin, 2021).

There are over 30 different self-rating scales that are widely used to measure and rate assertiveness and social media addiction. Almost all of them need to be improved, or, as Esgi (2016) reports, those tests do not have sufficient reliability and validity if applied in different cultures. For diagnostic and research purposes, we have chosen two tests that were developed by the Belarusian researcher Viktor Sheinov, as they were developed in a neighbouring culture and have undergone all the necessary procedures for validation and reliability (Sheinov, 2014b, 2021).

The first test is measuring a propensity for assertive behavior. It contains 26 statements, some of which are related to assertive behavior. The other part of the same test relates to aggressive and passive behavior. The social media addiction test consists of 15 statements measured according to the Likert scale. Statistical data provided by the author were used to calibrate the responses. After translation from the Russian into Latvian language, a back translation has been carried out and was acknowledged by the author. During the first test, that was carried out a month after testing, it was stated that the coefficients between the first and second results were 0.98 and 0.96 according to the Pearson criterion.

The experiment involved 50 people who took part in this study on a voluntary basis. All of them were the students from the educational department of Daugavpils University. The age of participants were ranging from 20 to 63. Questionnaires were sent to all participants by e-mail. In the same way authors have obtained the answers.

4. RESEARCH FINDINGS

The analysis of the results indicates to the correlation between the two measured values, according to the Pearson criterion that is -0.49 (true at a significance level of 0.05).

This meant that with an increase in the score on the assertiveness test, the dependence on social networks decreased. But this contradicted our hypothesis. High scores on the assertiveness test were classified as aggressive behavior. This ruled out the lack of dependence on social networks. But this contradicted the theoretical concept that we adhered to. The contradiction was resolved by grouping the participants for the analyses of data according to their specific dominant characteristics (passive, assertive and conditionally aggressive). The connection between phenomena is not linear, but U-shaped. The dominance of the assertive individuals in the sample was leading to this result. In addition, the analysis of the obtained data in this study showed that the age criterion should also be taken into account. The updated data on respondents that were used in the final analysis are displayed in Table 1. Thirty-two respondents were included in the group of participants under 30, but in the group of participants older than 30, there were 18 participants. All participants of the study were women except of three men. This could be explained by the fact that teaching profession is mostly selected by women (see in Table 1).

Table 1.
Sample of the study.

Sample	Number of participants	Males/females	Mean	σ
All participants	50	3/47	27.7	9.99
Under 30	32	1/31	20.1	3.4
30 + years old	18	2/16	38.8	7.42

Table 2 reflects the distribution of the number of respondents by the test results.

Table 2.
Distribution of the number of respondents by the test results.

Groups	**Dependency on Social Networks**			**Communicative behaviour**		
	No dependency	Dependent	Very dependent	Passivity	Assertivity	Agression
Utill 30	21 (65%)	9 (28%)	2 (7%)	9 (28%)	15 (47%)	8 (25%)
30+	18 (100%)	0	0	0	9 (50%)	9 (50%)

The average values were calculated according to the analyses of weights for different age groups (see Table 2).

Table 3.
Average values of test results for each age group.

Groups	**Dependent on Social networks**	**Assertive**
Untill 30	36.19	64.69
30+	25.89	71.17

Further analysis was carried out in the following subsamples under the age of 30: passive individuals who demonstrated dependence on social networks; assertive - dependence on social networks and aggressive participants demonstrated dependence on social networks. Assertive individuals depend on social networks and demonstrate aggressive behavior. The average scores for two tests in each study group were calculated. A φ coefficient was used to determine if there are significant differences between the mean values of the measurements obtained in two different groups. The coefficient φ was used to determine the relationship between two variables. The values for each pair of variables are shown in Table 4.

Table 4.
Coefficients φ for dichotomous relations of the variables of the continuum dependence on social networks - features of communicative relations.

The dichotomy of variables	**The values of the coefficient φ**
Passivity - addiction	0.438
Assertiveness - addiction	0.252
Aggressiveness - addiction	0.471

In the first and third cases, the probability of an event corresponds to a probability level of 0.05.

5. DISCUSSION

The goal of the study was to explore the connection between assertive and non-assertive communicative behavior and addiction to social networks. The second table shows that in the student environment of future certified teachers, all social network addicts are in the age group under 30. This is confirmed by the data displayed in the third table. According to the results in the second table, teachers who have already had an experience of work in school (this was reported by the respondents themselves) may increase the level of aggressive behavior.

The fourth table shows that there are significant statistical relationships between social media addiction among the so-called passive and aggressive respondents.

The evidence suggests that the problem of social media addiction is relevant for younger generation. This can be explained by the fact that at this age there might be problems with the ongoing formation of personal identity. Professional identity has just begun to form. Passion for social networks can compensate these problems.

There were no passive respondents in the age group 30+ as there are no addicts to social networks. At the same time, the percentage of respondents who use an aggressive style of communication is increasing. In the age group 30+, all respondents work in educational institutions. They went to study to receive necessary pedagogical education. This may indicate that in the professional activities of teachers, the habit of an aggressive style of communication should be eliminated but assertive communication style should be promoted since this style helps to achieve the desired result. In teaching one needs to be assertive in order to achieve better results. Aggressive style of communication needs to be eliminated since it does not relate to current paradigms in education.

Research limitations. The findings of this study cannot be generalized. A small number of respondents who took part in this study are from the same social and professional field of work and are mostly women. Only three men took part in the study. The results show that in studies related to assertive behavior and dependence on social networks, this is necessary to take into account the following factors: the characteristics of a regional culture, the age of the respondents, their professional affiliation, and gender. The study will be continued in the future, and the results will either confirm or modify the conclusions presented in this article.

6. CONCLUSION

The connection between assertive behavior and the dependence of individuals of social networks is non-linear.

When considering this connection, the age, gender and professional publication of the respondents must be taken into account.

The problems associated with dependence on social networks are relevant for respondents under 30 and is less relevant for the older generation.

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AUTHORS' INFORMATION

Full name: Valērijs Makarevičs
Institutional affiliation: Daugavils University, Latvia, Faculty of Education and Management
Institutional address: Parādes 1-432, Daugavpils, LV_5410
Biographical sketch: Valērijs Makarevičs is a docent at Daugavpils University, Latvia, Faculty of Education and Management. He is the author of more than one hundred scientific publications. He is an expert of science on psychology and education.

Full name: Dzintra Iliško, Prof.
Institutional affiliation: Daugavpils University, Latvia, Center of Sustainable Education
Institutional address: Parādes 1-432, Daugavpils, LV_5410
Biographical sketch: Dzintra Iliško is a professor at Daugavpils University, Latvia, Center of Sustainable Education. She is the author of more than seventy scientific publications, he in an expert of science on psychology and education, participant in the editorial board of international journals.

Chapter #21

A CROSS-CULTURAL COMPETENCY SCALE FOR INTERNATIONAL ASSIGNEES

Yoshitaka Yamazaki & Michiko Toyama
Bunkyo University, Japan

ABSTRACT
The aim of this study was to develop a cross-cultural competency scale based on perspectives from the experiential model of cross-cultural learning skills for successful adaptation of international assignees. The study involved 134 participants from 41 countries who studied at a graduate school in Japan, specializing in international relations and international management. Maximum likelihood exploratory factor analysis was conducted with varimax rotation, extracting three latent components of cross-cultural competency: building relationships, translation of complex information, and conflict management. To validate those components, confirmatory factor analysis was conducted with the same group of participants. Results showed acceptable levels of model fit, and the reliability of the three components ranged from 0.83 to 0.87. Accordingly, the cross-cultural competency scale developed in this study seems to be an effective measurement model to analyze cross-cultural competencies.

Keywords: cross-cultural competencies, scale development, experiential model, international graduate students.

1. INTRODUCTION

Numerous cross-cultural competencies for effective performance and adaptation to culturally diverse working situations have been identified and discussed over the past few decades (Bird, Mendenhall, Stevens, & Oddou, 2010; Leiba-O'Sullivan, 1999). In the field of international management as well as cross-cultural psychology, these competencies have been theoretically integrated into several key domains (Bird et al., 2010; Johnson, Lenartowicz, & Apud, 2006; Lloyd & Härtel, 2010; Matveer & Merz, 2014; Yamazaki & Kayes, 2004). Such integration helps both scholars and practitioners capture an overall picture of cross-cultural competencies. Among cross-cultural competency classifications, the work of Yamazaki and Kayes (2004); Kayes, Kayes, & Yamazaki (2005), which was conceptualized using experiential learning theory (Kolb, 1984; Kolb & Kolb, 2017), highlighted successful expatriate adaptation to cross-cultural situations and proposed the experiential model of cross-cultural learning skills. However, a scale for the cross-cultural competencies described in the model was not provided. This study thereby aimed to develop a cross-cultural competency scale based on that work.

We focused the experiential model on cross-cultural learning skills because it seems relevant to cross-cultural learning situations where people learn and develop cross-cultural competencies. The model relates to experiential learning theory, which proposes key learning modes, generating learning styles (Kolb, 1984; Kolb & Kolb, 2017). The learning modes required in cross-cultural learning situations are related to several cultural aspects, which include individualism-collectivism, high vs. low context culture, and field-dependent vs. field-independent style (Yamazaki, 2005). When considering a relationship between

learning styles and learning skills, "learning style describes basic and generalized dimensions of individuality in learning, while a learning skill is more situational and subject to intentional development" (Boyatzis & Kolb, 1991, p. 279). We believe that a cross-cultural competency scale could be a useful tool to conduct empirical research on cross-cultural learning style in relation to cross-cultural competencies.

2. LITERATURE REVIEW

2.1. Cross-Cultural Competencies and Classifications

In this study, *cross-cultural competency* is considered the same as *intercultural competency* because the terms are used interchangeably in the literature (Draghici, 2014). Cross-cultural competence is defined as an "individual's effectiveness in drawing upon a set of knowledge, skills, and personal attributes in order to work successfully with people from different national cultural backgrounds at home or abroad" (Johnson et al., 2006, p. 530). Classifications of a myriad of cross-cultural competencies typically consisted of a few dimensions with several competencies each. For example, based on differences between stable and dynamic competencies, Leiba-O'Sullivan (1999) proposed three competency dimensions—self-maintenance, cross-cultural relationships, and perceptual dimensions—with a total of 13 cross-cultural competencies (e.g., cultural knowledge, conflict-resolution skills, and stress-management skills). Bird et al. (2010) presented three dimensions similar to those of Leiba-O'Sullivan (1999), but each dimension had a different number and type of competency: the first dimension of perception management had four competencies (e.g., inquisitiveness, tolerance of ambiguity, and cosmopolitanism); the second dimension of relationship management had five competencies (e.g., relationship interest, interpersonal engagement, and emotional sensitivity); and the third dimension of self-management had seven competencies (e.g., optimism, self-confidence, and self-identity).

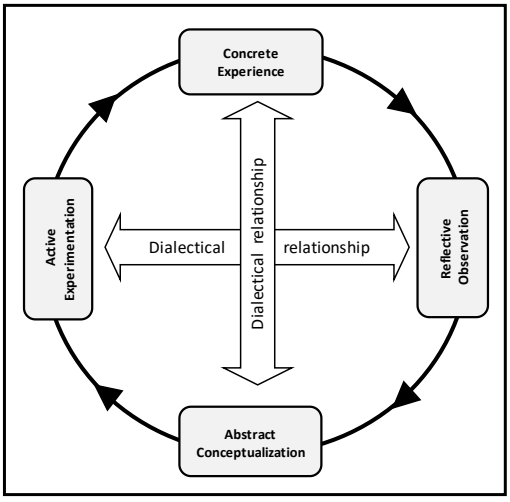
In other studies, Lloyd and Härtel (2010) and Matveer and Merz (2014) applied three fundamental psychological dimensions of affect, cognition, and behavior, but they presented different competencies in each dimension. Lloyd and Härtel (2010) proposed two competencies of cognitive complexity and goal orientation in the cognitive dimension; three competencies of dissimilarity openness, tolerance for ambiguity, and cultural empathy in the affective dimension; and three competencies of intercultural communication competence, emotional management skills, and conflict management skills in the behavioral dimension. Matveer and Merz (2014) documented six competences in the cognitive dimension (e.g., cultural-specific knowledge, attitudes, and motivation), two competencies in the affective dimension (i.e., emotional stability/control and cultural empathy), and four competencies in the behavioral dimension (i.e., experience, social initiative, leadership, and communication). Even if the same or similarly worded dimensions were used in cross-cultural competency classifications, there were differences in the list of competencies. Consequently, each classification system may have unique types of cross-cultural competencies as factorial components.

For more comprehensive understanding, measures are necessary. This study focused on the experiential model of cross-cultural learning skills described by Yamazaki and Kayes (2004); Kayes et al., 2005) that did not propose measures. Thus, the study attempted to fill this gap by developing a scale of cross-cultural competencies. Before further discussing cross-cultural learning skills, we explain Kolb's experiential learning theory (Kolb, 1984; Kolb & Kolb, 2017), which led to the cross-cultural learning skill model.

2.2. Kolb's Experiential Learning Theory

By integrating views from influential theorists such as James, Dewey, Lewin, Piaget, Vygotsky, and Jung, (Kolb, 1984; Kolb & Kolb, 2017) developed experiential learning theory. His learning theory includes four basic learning modes that are key to individual learning. These modes are concrete experience, reflective observation, abstract conceptualization, and active experimentation. Each learning mode plays an important specific role for learning. The concrete experience mode serves to grasp immediate experience by feeling and sensing. Subsequently, the reflective observation mode transforms immediate experience by carefully and reflectively observing in order to form a basis for the abstract conceptualization mode, which requires thinking and applying logic and concepts to create ideas. Then, the active experimentation mode involves transforming conceptualized ideas into actions, creating a foundation of new experience that the concrete experience mode can then catch. The concrete experience mode is dialectically opposed to the abstract conceptualization mode, while the reflective observation mode is dialectically contrasted with the active experimentation mode. Figure 1 illustrates Kolb's experiential learning theory.

Figure 1.
Kolb's experiential learning theory.



2.3. The Relevance of Kolb's Learning Theory to Cross-Cultural Situations

The four learning modes in Kolb's theory are important when considering research on cross-cultural psychological studies. If people experience an adaptation process including culture shock in different cultural situations, three fundamental psychological elements of affect, cognition, and behavior are influenced (Ward, Bochner, & Furnham, 2001). In Kolb's learning model, the mode of concrete experience relates to affective aspects; the two modes of reflective observation and abstract conceptualization address a broad range of cognitive aspects including perception; and the active experimentation mode is associated with behavior aspects. Also, Kolb's experiential learning theory proposes "a comprehensive set of skills—including valuing, thinking, deciding, and acting—necessary for a variety of activities related to cross-cultural learning" (Yamazaki & Kayes, 2004, p. 365). Because of

these unique features, a large number of cross-cultural studies have applied Kolb's theory (e.g., Auyeung & Sands, 1996; Barmeyer, 2004; Holtbrugge & Mohr, 2010; Joy & Kolb, 2009; Yamazaki & Attrapreyangkul, 2014; Yamazaki & Kayes, 2010). His learning model seems to be a good fit for the analysis of cross-cultural learning situations. The present study focused on the experiential model of cross-cultural learning skills (Kayes et al., 2005; Yamazaki & Kayes, 2004) based on Kolb's experiential learning theory.

2.4. Scale Development of Cross-Cultural Competencies

The classification in the experiential model of cross-cultural learning skills (Kayes et al., 2005; Yamazaki & Kayes, 2004) relied on an extensive literature review of approximately 100 empirical studies to search for competencies important for effective cross-cultural learning in expatriates (Kayes et al., 2005). The model has four dimensions with seven competencies (Kayes et al., 2005; Yamazaki & Kayes, 2004). Those four dimensions theoretically relate to four learning modes encompassed into Kolb's experiential learning theory (Yamazaki & Kayes, 2004), as discussed earlier.

First, the interpersonal dimension corresponds to the concrete experience mode and includes the two competencies of building relationships within another culture (BR) and valuing people of different cultures (VP). The former competency refers to the ability to build, develop, and maintain good, trustful, and cooperative relationships with those of different cultures, while the latter refers to the ability to respect different cultures and understand values and behaviors in relation to them.

Second, the information dimension is associated with the reflective observation mode, including the two competencies of listening and observation (LO) and coping with ambiguity (CA). The LO competency requires individuals to patiently listen to and observe people of different cultures. The CA competency calls for tolerating unfamiliar behaviors and uncertain situations in different cultures and coping with the ambiguity resulting from unfamiliar actions or nonverbal behaviors based on cultural differences.

Third, the analytical dimension relates to the abstract conceptualization mode. It has one competency, translation of complex information (TCI), which involves communicating with people of different cultures by applying simple language to describe complex information and translating complicated ideas into plain words.

The final dimension is linked with active experimentation. This dimension consists of two competencies: taking action and initiative (TAI) and managing others as conflict management (CM). The former competency refers to an action orientation—taking initiative and making risk-taking decisions in cross-cultural situations. The latter competency relates to interaction skills between host people and expatriates as a managerial activity. More specifically, it involves resolving conflicts between peoples of different cultures to establish a good relationship between them (Kayes et al., 2005).

3. METHODS

3.1. Sample and Procedures

Since this study was intended to develop a cross-cultural competency scale, we selected an international-focused graduate school in Japan as a research site relevant to international and cross-cultural activities. Over 90% of graduate students were from non-Japanese countries around the world, and classes were conducted in English, whereas students often encountered Japanese culture outside of the school. A total of 134 students participated in this study: 70 graduates specializing in international relations and 64 focused on international management. They came from 41 countries; Japanese students comprised

only 3.7% of the study group. Their average age was 30.87 years (SD = 4.32), and most had work experience before beginning graduate school. Of the student participants, 75 (56%) were men and 59 (44%) were women. They had at least one overseas experience including their current graduate program in Japan, and their average number of overseas experiences was 6.41 (SD = 6.81).

Ethics approval for this study was granted by the university's Department of Business Administration in September 2019. One of the authors visited the graduate school and asked its faculty members to assist in gathering data from the students in October 2019. A survey package was placed in the campus mailbox for graduate students in the international relations program and distributed in class for graduate students in the international management program. Questionnaires gathered demographic but not personally identifiable information. One month after survey distribution, questionnaires from 136 graduate students were picked up. Two questionnaires did not follow survey instructions, leaving 134 surveys for analysis.

3.2. Potential Competency Items for Scale Development

To develop the cross-cultural competency scale, the authors created 41 question items based on the experiential model with seven cross-cultural competency classifications. Among the 41 items, there were six items for building relationships (BR), six for valuing people (VP), six for listening and observation (LO), five for coping with ambiguity (CA), five for translation of complex information (TCI), six for taking action and initiative (TAI), and seven for conflict management (CM). Sample questions for each competency are as follows: "Develop trustful relationships with people" for BR; "Respect different cultures and values" for VP; "Patiently listen to people, even if they cannot speak fluently" for LO; "Tolerate the unfamiliar behaviors of people" for CA; "Communicate with people using simple language even if the information is complex" for TCI; "Become an action-oriented person if necessary" for TAI; and "Resolve conflicts among people" for CM. Survey instructions explained that the term *people* in the questionnaire referred to those from a different cultural background and/or those with different nationalities. The 41 items were randomly allocated in the questionnaire, applying a 7-point Likert-type scale as follows: 1 = cannot do at all; 2 = cannot do satisfactorily; 3 = cannot do a little; 4 = can do almost; 5 = can do ordinarily; 6 = excellent; and 7 = extremely excellent.

4. RESULTS

4.1. Exploratory Factor Analysis

For exploratory factor analysis (EFA), maximum likelihood factor analysis was conducted with varimax rotation to extract latent factors from 41 items based on the cross-cultural learning model. The sample for the EFA was 134 graduate students. To identify key factors of EFA, we applied the guideline of an eigenvalue >1 with scree plot investigation. To evaluate whether an item was kept or eliminated, we relied on three criteria: (a) a factor loading >0.5 as a cutoff value (Maskey, Fei, & Nguyen, 2018), with that loading applicable for a sample size between 100 and 200 (Field, 2013); (b) the elimination of cross-loading items >0.4 (Maskey et al., 2018); and (c) at least three items with >0.5 per factor to account for the total variance (Costello & Osborne, 2005; Thompson, 2004).

The first EFA of 41 items resulted in eight factors, as illustrated in Table 1. Bold numbers in the table were described as a factor loading >0.5.

Table 1.
Results of first exploratory factor analysis with 134 participants.

	Factor								
Competency Items	1	2	3	4	5	6	7	8	h^2
BR1	**0.64**								0.72
BR2	**0.77**								0.78
BR3	**0.83**								0.80
BR4	0.43								0.78
BR5									0.62
BR6	**0.61**								0.74
VP1									0.64
VP2	0.49								0.73
VP3									0.62
VP4									0.57
VP5							**0.79**		0.79
VP6	0.44		0.47						0.69
LO1			**0.58**						0.62
LO2									0.63
LO3	0.41		**0.50**						0.75
LO4			0.47						0.48
LO5									0.46
LO6							0.40		0.66
CA1			**0.52**						0.67
CA2		0.45	0.48						0.72
CA3		0.42			0.43				0.68
CA4			0.49						0.60
CA5								0.45	0.58
TCI1					**0.61**				0.62
TCI2					**0.55**				0.77
TCI3					**0.76**				0.76
TCI4					**0.62**				0.70
TCI5	0.41			0.40					0.65
TAI1									0.60
TAI2				**0.85**					0.72
TAI3						**0.96**			0.75
TAI4				0.44					0.59
TAI5				**0.62**					0.72
TAI6						**0.71**			0.76
CM1		**0.66**							0.76
CM2		**0.70**							0.71
CM3		**0.62**							0.68
CM4		0.43							0.61
CM5									0.72
CM6		**0.57**							0.58
CM7		**0.61**							0.74
Eigenvalue	16.41	2.51	1.81	1.69	1.49	1.4	1.26	1.05	
% of total variance	40.03	6.11	4.41	4.11	3.64	3.41	3.07	2.57	
Total variance								67.37	

Note. BR = building relationships, VP = valuing people of different cultures, LO = listening and observation, CA = coping with ambiguity, TCI = translation of complex information, TAI = taking action and initiative, CM = conflict management.

Among all items, 28 were eliminated: 20 had a factor loading <0.5, 5 had fewer than three items with a factor constituent >0.5, and 1 had cross-loading items >0.4, which further led to the change from 3 items to 2 items with a factor constituent >0.5. Consequently, 13 items remained, involving three factors: Factor 1 had four items (BR1, BR2, BR3, and BR6); Factor 2, five items (CM1, CM2, CM3, CM6, and CM7); and Factor 3, four items (TCI1, TCI2, TCI3, and TCI4). These 13 items were kept for further examination.

The second EFA of 13 items produced three factors that consisted of the 13 items with a factor loading >0.5, as described in Table 2. However, among them, 2 items were excluded due to cross-loading items >0.4 (BR6 and TCI2); thus, 11 items remained. With 2 items excluded, Factor 1 of the second EFA included five items (CM1, CM2, CM3, CM6, and CM7); Factor 2 had three items (BR1, BR2, and BR3); and Factor 3, three times (TCI1, TCI3, and TCI4). Accordingly, the remaining 11 items were further investigated.

The third EFA of 11 items resulted in three dominant factors that were the same as those of the second EFA results. As illustrated in Table 3, these three factors extracted from the third EFA satisfied the three criteria, so all 11 items were kept. Again, Factor 1 had five items related to conflict management; Factor 2 had three items related to the competence of translation of complex information; and Factor 3 had three items corresponding to building relationships. All three factors had a factor loading of >0.5. Cross-loading values of those factors ranged from 0.17 to 0.34 for Factor 1 (conflict management), 0.15 to 0.37 for Factor 2 (translation of complex information), and 0.18 to 0.25 for Factor 3 (building relationships). In terms of convergent and discriminant validity, results from the third EFA supported the three factors. Table 4 lists all 11 items.

Table 2.
Results of second exploratory factor analysis with 134 participants.

	Factor			
Competency Items	1	2	3	h^2
BR1		**0.67**		0.60
BR2		**0.78**		0.61
BR3		**0.81**		0.66
BR6	0.44	**0.63**		0.61
TIC1			**0.61**	0.47
TIC2	0.47		**0.64**	0.62
TIC3			**0.87**	0.68
TIC4			**0.69**	0.59
CM1	**0.75**			0.60
CM2	**0.71**			0.53
CM3	**0.63**			0.56
CM6	**0.56**			0.40
CM7	**0.68**			0.55
Eigenvalue	6.63	1.32	1.27	
% of total variance	50.99	10.12	9.81	
Total variance			70.92	

Note. BR = building relationships, TCI = translation of complex information, CM = conflict management.

Table 3.
Results of third exploratory factor analysis with 134 participants.

	Factor			
Competency Items	1	2	3	h^2
BR1			**0.66**	0.59
BR2			**0.77**	0.60
BR3			**0.80**	0.62
TIC1		**0.65**		0.46
TIC3		**0.82**		0.60
TIC4		**0.71**		0.57
CM1	**0.77**			0.59
CM2	**0.73**			0.53
CM3	**0.64**			0.54
CM6	**0.57**			0.38
CM7	**0.68**			0.53
Eigenvalue	5.54	1.29	1.10	
% of total variar	50.34	11.74	9.99	
Total variance			72.07	

Note. BR = building relationships, TCI = translation of complex information, CM = conflict management.

Table 4.
Descriptions of 11 items based on three factors.

11 Items	Cross-Cultural Competencies
BR1	Develop trustful relationships with people
BR2	Make and maintain good relationships with people
BR3	Build friendships with people
TCI1	Communicate with people using simple language even if the information is complex
TCI3	Use simple words to describe complicated information in a conversation with people
TCI4	Translate complicated information into plain words when talking to people
CM1	Resolve conflicts among people
CM2	Develop bridges between one member and others in a conflicting situation
CM3	Alleviate conflicting situations among people
CM6	Decrease emotional tension among people
CM7	Act to make a situation better when people have conflicts

Note. The term *people* in this questionnaire refers to those who have a different cultural background and/or those who have different nationalities.

4.2. Confirmatory Factor Analysis

This study conducted confirmatory factor analysis (CFA) on the same 134 graduate students to verify the validity of the three dominant factors extracted from EFA: building relationships, translation of complex information, and conflict management. Results of the CFA revealed that the fit indices were acceptable (χ^2 = 41.592, p > .05; minimum discrepancy per degree of freedom [CMIN/df] = 1.014; goodness-of-fit index [GFI] = 0.946; comparative fit index [CFI] = 0.999; incremental fit index [IFI] = 0.999; Tucker–Lewis index [TLI] = 0.999; root mean square error of approximation [RMSEA] = 0.010; standardized root mean square residual [SRMR] = 0.038). It is noted that we also performed CFA in terms of the theorized model consisting of the original seven cross-cultural competency classifications on the same sample. Results of the CFA revealed that the fit indices were weak (χ^2 = 1495.32, p < 0.01; CMIN/df = 1.973; GFI = 0.659; CFI = 0.778; IFI = 0.782; TLI = 0.760; RMSEA = 0.086; SRMR = 0.080). Those results illustrated that the measurement model with a three-factor structure was better than the original, as summarized in Table 5.

Additionally, to confirm the discriminant validity among the three factors, we examined average variance extracted (AVE). AVE was 0.55 for the competence of building relationships, 0.53 for translation of complex information, and 0.46 for conflict management—greater than the squared correlations, which ranged from 0.28 to 0.32. Those results further verified the discriminant validity (Hair, Black, Babin, & Anderson, 2010). Finally, Cronbach's α coefficients for the competence of building relationships, translation of complex information, and conflict management were 0.87, 0.83, and 0.86, respectively, showing acceptable reliability.

Table 5.
Results of confirmatory factor analysis with fit indices.

Measurement model	χ^2	CMIN/DF	GIF	CFI	IFI	TFI	RMSEA	SRMR
Three competency factors (11 items)	41.592	1.014	0.946	0.999	0.999	0.999	0.01	0.038
Seven competency classifications (41 items)	1495.32**	1.973	0.659	0.778	0.782	0.76	0.086	0.08

Note. CMIN/df = minimum discrepancy per degree of freedom; GFI = goodness-of-fit index; CFI = comparative fit index; IFI = incremental fit index; TLI = Tucker–Lewis index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual; N = 134; **p < 0.01.

5. DISCUSSION

The study attempted to develop a cross-cultural competency scale based on the experiential model of cross-cultural learning skills. The model had seven classifications of cross-cultural competencies, but this study resulted in three latent components as a measurement model with the three competencies of building relationships (BR), translation of complex information (TCI), and conflict management (CM). These competencies reflect the interpersonal, analytical, and action areas. Based on experiential learning theory (Kolb, 1984; Kolb & Kolb, 2017), the interpersonal skill area relates to the learning mode of

concrete experience (Boyatzis & Kolb, 1995; Yamazaki & Kayes, 2004) that "emphasizes feeling as opposed to thinking" (Kolb, 1984, p.68); the analytical skill area relates to abstract conceptualization, accentuating thinking; and the action skill area relates to active experimentation, which requires taking action and making practical applications. It can be inferred that those three skills areas are congruent with the affective, cognitive, and behavioral dimensions described by several studies as key dimensions of cross-cultural competency (Lloyd & Härtel, 2010; Matveer & Merz, 2014). The cross-cultural psychology literature indicated that dimensions of affect, cognition, and behavior are fundamental areas of cross-cultural psychology that focus on cultural contact with cultural shock (Ward et al., 2001). From this notion, the measurement model developed to analyze a degree of three cross-cultural competencies (i.e., BR, TCI, and CM) might be utilized to examine people's cultural contact, including cultural shock. This raises an interesting question as to how three cross-cultural competences in the measurement model have an influence on cultural shock.

The present study did not verify four cross-cultural competencies (i.e., VP, LO, CA, and TIA) in the experiential model of cross-cultural learning skills. Each of these four competencies is thought to be conceptually distinct within the experiential model, but two of them might be a more generic learning mode rather than a specific situational skill: the competencies of "listening and observation" (LO) and "taking action and initiative" (TAI). Thus, the experiential model might possess two different types of dimensions: learning abilities and skills. As described in the literature review, the mode of reflective observation in Kolb's learning model requires people to reflectively observe with carefulness (Kolb, 1984), whereas the competency of LO calls for them to patiently listen to and observe people of different cultures. Similarly, the mode of active experimentation involves doing and taking some risk (Kolb, 1984), while the competency of TAI represents an action orientation by taking initiative and making risk-taking decisions in cross-cultural situations. Those two competencies theorized in the experiential model might lead to respondents applying a general learning ability in a cross-cultural situation. As a result, these two competencies might not be verified properly in this study. This perspective suggests a future study: examining the experiential model of cross-cultural learning skills in terms of the structure of general learning abilities and contextual skills. Research operationalization of this experiential model would require separation of the dimension of cross-cultural learning abilities and the dimension of cross-cultural learning skills.

Moreover, although the four cross-cultural learning competencies (i.e., VP, LO, CA, and TAI) seem critical for the effective adaptation of international assignees, the competence of coping with ambiguity (CA) is particularly important for assignees, who often encounter "the many uncertainties and the complexity of the global economy" (Caligiuri & Tarique, 2012, p. 614). Several researchers have also listed CA as tolerance of ambiguity (Bird et al., 2010; Caligiuri & Tarique, 2012; Lloyd & Härtel, 2010). When closely examining results of the EFA, CA competency items with a factor loading >0.4 did not converge into one factor or component. One reason might be that the description of each item of the CA competency is difficult for the participants to capture in cross-cultural situations. If so, further research on CA and its relevance is needed.

Finally, limitations of this study include methodological issues such as a small sample size, the participation of international graduate students rather than ongoing international assignees, and use of the EFA sample for CFA.

6. CONCLUSIONS

This study developed a cross-cultural competency scale based on an experiential model listing essential competencies for successful adaptation to cross-cultural situations. The study results led to a measurement model with the three competencies of building relationships, translation of complex information, and conflict management. Although the study has several limitations, the cross-cultural competency scale developed in this study seems to be an effective measurement model to analyze people's competencies in cross-cultural situations. A promising study would be to investigate how the measurement model using the three competencies effectively distinguishes between high and ordinary performers in cross-cultural situations, along with further empirical examination of the experiential model of cross-cultural learning skills. Finally, as discussed earlier, it seems important that a future study reexamine the experiential model of cross-cultural learning skills to see whether it holds two different dimensions of cross-cultural learning abilities and cross-cultural learning skills. Such future studies will continue to contribute to the development of cross-cultural psychology for research on international assignees who need to adapt to different cultural situations.

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AUTHORS' INFORMATION

Full name: Yoshitaka Yamazaki
Institutional affiliation: Bunkyo University
Institutional address: 5-6-1 Hanahata, Adachi, Tokyo 121-8577 Japan
Short biographical sketch: Dr. Yamazaki is a professor of management in the Faculty of Business Administration of Bunkyo University in Japan. He received his Ph.D. in organizational behavior from Case Western Reserve University. His research interests include cross-cultural management and communication, expatriate learning and adaptation, international human resource management, individual development in organizational settings as well as higher education contexts, and foreign language learning and its effective environments.

Full name: Michiko Toyama
Institutional affiliation: Bunkyo University
Institutional address: 5-6-1 Hanahata, Adachi, Tokyo 121-8577 Japan
Short biographical sketch: Dr. Toyama is a professor of English in the Faculty of Business Administration of Bunkyo University in Japan. She received her Ph.D. in linguistics from Sophia University, Japan. Her research interests include computer-assisted learning, affective learner variables, English as a foreign language education, and intercultural communication. She is currently involved in three research projects: Internet use in higher education, classroom strategies to improve affective learner variables, and effective learning environments relevant to learning style.

Section 4
Cognitive Experimental Psychology

Chapter #22

EFFECTS OF ROTATIONAL REPRESENTATION OF SPATIO-TEMPORAL CUBES AND SPATIAL ABILITY ON INFORMATION SEARCH

Hironori Oto[1], Kazuo Isoda[2], & Ichiro Hisanaga[2]
[1]Department of Psychology, Hiroshima International University, Japan
[2]Marketing Division, Human Engineering Lab, Dai Nippon Printing Co., Ltd., Japan

ABSTRACT
The purpose of this study was to explore which rotational representation, viewpoint rotation or object rotation, is more useful in search task where perceptual interaction with the data being manipulated exists using a spatio-temporal cube displaying cultural collection data. The horizontal data plane of the cube represented a geographical map, and the vertical axis represented time as an upward spatial dimension. Users manipulated the cube to identify the country and time period in which certain artworks with the characteristics specified in question items, i.e., coins or pottery, were most commonly used. In the viewpoint rotation condition, the background flowed along with a horizontal rotation, as if the users were moving around a stationary cube. In the cube rotation condition, the cube was rotated in front of the user's eyes, and the background did not change. Using spatial reference frame theory, we predicted that the advantage of viewpoint rotation, as described in imagery studies, holds true for the use of a visualization system in which the trajectory of the cube's rotation during manipulation was visible. Users were able to locate information more accurately when using viewpoint rotation. This was true for both users with high and low spatial abilities.

Keywords: data visualization, cultural collection, spatio-temporal cube, rotational representation, spatial ability.

1. INTRODUCTION

The digitization of cultural collections allows artworks that are difficult to display available to the public while maintaining their preservation and to obtain access to information on them at any time and any place. Digitization has also created novel means of showing works that were not previously possible to display. One example of this is a visualization system that visually presents each artwork and its relationships to other pieces.

To support the development of an integrated visualization system for understanding vast digital cultural collections, Windhager et al. (2020) devised a polycube framework to map information by means of 3D space-time cubes. These polycubes have a data plane that consists of horizontal and depth axes, as well as a time axis in the vertical direction. Using the cube system, time and space information, which is presented in different chronological notations and maps in 2D visualization systems, can be displayed as a visually integrated cohesion of data points inside a space-time cube. One of the authors of this chapter works with Dai Nippon Printing Co., Ltd. (DNP), which is developing a digital tool, using a cube-shaped interface termed as FOCUS IN CUBE 3D. In this interface, cultural assets and artworks are mapped inside a cube, where the bottom represents spatial information, such as the place of creation, and the vertical axis represents temporal information such as the time of creation. In addition, the theme is described on the side of the cube. Rotating the cube

horizontally and switching the side of the theme that faces the user allows works that match the theme to be illuminated and filtered. FOCUS IN CUBE 3D can represent complex relationships in a visually comprehensible way, sometimes encouraging users to make discoveries they did not intend to make. FOCUS IN CUBE 3D is designed as a general-purpose system that can represent information in various genres in multiple dimensions without being limited to art. Therefore, the cube, a three-dimensional structure with clear axes for mapping information and without the figurative nature of a museum, was chosen for this system.

However, while a variety of information can be integrated into a three-dimensional space, there is the risk that users who do not have a sufficient spatial ability cannot benefit from this. This is because spatial abilities not only compensate for a lack of spatial information in 2D representations but are also necessary for learning in 3D representations (Krüger & Bodemer, 2021). For example, Bogomolova et al. (2021) reported that surgical residents with high spatial ability benefited more from a 3D educational video than an alternate 2D one for learning spatially complex surgical procedures, but those with low spatial ability did not have an advantage when using 3D videos. This significant disparity may appear where users with low spatial ability run over capacity trying to process rich spatial information. The same concern applies to the use of 3D visualization systems.

From this point of view, this study focuses on two types of rotational representations of cubes in a 3D visualization system. There are at least two ways of representing the rotation of the cube in which the information is placed. One of these is cube rotation, a representation of cube rotating before the user's eyes against a fixed background. The other is viewpoint rotation, in which the user's viewpoint rotates around the cube and the background changes. Neither representation differs in the visual change of the rotating cube itself, but according to the spatial frame of reference theory, they may have different effects on the user's information search.

With reference to the spatial reference frame, McNamara et al. (Mou & McNamara, 2002; Rump & McNamara, 2007) classified the criteria for specifying locations and directions into two groups: egocentric and environmental (allocentric) reference frames. Egocentric reference frames define the location with respect to the observer, but the environmental reference frame defines the location relative to objects other than the observer. For example, a wall clock in a room can be identified and described in two ways: on the observer's right side or on the left side of a bookshelf. The relative position defined by the egocentric reference frame changes with the position of the observer, but the position defined by the environmental reference frame is independent of the observer.

In the viewpoint rotation approach, the spatial relationship between the user and the cube changes as the viewpoint rotates around the cube, but the relationship between the cube and the background objects is maintained. That is, the cube rotates relative to the egocentric reference frame but not relative to the environmental reference frame. Thus, the user can use the background environment as a stable directional cue to understand the current state of the cube. However, in cube rotation, the cube rotates independently from its surroundings, so that the relative orientation of the cube changes with respect to both the user and the background objects. Here, the user must keep track of the rotational direction and the angle of the cube relative to their own bodies, the background environment, or both. This means that the user cannot use a stable directional cue to reference to identify the spatial state of the cube in either reference frame. Consequently, we expect that viewpoint rotation will be easier for the user to orient the cube, using an environmental reference frame to establish cube rotation and to aid in the exploration of a visual dataset mapped inside it.

In relation to the rotation of visuospatial mental image, Zacks, Vettel, and Michelon (2003) proposed multiple system frameworks in which different neural structures are responsible for viewpoint and object-based spatial transformations. This theory indicates that these structures are shaped by natural selection and lifelong learning to capture regularities existing in the environment. The use of multiple systems is supported by the findings of several neuroimaging studies (Lambrey, Doeller, Berthoz, & Burgess, 2012; Wraga, Shephard, Church, Inati, & Kosslyn, 2005; Zacks et al., 2003). These studies report results that suggest that the two types of visuospatial mental transformations depend on different resources for neural processing. Behavioral studies of mental imagery have also shown that it is generally faster and more accurate to imagine viewpoint rotation than imagining object or array rotation (Creem, Wraga & Proffitt, 2001; Wraga, Creem, & Proffitt, 2000; Wraga, Creem-Regehr, & Proffitt, 2004). Thus, we predict that a 3D visualization system with viewpoint rotation will be more effective for users to mentally transform the depicted cube or a visual dataset inside it than a system with cube rotation.

Therefore, the advantage of viewpoint rotation has been demonstrated in studies of mental imagery using imagined arrays. However, visualization systems, such as FOCUS IN CUBE 3D, do not explicitly require the use of imagery, as the trajectory of the cube rotation associated with the manipulation can be perceived. Whether the advantage of viewpoint rotation is also demonstrated in such task situations where perceptual interaction exists has not been fully tested, compared to the wealth of findings in imagery studies. We consider that viewpoint rotation allows users to employ the background as an environmental reference frame to capture the orientation of a cube and the layout of cultural objects inside it. Thus, viewpoint rotation representation is expected to reduce the spatial burden on the user and reduce misunderstandings of the information mapped inside the cube relative to cube rotation.

It also remains an open question whether, if viewpoint rotation supports users' search for information, this is true for both users with higher and lower spatial abilities or only for one of the two groups. Prior research focusing on the impact of 3D visualization models on learning has proposed two contrasting hypotheses: the ability-as-compensator hypothesis and the ability-as-enhancer hypothesis (Höffler & Leutner, 2011; Huk, 2007). The ability-as-compensator hypothesis predicts that people with low spatial ability who have difficulty visualizing will benefit more from graphic representations. By contrast, the ability-as-enhancer hypothesis predicts that people with higher spatial ability and sufficient working memory capacity to handle 3D models will benefit more from such models. Thus, the two models clearly differ in terms of the groups for which the 3D model has a positive effect, indicating that the low-spatial ability group would benefit according to the ability-as-compensator hypothesis and the high-spatial ability group would benefit from viewpoint rotation according to the ability-as-enhancer hypothesis. Hypothetical conflicts of this type indicate that no comprehensive theory has yet been established. Therefore, we thought it is necessary to conduct a new study involving the two types of rotation methods and the user's spatial ability. From the theoretical framework for our research, based on the spatial reference frame theory, we consider that viewpoint rotation will help participants with low spatial ability to grasp the visualized data and search for required information by reducing the spatial cognitive load of searching for information using a visualization system. In addition, the process of information search using a visualization system requires not only spatial understanding of the visualized data but also consideration of its meaning (e.g., what kind of distributional bias or characteristics the visual data shows). Therefore, the reduction of the cognitive load required for spatial cognition through viewpoint rotation could have a positive effect by giving high-spatial-ability individuals more room to comprehend the

visualized information more accurately. These predictions can be inferred by examining how differences in participant performance due to spatial ability appear when they perform information search using the visualization system under the two rotation conditions. If viewpoint rotation primarily assists low-spatial-ability individuals, then the performance difference due to spatial ability should be smaller in the viewpoint rotation condition than in the cube rotation condition. Conversely, if viewpoint rotation primarily assists high spatial performers, then the performance difference according to spatial ability should be larger in the viewpoint rotation condition than in the cube rotation condition. Following these explanations, the difference in performance with the visualization system due to differences in spatial ability should be shown as an interaction of spatial ability × rotation. Conversely, if viewpoint rotation is effective for low and high spatial ability users, as described as a possibility in this study, then the difference in performance due to spatial ability would be expected to be equal for cube and viewpoint rotation. Following this explanation, differences in performance with the visualization system due to differences in spatial ability would be observed as a main effect of spatial ability.

Overall, this study investigates which of the two rotation representation methods better facilitates users' information search with the use of 3D visualization systems and whether it is related to individual differences in users' spatial ability. We used the Mental Rotation Test (MRT) to measure participants' spatial ability. In this test, participants are asked whether the rotated block is the same shape as the block paired with it or whether the rotated alphanumeric character is normal or a mirror image. Response times in these tests generally increase as the shortest angular difference between the paired block or displayed letter and the original block or upright letter increases in the range 0°–180° (Cooper & Shepard, 1973; Shepard & Metzler, 1971). The mechanism behind this has been assumed to be a mental manipulation, i.e., analogous to the process of physical rotation (Cooper, 1975). Hamm and colleagues (Kung & Hamm, 2010; Searle & Hamm, 2012) discovered that in two-dimensional stimuli using the alphabet letters, participants were more likely to use nonrotational (nonspatial) strategies and that mixing them with rotational strategies led to deviation from linear performance. This tendency becomes more pronounced as the angular difference from the upright decreases. Therefore, Kung and Hamm (2010) proposed that the difference between 180°, where mental rotation is most needed, and 0°, where mental rotation is not needed at all, divided by 180, provides the best estimate of an individual's mental rotation rate, i.e., the time required to rotate an image by 1°. In this study, mental rotation rate calculated based on the letter-based MRT was used as a measure of participants' spatial ability, particularly mental manipulative ability.

2. METHODS

2.1. Participants

24 college students (12 men and 12 women) majoring in psychology participated in the experiment. Each received a 1,000 yen Quo card as a reward, which can be used at a range of shops in Japan.

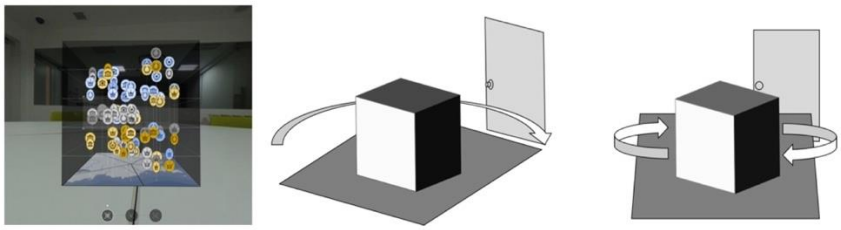
2.2. Materials and Design

2.2.1. Search Task

Images of fictional artworks, namely, coins and pottery, were used. FOCUS IN CUBE 3D, which was created by DNP (Figure 1 (a)), was used to represent these fictional artworks. The participants were able to view the artworks by interactively switching their viewpoints, for example, looking from the outside of the cube to obtain a bird's-eye view of the entire artworks or from the inside of the cube at the local area in detail. The horizontal and depth axes of the cube were used as coordinate axes to express the production location of the artworks. On the bottom of the cube, a square map along these axes was presented that was divided into five countries using border lines. The time axis was divided into five periods, using lines drawn horizontally along the sides of the cube. Images of the fictional artworks were displayed inside of the cube, according to the spatial and temporal coordinates that were assigned to each image in advance. The cube was manipulated using a 20-inch, 4K-resolution touch panel; tracing the cube with one finger rotated the cube in the direction of the finger's motion. When two fingers touch the screen, expanding the space between the fingers brought the cube closer (expansion), and contracting it moved it further away (contraction). The cube exhibited a highlight function that made only groups of artworks that were in line with the characteristics of the theme of interest emit light and stand out. Each side of the cube showed a translucent rectangular label containing the name of the theme (motifs, textures, colors, and shapes) in Japanese, along with a circular button. When the button in the label was pressed, the display on the side of the cube switched from a main category showing the theme to a subcategory with the features of the selected theme. After rotating the element they wanted to filter to the front, the participants were shown artworks that matched that feature emitting light in the given color. Behind the cube, a 360° camera image of the room was displayed. In the viewpoint rotation condition (Figure 1 (b)), the cube was displayed on a pedestal fixed to a desk in the room. When the cube was rotated in this condition, the background changed in response, visually expressing the participant's movement around the cube. There was no pedestal in the cube rotation condition, and the cube was displayed directly on the desk (Figure 1 (c)). Under this condition, the background did not change when the cube was rotated, and the cube rotating in front of the participant was expressed.

In the search task, the participants searched for a country or period of artworks with specific characteristics using the filtering function, that is, by rotating the cube. For the country attribute question, the participants were shown a chronological sheet where one target period out of the five was colored gray and were asked to "Check the country in which [pottery or coin] with [particular feature] was used the most in the target period." The participants were to select the appropriate country on the map. For the period attribute question, the participants were shown a country map on which one target country out of the five was painted gray and were asked to "Check the period in which [pottery or coin] with [particular feature] was used the most in the target country." The participants were to select the appropriate period from the chronological sheet.

Figure 1.
Example of FOCUS IN CUBE 3D used in the cube rotation and viewpoint rotation conditions, a schematic diagram of each rotation, and depiction of the layout of the room.

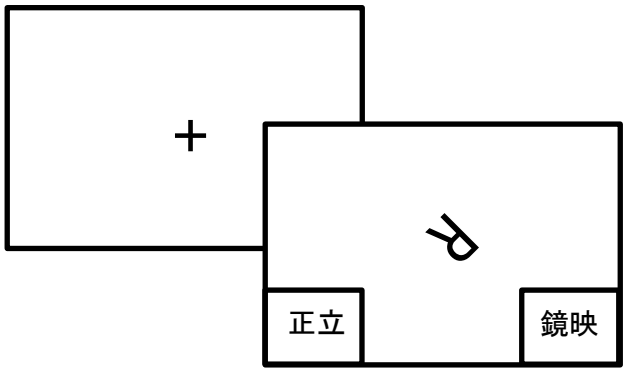


(a) FOCUS IN CUBE 3D (b) Viewpoint rotation (c) Cube rotation

2.2.2. Mental Rotation Test

We used MRT to assess spatial ability. Images of the letters F and R were used. The experimental program for the MRT was created using the programming tool Hot Soup Processer and displayed on a 13-inch touch screen (a Microsoft Surface Pro 8). For this task, a fixation point (+) was displayed on the screen for 2 seconds, and the normal or mirror image of F or R was presented at an orientation rotated from 0° to 315° (relative to the upright direction) in 45° increments. At the bottom of the screen, there were rectangular buttons at the left and right corners, with the left button labeled "Normal" (正立) and the right button labeled "Mirror" (鏡映) in Japanese. When either button was pressed, the response time and the correctness of the answer were recorded, and the fixation point was displayed again for the next trial (Figure 2). The task was completed after 32 trials (letter: 2 × angle: 8 × normal/mirror: 2).

Figure 2.
A schematic time course of a single trial in the MRT. Each trial began with the presentation of a fixation point for 2 seconds. Then, the normal or mirror image of F or R was presented at an orientation that was rotated from 0° to 315° in 45° increments. At the bottom of the screen were rectangular buttons at the left and right corners, with the left button labeled in Japanese "Normal" (正立) and the right button labeled "Mirror" (鏡映).



2.3. Procedure

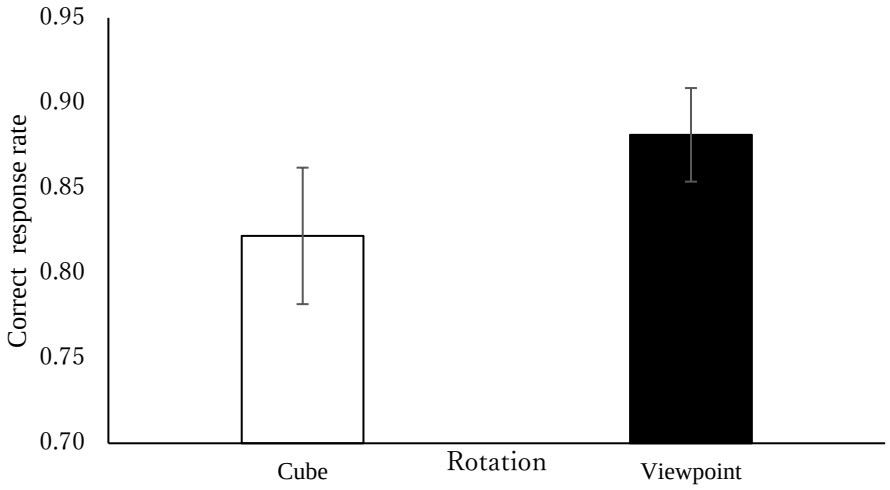
The experiment was conducted on each participant. Participants performed the experiment in the following order: practice operating the touch panel, practice and main trials of the search task, and conduct the MRT.

3. RESULTS

For each participant, the correct response time and correct response rate were calculated for the search task. The rate rather than the number of correct responses was used as a measure because a few participants' data included trials with missing records. Correct response rate was subjected to angular transformation to stabilize variance (arcsine square root percentage transformation) before statistical analysis. The correct response time was calculated for the MRT. The values for each angle from 0° to 315° were replaced by an average value from 0° to 180° (the original value was used for 0° only). Three participants whose correct response rate was below the level of chance in the four conditions, consisting of a combination of rotation representation (viewpoint, cube) and attribute (country, period) in the search task, and one participant whose number of correct responses in the MRT was below the level of chance were excluded from the subsequent analyses.

The measures for the search task were analyzed in a two-factor repeated measures analysis of variance (ANOVA) with rotation (viewpoint, cube) × attribute (country, period). For the correct response rate, the main effect of rotation was significant, and the correct response rate was higher for viewpoint rotation than for cube rotation ($F(1, 18) = 5.82$, $p = .027$; see Figure 3). The participants were able to search more accurately when rotating the viewpoint than when rotating the cube.

Figure 3.
Correct response rates between cube and viewpoint rotation in a search task.



3.1. Effects of Participants' Spatial Abilities on the Search Task

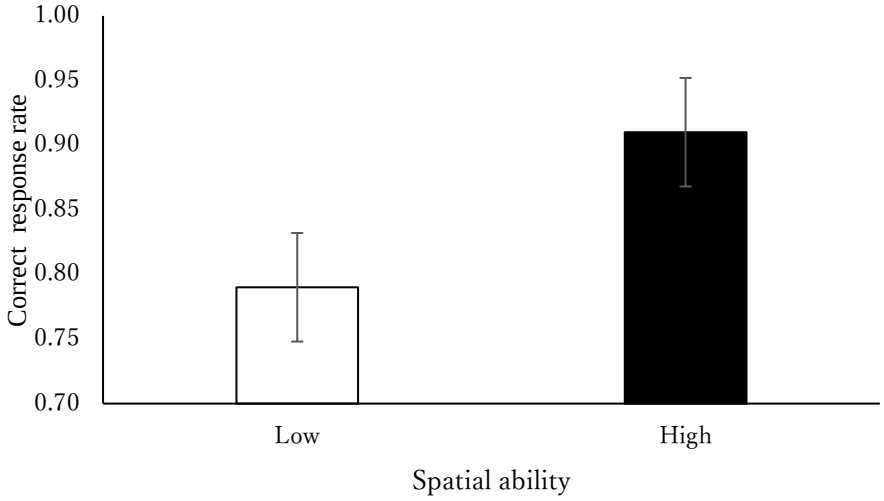
As the angle increased, the correct response time increased. These trends were confirmed by ANOVA. The main effect of rotation was significant ($F(4, 76) = 29.4$, $p < .001$). Multiple comparisons showed that correct response times were significantly longer as the

angle increased between all conditions ($t(19) > 4.00$), with an exception between 0° and 45° and between 90° and 135° ($t(19) < 0.36$).

To assess spatial ability, the difference in MRT's correct response time between 180° and 0° for each participant was divided by 180° and calculate mental rotation speed. In the analysis of the effects of spatial ability on the search task, it was a concern that the order in which the rotation conditions were applied in the search task could produce confounding effects with spatial ability. This is because the results of the search task showed a strong order effect, especially in terms of correct response time, with all participants providing correct answers more rapidly in the later rotation condition than in the earlier one. Therefore, the order of implementation of the two rotation conditions was counterbalanced for between the high and low spatial ability groups. That is, of the participants who performed the cube rotation condition first and those who performed the viewpoint rotation condition first, the top 5 MRT performers from each group, for a total of 10 participants, were classified as the high spatial ability group, and the bottom 5 performers each, for a total of 10, were classified as the low spatial ability group. There was no difference in the degree of interest in art between the low and high spatial ability groups, as identified in the post-questionnaire.

The correct response time and the correct response rate for the search tasks analyzed in a three-factor mixed model ANOVA with rotation (viewpoint, cube) × attribute (country, period) × spatial ability (high, low). In addition to the aforementioned main effect of rotation, a main effect of spatial ability was significant in the correct response rate, indicating that the high spatial ability group provide more accurate searchers than the low spatial ability group ($F(1, 18) = 4.49$, $p = .048$; Figure 4).

Figure 4.
Correct response rate between low and high spatial ability participants in a search task.



4. DISCUSSION

This study compared two different methods of representing cube rotation and to tested which of the two better facilitated an information search using the 3D visualization system. The result showed that the accuracy of the search task was higher in the viewpoint rotation condition, in which the user's viewpoint moved around the cube, than in the cube rotation condition, in which the cube itself rotated in front of the user. The cause of this difference can be understood in the terms of spatial reference frame theory, as follows. Under both conditions, the relationship between the user and the cube changes while the cube is being manipulated. However, in the viewpoint rotation condition, the relationship between the cube and the background object is maintained. Therefore, in the viewpoint rotation condition, using the background environment as a stable directional cue, the users could correctly identify the placement of artworks in the cube without misunderstanding the side from which they viewed the artworks. In contrast, in the cube rotation condition, the background room did not alter when the cube was rotated, so the users could not use any visual change in the room to track which side of the cube they were observing. This led to an increase in the number of cases where users misunderstood which side they were seeing the artworks from, enabling them to incorrectly grasp the placement of the artworks in the cube.

The findings of this study are also consistent with views regarding spatial imagery research. Several studies have suggested that viewpoint rotation is easier to image than object rotation (Creem et al., 2001; Wraga et al., 2000, 2004). A multiple systems framework assumes that the two types of mental spatial transformations have evolved to solve different types of problems (Zacks et al. 2003). On this view, object-based transformations are oriented toward the planning of actions with physically manipulable objects, but viewpoint transformations are oriented toward planning for possible self-movements and social interactions. The advantage of viewpoint rotation thus would not be surprising, given that we are mobile organisms and cannot survive without being able to acutely predict changes in spatial relationships between our moving selves and the objects around us. In search tasks, users may have used imagery corresponding to the two types of rotational representations to plan means of manipulating the cube or predicting the outcome of a manipulation. Therefore, it is assumed that users can make better use of the imagery in the viewpoint rotation condition than in the cube rotation condition, which leads to more efficient data searches. The advantage of viewpoint-rotated imagery would thus be enhanced through the use of more complex tasks requiring more spatial thinking than the search task.

The finding indicates that an environmental reference frame supports the search for information using 3D visualization system. However, it remains to be learned why the difference in rotation condition alters the accuracy of the search not only in country identifications but also in period identifications. For the user, the position of the period category does not change with rotation, so period attribute searches should not need the support of an environmental reference frame. This may be because users needed to focus on a specific country before identifying the period. In the viewpoint rotation condition, the presence of an environmental reference frame made it easier to identify the specified country within the cube, which reduced the possibility of misidentifying the period by focusing on the wrong country.

Further, regardless of the user's spatial ability, information search was more accurate in viewpoint rotation than in cube rotation. Therefore, the introduction of visual representations with environmental reference frames in the 3D visualization system is essential for developing educational tools that improve the abilities of all students.

This study synthesizes two hypotheses on the impact of 3D visualization on learning from previous studies: the ability-as-compensator hypothesis and the ability-as-enhancer hypothesis (Höffler & Leutner, 2011; Huk, 2007). The present study exhibits the advantage of viewpoint rotation in information search using the visualization system for high- and low-spatial-ability participants. The difference in search performance due to high and low spatial ability observed in the object rotation condition was neither significantly reduced nor increased in the viewpoint rotation condition. Therefore, we believe that by reducing the spatial cognitive load of the visualization system, people with low spatial ability can benefit from it without overloading their capacity, while people with high spatial ability have more capacity, allowing for greater accuracy and deeper understanding.

Previous studies have shown that spatial reference frames can influence the memory of location relations. Although memory-based search was not performed in this study, the environmental reference frame will likely also contribute to the user's accurate memory of information by supporting the accurate perception of information during searches using a 3D visualization system. Therefore, viewpoint rotation representation can be effective, even in memory learning, such as in learning the history of an artwork by manipulating the 3D visualization system.

The use of viewpoint rotation in the visual representation of the operation of FOCUS IN CUBE 3D improves the accuracy of information searches. If the visual symmetry of the data displayed inside the cube is high, it may be difficult for the users to identify the side from which they are observing the cube. Adding a background to the cube that indicates a change in viewpoint may help users properly grasp the three-dimensionally arranged data and prevent search errors. Viewpoint rotation is also expected to be effective, not only for users with low spatial ability but also for those with high spatial ability. Regarding education and usability, it is important to reduce the burden on users with low ability, but it is more desirable to support all users with different abilities. Therefore, it is necessary to introduce viewpoint rotation into a 3D visualization system, such as FOCUS IN CUBE 3D, to make it a useful tool for all users. On the other hand, the range of applications in FOCUS IN CUBE 3D is wide, and it is expected that it will have creative effects, such as discovering new relationships between information overlooked by visualizing data. Therefore, the extent to which the suggestions obtained with relatively simple tasks such as information searches can be applied to more complex tasks remains to be seen. However, as human cognitive resources are finite, we believe that reducing cognitive loads in lower-order tasks will make attention resources available for higher-order creative tasks, increasing productivity in these.

Further research is needed to confirm the above. In this study, we classified the spatial abilities of the participants posteriorly, making it difficult to open up ability differences. In future studies, it would be worthwhile to investigate the extent of the contribution of a visualization system with viewpoint rotation among participants with more extreme ability differences according to a priori classification. In particular, it is important to know whether people with spatial ability problems (disabilities) can also be assisted in using visualization systems through viewpoint rotation representation. We think that the results of this study have significant practical application because they would stimulate further research to motivate the expansion or show the limitations of the people who can expect to be cognitively assisted by viewpoint rotation representations.

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AUTHORS' INFORMATION

Full name: Hironori Oto, PhD
Institutional affiliation: Department of Psychology, Faculty of Health and Wellness Sciences, Hiroshima International University
Institutional address: 555-36 Kurose-gakuendai, Higashi-hiroshima, Hiroshima Japan 739-2613
Short biographical sketch: Associate professor of psychology. Research areas: Cognitive psychology, especially spatial cognition.

Full name: Kazuo Isoda
Institutional affiliation: Marketing Division, Human Engineering Lab, Dai Nippon Printing Co., Ltd.
Institutional address: 1-1-1 Ichigaya-Kagacho, Shinjyuku-ku, Tokyo Japan 162-8001
Short biographical sketch: Senior Researcher. Research areas: Human Informatics, especially Human-computer Interaction.

Full name: Ichiro Hisanaga
Institutional affiliation: Marketing Division, Human Engineering Lab, Dai Nippon Printing Co., Ltd.
Institutional address: 1-1-1 Ichigaya-Kagacho, Shinjyuku-ku, Tokyo Japan 162-8001
Short biographical sketch: Manager of Human Engineering Lab. Research areas: Human Informatics, especially Human-computer Interaction.

Chapter #23

REALITY IN THE SPHERE OF MEANING

Shulamith Kreitler
School of Psychological Sciences, Tel-Aviv University, Israel

ABSTRACT
The paper deals with the issue of reality and especially with the conditions under which a sense of deviation from reality is likely to occur. Following a presentation of the major involved issues, two studies are described. Both are based on the Kreitler system of meaning which serves as the theoretical and methodological framework for the two empirical studies. Study 1 describes the dimensional questionnaire of reality which enables assessing the meaning assigned to reality and its components. Study 2 examines the impact of stimuli characterized by different combinations of contents on the sense of deviation from reality. The hypothesis about the matching of content distances and the evoked sense of deviation from reality was supported as well as the expected impact of the observer's conception of reality. It was found that the broader it is the higher is one's tolerance of deviations from reality and readiness to accept them as real.

Keywords: reality, meaning, deviations from reality, distances in contents.

1. INTRODUCTION

The problem of reality. The focus of the present chapter is the issue of reality. In psychology as in daily life we hit against reality and often need often to decide about its nature even if we are not philosophically-minded. There are remarks about reality in basic psychological texts that emphasize its relation to perception (sometimes as related, at other times as contrasting), to emotion (one may discover reality precisely when one is involved in an emotion or become unable to perceive it then) as well as to behavior (which may help to discover reality or disregard it). There is barely a psychological discipline which is not based on some more or less evident approach or definition of reality. Reality plays the role of a basic anchor that seems evident, probably as long as one does not question its role and nature.

Reality has always been there and often more in the background than in the front of psychological occupation. In recent years it has increasingly become a theme of major preoccupation, attended by an increasing awareness of the generation of different kinds of reality, e.g., virtual, political, social, phenomenological or ideological (Berger & Luckman, 1966; Saridakis, 2016; Tegmark, 2008). This kind of liberalism in regard to the construct of reality may cause confusion in the naïve individual (Church, 1961).

Reality has been a theme of exploration by philosophers for centuries. Yet the results do not provide solutions to the involved problems at present but rather sharpen them, not in the least by uncovering their complexity (Miller, 2021).

The surge of interest in the construct of reality at present may be due to an increasing number of cases when one is facing the issue whether something is real or to what extent it is real. Such cases refer to information that may be publicly published and turn out to be fake, or a piece of news in the social media that is identified as false designed to serve the interests of some group (Gamson, Croteau, Hoynes, & Sasson, 1992; Van der Meer, Kroon,

& Vliegenthart, 2022). Physics with its information about ‘‘black holes”, multidimensionality of space, and the holographic principle, contributes freely to further increase the uncertainty concerning reality, which is profusely attacked by films, art, science-fiction and other derealization products and procedures (Musser, 2019). Additionally, there are technologically-generated experiences that may appear as real but are not, not in the least due to the wave of different kinds of virtual reality, including its applications in games, entertainment, business, medicine, and education, as well as the varieties of so-called augmented reality, extended reality and mixed reality as well as the three varieties of non-immersive, semi-immersive and fully-immersive simulations (Mandal, 2013). Likewise, an increasing number of individuals, following a sensation-seeking lifestyle and curiosity, choose to expose themselves to different bizarre experiences, for example, drug-induced or hallucinatory, which are likely to contribute to further undermine the already quite blurred frontier between the real and the not-quite-real. As a result, individuals are likely to stop in an increasing number of cases to ask themselves the recurrent question “Is that real?” “Is it really happening?”, seeking to assure themselves with the calming assertion “yes, it is real” (Kreitler, 2001). Hence, it seems often that the issue of redefining reality needs to be confronted anew, possibly with the conclusion that unreality does not indicate a specific state but rather a range of states or situations which form together with reality a graduated scale rather than a binary dichotomic one (Kreitler, 1999).

The general objective of the present paper is to clarify and define the nature of reality in the framework of psychology and its relation to unreality. The more specific objective is to examine the impact of one’s conception of reality and the exposure to different kinds of information on tolerance of deviations from the experienced reality.

1.1. Reality and Meaning

In psychology meaning is the natural site for dealing with questions, such as what is reality, and what is unreality. Meaning is the reservoir of contents and processes available for searching for answers and generating those that are best suited for oneself.

What is meaning. Meaning is the system with a unique function and structure which fulfills a basic role in the organism. The major function of the meaning system includes identification of stimuli and constructs, problem identification and problem solving. It is applied in regard to every input or situation as well as in regard to bigger constructs as ‘reality’ (Kreitler, 2022a, 2022b).

Meaning includes contents and processes identified on the basis of large scale data collection based on the following three basic assumptions: 1. Meaning is essentially communicable, because most of the meanings we know have been learned from or through others; 2. Meaning can be expressed or communicated by verbal or different nonverbal means, because not all meanings can be communicated by means of words; and 3. Meaning two types or varieties: the interpersonally-shared meaning and the personal-subjective meaning, because meaning functions both in interpersonal communication and in the private or subjective world of individuals (Kreitler, 2014).

The collected data consisted of responses of thousands of subjects differing in age (2 to over 90 years), gender, cultural-ethnic background and education, who were requested to communicate the interpersonally-shared and personal meanings of a great variety of verbal and non-verbal stimuli, using any means of expression they considered adequate. Analysis of this data revealed that the meaning communications consisted of semantic molecules referring to a rich variety of contents in a great number of forms.

The definition of meaning. Accordingly, meaning was eventually defined as a *referent-centered pattern of meaning values*. In this definition, referent is the input, the carrier of meaning, which can be a word, an object, a situation, an event, a whole period, or any other input, whereas meaning values are contents assigned to the referent for the purpose of expressing or communicating its meaning. For example, if the referent is 'chair', responses such as 'made of wood' or 'is in a room' or 'a piece of furniture' are three different meaning values. The referent and the meaning value together form a meaning unit (e.g., Table - a piece of furniture).

The meaning variables. The meaning unit can be characterized in terms of the following five sets of variables: (a) Meaning Dimensions, which characterize the contents of the meaning values from the point of view of the specific information communicated about the referent, such as the referent's Sensory Qualities (e.g., Grass - green), Feelings and Emotions it evokes (e.g., Storm - scary), Range of Inclusion (e.g., Body - the head and legs); (b) Types of Relation, which characterize the immediacy of the relation between the referent and the meaning value, for example, attributive (e.g., Summer - warm), comparative (e.g., Summer - warmer than spring), exemplifying instance (e.g., Country - the U.S.) or metaphoric (Love – like spring in your heart); (c) Forms of Relation, which characterize the manner in which the relation between the referent and the meaning value is regulated, for example, in terms of its validity (positive or negative; e.g., Yoga - is not a religion), quantification (absolute, partial; Apple - sometimes red), and form (factual, desired or desirable; Law - should be obeyed, Money - I wish I had more); (d) Referent Shifts, which characterize the relation between the referent and the presented input or the previous referent in terms of the distance between them, for example, the referent may be identical to the input or the previous referent, it may be its opposite (e.g., when the input is 'Day' and the response is to 'Night'), or a part of it, or even apparently unrelated to it; (e) Forms of Expression, which characterize the forms of expression of the meaning units (e.g., verbal, denotation, graphic) and its directness (e.g., actual gesture or verbal description of gesture) (Kreitler & Kreitler, 1990a) (see Table 1 for a list of all meaning variables).

Table 1
Major Variables of the Meaning System: The Meaning Variables.

MEANING DIMENSIONS		FORMS OF RELATION	
Dim. 1	Contextual Allocation	FR 1	Propositional (1a: Positive; 1b: Negative)
Dim. 2	Range of Inclusion (2a: Sub-classes; 2b: Parts)	FR 2	Partial (2a: Positive; 2b: Negative)
Dim. 3	Function, Purpose and Role	FR 3	Universal (3a: Positive; 3b: Negative)
Dim. 4	Actions and Potentialities for Actions (4a: by referent; 4b: to referent)	FR 4	Conjunctive (4a: Positive; 4b: Negative)
Dim. 5	Manner of Occurrence and Operation	FR 5	Disjunctive (5a: Positive; 5b: Negative)

Dim. 6	Antecedents and Causes	FR 6	Normative (6a: Positive; 6b: Negative)
Dim. 7	Consequences and Results	FR 7	Questioning (7a: Positive; 7b: Negative)
Dim. 8	Domain of Application (8a: as subject; 8b: as object)	FR 8	Desired, wished (8a: Positive; 8b: Negative)
Dim. 9	Material		
		SHIFTS IN REFERENT[b]	
Dim. 10	Structure	SR 1	Identical
Dim. 11	State and Possible change in it	SR 2	Opposite
Dim. 12	Weight and Mass	SR 3	Partial
Dim. 13	Size and Dimensionality	SR 4	Modified by addition
Dim. 14	Quantity and Number	SR 5	Previous meaning value
Dim. 15	Locational Qualities	SR 6	Association
Dim. 16	Temporal Qualities	SR 7	Unrelated
Dim. 17	Possessions (17a) and Belongingness (17b)	SR 8	Verbal label
Dim. 18	Development	SR 9	Grammatical variation
Dim. 19	Sensory Qualities[c] (19a: of referent; 19b: by referent)	SR 10	Previous meaning values combined
Dim. 20	Feelings and Emotions (20a: evoked by referent; 20b: felt by referent)	SR 11	Superordinate
Dim. 21	Judgments and Evaluations (21a: about referent; 21b: by referent)	SR 12	Synonym (12a: in original language; 12b: translated in another language; 12c: label in another medium; 12d a different formulation for the same referent on the same level)
Dim. 22	Cognitive Qualities (22a: evoked by referent; 22b: of referent)	SR 13	Replacement by implicit meaning value

	TYPES OF RELATION[a]		FORMS OF EXPRESSION
TR 1	Attributive (1a: Qualities to substance; 1b: Actions to agent)	FE 1	Verbal (1a: Actual enactment; 1b: Verbally described; 1c: Using available materials)
TR 2	Comparative (2a: Similarity; 2b: Difference; 2c: Complementariness; 2d: Relationality)	FE 2	Graphic (2a: Actual enactment; 2b: Verbally described; 2c: Using available materials)

TR 3	Exemplifying-Illustrative (3a: Exemplifying instance; 3b: Exemplifying situation; 3c: Exemplifying scene)	FE 3	Motoric (3a: Actual enactment; 3b: Verbally described; 3c: Using available materials)
TR 4	Metaphoric-Symbolic (4a: Interpretation; 4b: Metaphor; 4c: Symbol)	FE4	Sounds and Tones (4a: Actual enactment; 4b: Verbally described; 4c: Using available materials)
		FE 5	Sensory (5a: Actual enactment; 5b: Verbally described; 5c: Using available materials)
		FE6	Denotative (6a: Actual enactment; 6b: Verbally described; 6c: Using available materials)
		FE 7	Visual media (7a: Actual production; 7b Verbally described; 7c: Using available materials)

[a] Modes of meaning: Lexical mode: TR1+TR2; Personal mode: TR3+TR4

[b] Close SR: 1+3+9+12 Medium SR: 2+4+5+6+10+11 Distant SR: 7+8+13

[c] This meaning dimension includes a listing of subcategories of the different senses/sensations: [for special purposes they may also be grouped into "external sensations" and "internal sensations"] e.g., color, form, taste, sound, smell, pain, humidity and various internal sensations.

Any meaning variable can be considered in accordance with the static approach or alternately in terms of the dynamic approach. The static approach views the meaning variable as representing a certain domain of contents. For example, the meaning dimension Locational Qualities may represent locations, addresses, sites of different kinds. The dynamic approach views the meaning variable as representing a specific set of cognitive processes. Thus, in the case of the meaning dimension of Locational Qualities the relevant cognitive processes would include ordering or evaluating or memorizing places, looking for adequate locations for putting or hiding items or searching for misplaced objects (Kreitler, 2014).

The meaning system may be applied for analysing any verbal or non-verbal communication or expression of meaning, abstract or concrete, regardless of whether it has been produced with the intention of expressing meaning or not. In assessing communications of meaning the material is first reduced to meaning units, and then each unit is coded on one meaning dimension, one type of relation, one form of relation, one

referent shift and one form of expression. For example, when the referent is “Life” and the meaning value is "is short", the coding on meaning dimensions is Temporal Qualities, on Types of Relation – attributive, on Forms of Relation - positive, on Referent Shifts - identical to input, and on Forms of Expression - verbal. The analysis is done by a computer program (Kreitler, 2010).

The meaning profile. Each individual disposes over a certain selected part of the meaning system which represents the specific tendencies of that individual to apply the meaning system in information processing. Thus, each individual tends to use specific meaning variables with higher frequency and other meaning variables with medium or low frequency. The profile represents the set of all meaning variables that characterize a specific individual, each variable with the particular frequency with which it was used.

The meaning profile is based on the analysis of the responses of the individual to the Meaning Test. The *Meaning Test* was developed for assessing individuals' tendencies to use the different meaning variables. The test includes 11 standard stimuli (e.g., street, ocean). There exist three parallel independent sets of stimuli. Notably, the particular feature characterizing the three sets is that the stimuli in each set have been chosen and pretested so that together they provide the possibility of using in the responses all meaning variables in the meaning system. The standard instructions require the subject to communicate the interpersonally-shared and personal meanings of these stimuli to someone of one’s own choice who does not know the meanings, in as many forms and using any means of expression that seem adequate. Coding the responses in terms of the meaning variables yields the *subject's meaning profile* which summarizes the frequency with which the subject used in the responses to the test each of the meaning variables.

Comparing the meaning profiles of individuals scoring high and low on any psychological variable enables identifying the meaning variables which characterize the high scorers in comparison to the low scorers. These meaning variables can be considered as constituting the meaning profile of that psychological variable, supporting its functioning and accounting for its character.

1.2. The Meanings of Reality

1.2.1. Open-Ended Exploration

The first step in studying the meaning of reality consisted in administering to participants (40 undergraduates, of both genders) unanimously in a digital manner the open-ended questionnaire of reality. The task requested the subjects to communicate to someone of their choice the interpersonal and personal meanings of reality in any form hey found adequate. The responses were short, repetitive, and limited in the information they provided. The recurrent themes were: existence, concrete, perceptible, touchable, everything, intuition tells you it is real, we don’t know what reality is. The mean number of themes per response was 5 (SD=2.3). The implication of these results is that the meanings of reality are not attached to the referent Reality in a manner that enables evoking them freely in response to an open-ended question.

1.2.2. The Dimensional Questionnaire of Reality

The dimensional questionnaire of reality is a close-ended meaning questionnaire that relates to a specific referent and includes items in the different meaning dimensions of the system of meaning. The special advantages of a dimensional questionnaire are first that it presents a complete set of content descriptors of reality; secondly, it is grounded in the theory of meaning which provides the possibility of relating the findings to personality

tendencies, cognitive processes, and emotional reactions and enables applying interventions for broadening the conception of reality in educational and therapeutic frameworks.

Questionnaires of this kind have been produced and applied for a great variety of constructs, such as 'Health', 'Self', 'Love', 'Peace', 'Marriage', 'Communication', 'Education', 'Meaningfulness of Life' and the different sensations and emotions (e.., colors, forms, taste, love, anger). The dimensional questionnaire refers to only one referent that does not change in the course of the questionnaire. The referent may be mentioned only once, in the heading of the questionnaire or it may be mentioned repeatedly in each item of the questionnaire. The items refer to the referent (i.e., in the present case, Reality). The items are in random order. Each item refers to one meaning dimension, and only one. Each item is followed by four response alternatives (Very important, Important, Not Important, Not at all Important), scored as 4, 3,2,1, respectively. The respondent is required to select the responses that communicate best one's meaning of the referent. Selecting is done by checking the degree to which the presented response is considered as important for communicating the meaning of Reality.

In the presented version of dimensional questionnaire of reality (Appendix 1) the items are described by representing the meaning dimension through the title accompanied by several examples, e.g., "The place or location of reality**,** e.g., it is in the physical sphere, in the minds of people, in the open space around us, it is everywhere, it is nowhere, it is only with God". The examples are meaning values of the referent. It is emphasized in the instructions to the questionnaire that the examples serve only as illustrations of the meaning dimensions presented in the items, so that the respondent is invited to ignore them as contents or invent examples of one's own.

Other possible ways of presenting items in a dimensional questionnaire are to present in each item only the title of the meaning dimension that refers to the referent, e.g., the feelings and emotions evoked by reality or the temporal qualities of reality. Still another way is by means of examples of the meaning dimension, without referring to the title of the meaning dimension itself. The items may also be presented non-verbally, for example, by means of small drawings that may be iconic, based on emoji, or simply illustrative, with or without accompanying words.

There are two major kinds of scores that are used regarding the dimensional questionnaire. The first is a sum total of the responses provided by the subject, whereby the response that is considered as 'most important' is scored as 4 and the one that is considered as 'not at all important' is scored as 1. The sum total may be divided by the number of items in the questionnaire so as to neutralize the impact of the number of items that may differ to some extent in different questionnaires because in some cases it may be difficult to assign adequate responses (the present questionnaire includes 26 items rather than the expected total of 30 because in regard to the following four subdimensions no adequate responses can be phrased: sensory qualities, emotions, judgments and cognitions of the referent, i.e., 19b, 20b, 21b, 22b). The ranges of the sum total are 26-104.

Another commonly used method of scoring is based on the number of items or domains that got the scores of 4 or 3, i.e., were checked by the respondent as Very Important or Important. This score provides information about the domains that contribute most to the conception of reality in the subjects view as well as about the structure of the subject's conception of reality. When the number of these domains is relatively low it implies that the individual's conception of reality is based on a selected specific limited number of domains; but when it is high, the individual's conception of reality is spread over a large number of different domains and is not focused on a specific content (Kreitler, 2022c).

2. STUDY 1

Objective. The purpose of study 1 was to get preliminary information about the basic psychometric features of the dimensional questionnaire of reality, and the matching of the results with those of the individual's meaning profile. It was expected that the domains selected in the dimensional questionnaire as very important or important would match those used by the individual in one's meaning profile. This expectation was based on the findings in a previous study with the dimensional questionnaire which showed a matching of 74% in regard to the construct of the meaningfulness of life (Kreitler, 2022b).

Method. The subjects were 65 undergraduates of both genders, in the age range 23-29 years. They were administered unanimously the meaning test and the dimensional questionnaire of reality.

The reliability coefficient of the dimensional questionnaire of reality was .72. This result is within the acceptable range, although lower than the coefficients obtained in regard to the dimensional questionnaire of the meaningfulness of life (.78-.85) (Kreitler, 2022).

Results. The total mean score of the dimensional questionnaire based on the total of response was 64.2 (SD=2.2). The score based on the number of domains selected as Very important or Important was 5.8 (SD=2.7). These scores are lower than those obtained for the meaningfulness of life but not significantly so. These results lend psychometric support to the dimensional questionnaire of reality.

The domains that were selected as very important or important most often (i.e., above mean frequency) were the following: The sensory characteristics of reality: its form, colors, brightness, its sound, tactile characteristics; the manner of operation of reality, how it functions; Judgments, evaluations and opinions concerning reality; The function, purpose or role of reality; The materials of which reality is made. The list of the domains considered as very important or important shows the tendency to focus on concrete and functional aspects of reality.

The matching between the domains selected as very important or important for characterizing reality matched in 65% those that the individual used with high frequency (i.e., above the mean of responses) in the meaning profile. This finding supports the conclusion that the individual uses the contents of one's meaning profile in conceptualizing 'reality'. Another way of expressing this conclusion is that one's conception of reality is grounded in one's sphere of meaning.

3. STUDY 2

Introduction. The purpose was to examine the adequacy of a new measure of unreality based on specific properties of the meaning system. One assumption was that the conceptions of unreality and reality would be related. A second assumption was that meaning contributes to the conditions supporting the assessment of unreality. The study was based on a preliminary examination of phenomena characterized as presenting different kinds of deviations from reality (Kreitler, 2022b, chapter 9).

The first step consisted in requesting subjects to list and describe freely phenomena that demonstrate deviations from reality. The descriptions enabled identifying three kinds of phenomena deviating from reality: (a) phenomena characterized by relatively small deviations from reality that are not commonly considered as due to psychopathology, psychedelic or hallucinatory drugs, serious chronic diseases, or willful deception (e.g., lying, memory errors, such as changes in the memory of the day or date of an

event,visual illusions, such as seeing straight lines as curved); (b) Phenomena characterized by medium deviations from reality, manifesting both a realistic character but being closer in structure to illusions than hallucinations (e.g., mistaken identification of objects, such as seeing a hill in the distance as a tree) ; and (c) Phenomena characterized by gross deviations from reality (e.g., bizarre dreams, bodily hallucinations, such as inserting a third eye in the middle of one's forehead).

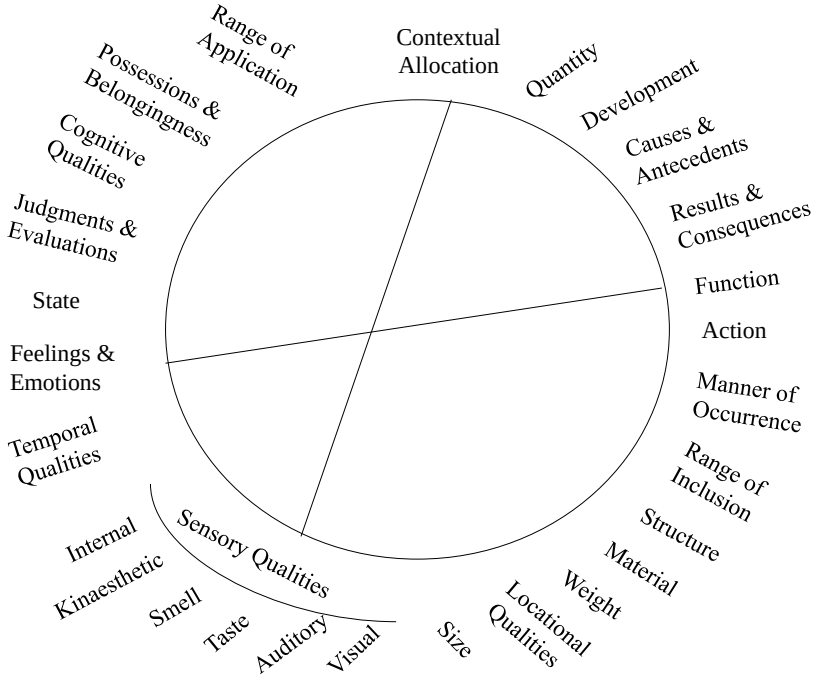
In the second step an attempt was made to clarify the features grounded in the meaning system that underlie different degrees of deviations from reality. The major feature characterizing the impressions of unreality is distances between the expected and the observed types of contents. The expected contents is based on habit, conventions, memory and conceptions. Both kinds of contents – the expected and the observed – are meaning values of the referent (Kreitler, 2017; Rotstein, Maimon, & Kreitler, 2013).

It needs to be emphasized that examining the experiences of reality produced by combinations of different kinds of contents is designed to explore the broad range of experiences of reality in contrast to virtual reality which focuses on producing conditions in which most individuals experience "normal" or "regular" reality (Penn & Hout, 2018).

Distances. The distances consist between contents that describe referents. In the meaning sytem the contents are represented by meaning dimensions. Hence, assessing the distances between contents depends basically on assessing the distances between meaning dimensions (Kreitler, 2022a, Chapter 7). The circumplex circle in Figure 1 presents the interrelations between the meaning dimensions in a form illustrating the relative distances between them. The circle is based on the results of the statistical method of multidimensional scaling, which enables arranging constructs in terms of their correlations around the circumference of a circle in terms of polar coordinates. The more highly correlated ones are located closer to each other, those that are the least similar are placed on the polar ends of opposite coordinates (Borg & Groenen, 2005; Jaworska & Chupetlovska-Anastasova, 2009; Kreitler & Kreitler, 1991). The figure shows for example that contextual allocation is placed opposite the sensory qualities, namely, the abstract category is furthest from the concrete qualities, just as actions is placed opposite to emotions, i.e., the external expression versus the internal experience. However, due to the circular presentation no one specific polar axis is accorded salience or importance, in contrast to the commonly used Cartesian coordinates. Further, the circumplex enables comparing distances between meaning dimensions. For example, it shows that Temporal Qualities is further away or more distant from Size than Material. Distances between the meanign dimensions are assessed in terms of number of differentiating steps along the circumference of the circumplex. Thus, Temporal Qualities is located four steps away from Size whereas Material is located two steps away. The proximity degrees between the meaning dimensions may reflect similarity in contents, contents that complement each other or frequency of common application.

The validity of the circumplex arrangement was tested and verified in studies about conservation, horizonal decalage, generalization, and relevance of answers to questions (Kreitler, 2022a, chapter 7; Kreitler & Kreitler, 1989, 1990b). The studies showed that the smaller the distances between the assessed contents the better was the conservation, the generalization and the relevance of the response.

Figure 1.
The Circumplex Model of Meaning Dimensions.



Note. The figure represents schematically the relations between the meaning dimensions in the system of meaning that seem likely on the basis of data available up to date. Some of the relations are still merely hypothesized. The locational position of the meaning dimensions represents their proximity. The closest relations are between adjoining meaning dimensions, the furthest are between meaning dimensions placed opposite each other on the circumference of the circle. The two intersecting lines represent factors identified in several studies. The meaning dimensions at opposite poles represent variables with positive and negative loadings on the factors, respectively.

The methodology of evaluating dimensional distances was applied to characterizing the three different identified degrees of deviation from reality. The analysis in terms of dimensional distances showed that the differences between the three groups are clear-cut and can be described as shifts from one meaning value to another. Small deviations from reality consist in shifts that are intra-dimensional and are limited to one meaning dimension, such as from red to blue in the meaning dimension of sensory qualities, or from far to near in the meaning dimension of locational qualities. Medium deviations from reality are characterized by inter-dimensional shifts in one or a few meaning dimensions that are usually between relatively close meaning dimensions, such as the meaning dimension of Development to Results and Consequences, or from the meaning dimension Quantity to Material. Large deviations from reality take place in regard to several meaning dimensions simultaneously and consist in extreme shifts between meaning dimensions that are relatively distant from one another, such as from the meaning dimension of Contextual allocation to Sensory Qualities, or from Function to Feelings and Emotions.

The hypotheses of study 2. The objective of the study was to test the determinants of the sense of deviation from reality evoked by specific stimuli. The hypotheses were formed on the basis of theoretical considerations based on the meaning system and were pretested informally by interviewing subjects about different kinds of stimuli (see above). Two hypotheses were examined. The first and major hypothesis was that the evoked sense of deviation from reality will be determined by the degree of the dimensional distance characterizing the stimuli: stimuli generated in accordance with the three described kinds of dimensional distances – small, medium and large distances - would evoke the following expected reactions of deviations from reality: stimuli characterized by intra-dimensional distances, will not evoke the sense of deviation from reality; stimuli with large dimensional distances will evoke the sense of deviation from reality to a large extent; stimuli characterized by a medium degree of dimensional distances will evoke a sense of deviation from reality to an intermediate degree between the degrees evoked by stimuli representing intra-dimensional distances and those representing large interdimensional distances.

A second hypothesis concerned the attitudes of the observer. It was based on the dimensional questionnaire of reality. The hypothesis was that the overall sum of ratings of the sense of deviation from reality of the different stimuli would be correlated positively with the individual's score on the dimensional questionnaire of reality. The basis for this hypothesis was the assumption that a broad conception of reality including many different domains would make it easier for the individual to accept a greater number of deviations from reality as regular, normal or conforming to reality.

Method. The subject were 60 undergraduates, of both genders, 22-31 years in age. After consenting to participate in the experiment, they were administered in a digital manner *2*0 stimuli which they were requested to rate in terms of the sense of deviations from reality that they evoked, and the dimensional questionnaire of reality which was designed to assess the impact of the subjects' conception of reality on the ratings of the sense of reality in the major task of the study.

The 20 stimuli included 5 examples from each of the three categories of stimuli defined as presenting intra-dimensional, medium or large interdimensional distances, plus 5 neutral stimuli without any deviations, that were designed to appear conforming to reality.

The following are examples of the presented stimuli. (a) Stimuli with intra-dimensional deviations included sensory color illusions (the red seems darker or brighter depending on the background color; illusions of completion (a break in the line is completed); a straight line seems curved when small diagonal lines are placed on it. (b) Stimuli with inter-dimensional deviations to close meaning dimensions: size of figure changes with change in color or location (in video games); cognitive bias: a statement appears logical when it describes something that happened to oneself and not to another person. (c) Stimuli with inter-dimensional deviations to distant meaning dimensions: A person dreams that he is suspended in midair by means of tones that are represented by different colors; objects laughing at non-funny caricatures.

The stimuli were presented in random order. Concerning each stimulus, the subject was requested to check one of the following responses: no deviation from reality, medium deviation from reality, large deviation from reality, cannot decide whether there is a deviation from realty. These responses were scored as 1, 2, 3 and 0, respectively. The range of scores for all stimuli was 15-45, and for each of the three groups of stimuli 5-15. The participants were requested not to dwell too much on any response, and to express their immediate impressions of the stimuli. They were not asked to explain their responses or justify them.

The dimensional questionnaire of reality was scored in terms of the total score (see above, Study 1).

Results. The means (and SDs) of deviations from reality stated for each of the three groups were as follows: 5.2 (0.2), 6.4 (1.3), and 8.4 (1.8), for groups 1, 2 and 3, respectively. The differences are significant ($F=4.69$, $df=2/57$, $p<.01$).

The mean for all subjects was 19.3 (SD=2.4), and the range was 6.3-34.1.

The correlation between the total score for the deviations task and the dimensional questionnaire of reality was r=.-62, $p<.001$

Discussion. The results provide support to the two hypotheses of the study. They show that, as expected in the first hypothesis, the degrees of distances between the contents making up the stimuli match the sense of deviation from reality evoked in the observers. When the distances between the contents increase in terms of the three examined levels the sense of deviation from reality experienced by the observers increases proportionally. The reason may be double-pronged. One reason may be the fact that stimuli combinations based on large distances in contents are rarely encountered in daily life, so that when one perceives items representing combinations of this kind, one may assume that they are not quite real. But another reason may be that precisely extreme forms of deviations from reality, as in magic and deceptions of different kinds, consist of large distances in the represented contents so that one may assume that they are NOT real. The two possibilities complement and reinforce each other in supporting the sense of deviation from reality.

The findings support also the second hypothesis in showing that individuals whose conception of reality is broad and includes many different features characterizing reality tend to accept as real or as constituents of reality stimulus combinations that are not ubiquitous and commonly encountered.

In sum, the results of the study support the conclusion that the tolerance or acceptance of apparently deviant stimulus combinations as real depends on both the characteristics of the stimuli and the attitudes of the observer.

4. CONCLUSIONS AND APPLICATIONS

The theoretical framework of the studies in this chapter is based on the assumption that the motivation of individuals includes two tendencies: on the one hand, they are oriented towards grasping reality as authentically as possible, including presented deviations, but on the other hand, they are motivated to keeping their schema of reality as stable and unchanging as possible. Both tendencies are in a constant state of tension-laden conflict, serving at the same time the important constantly ongoing project of the construction and of the maintenance of reality (Bösel, 2016; Gazzaniga, 2018). The two described studies demonstrate that the perception of reality and evaluation of the degrees of deviation from reality ae a function of the individual's meaning profile. The positive findings of the studies are an indication that it is possible and important to continue the exploration of how reality is experienced, generated, and constantly discovered in a manner that becomes meaningful and endows the totality of our existence with meaning.

In addition to the theoretical and methodological implications of the described studies, there are also applied implications. The major ones are that the described methodology illustrates how the sense of reality may be expanded to include innovative and not strictly conventional perspectives on reality. The major tool for attaining this goal is the dimensional-based multi-distance methodology. The training based on this methodology consists in exposing the individual in a systematic manner to different kinds of combinations of contents which present in a graduated manner different variations that

evoke different kinds of deviations from reality. The emphasis is on experiencing the deviations from reality as such rather than disregarding them as unacceptable or effacing the bizarreness of the deviation. In this way the training provides the individual the possibility to gradually get used to these deviations and assimilate them into one's view of reality. This is in contrast to virtual reality which strives to present the non-real as reality itself. The training in terms of the dimensional-based multi-distance methodology strives to turn the bizarre, the deviant and the unusual slowly into an acceptable image of an aspect of reality. The results are both emotional and cognitive. The emotional consequences are reduction of anxiety likely to be evoked by deviant bizarre experiences. The resulting cognitive consequence are that one's view of reality increases in breadth and stability to an extent that allows incorporating in one's experienced conception of reality new and unusual experiences based on new often overlooked or repressed aspects of reality. Eventually this change may be expected to contribute to increasing one's ability to function in reality in a satisfactory manner for the attainment of one's goals.

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APPENDIX: THE DIMENSIONAL QUESTIONNAIRE OF REALITY

About Reality

REALITY is considered a central construct in the life of all people. Imagine there is someone who does not quite know what REALITY is. Please explain to that person the meaning of REALITY in general and for you.

The following table presents various descriptions of REALITY used by people from different professions and points of view. Each description refers to a specific aspect of REALITY. Each aspect is first defined in general and then by means of several examples designed to clarify the aspect. You may change the examples or add new ones.

Concerning each description please check to what degree the described aspect is important for expressing what reality is, what it means in general and for you. Please give your answer by putting a check mark X in one of the four response alternatives: Very important, Important, Not important, Not at all important.

The different descriptions	Very Important	Important	Not important	Not at all important
The kind of thing reality is, the general category to which it belongs, the framework in which it can be classified e.g., it belongs to social life, to culture, to politics, to management, to physics, to daily life; it is an abstraction, a concept, a theory				
Types and kinds of reality e.g., there is physical reality, perceived reality, emotional reality, scientific reality, imaginary reality				
The parts of reality, the components of which it consists e.g., includes objects, regulations, styles ofbehavior, people, everything				
The function, purpose or role of reality e.g., to provide information, to help organization, to unite society, to enable orientation				
Size and dimensions of reality e.g., it may be long, deep, wide, narrow in coverage, small, gigantic				
To whom or to what reality belongs, who possesses it e.g., it may belong to the individual, to the state, to the media, to God				
The state of reality and possible changes in it e.g**.,** reality may be stable, shaky, firm, fragmentary, changing, static, immutable, it exists, it does not exist				
Actions that reality can do e.g., it enables people to act, to attain their goals, to plan, to destroy everything in an earthquake				
Thoughts, associations, conceptions and memories that reality can evoke or inspire e.g., it can evoke associations, thoughts about events and other people; it can help us create a history and a future, reality can evoke conceptions about itself, about religion, about life or death				

Judgments, evaluations and opinions concerning reality e.g., reality can be veridical or fake, faulty, misleading, partial, important, negligible, irrelevant				
The structure of reality, how its parts are arranged or organized e.g., it can include several layers one on top of the other, it can have a hierarchical structure with the important element on top and the hidden parts underneath				
The materials of which reality is made e.g., it is made of different kinds of materials, building materials, stone, mortar, all elements, metals, information, it is not made of any materials, it is immaterial				
The place or location of reality e.g., it is in the physical sphere, in the minds of people, in the open space around us, it is everywhere, it is nowhere, it is only with God				
Quantity of reality e.g., there is a lot of reality, sometimes there is too little reality, there are many kinds of reality, there are many possible realities, reality is the totality of everything				
Actions that can be done with reality or to it e.g., reality can be reported, investigated, stored, attacked, falsified, ignored, spoiled, soiled, destroyed, developed				
Causes and antecedents for the existence of reality e.g., the causes are the need for orientation, for the formation of a conception of reality, for ordering all elements and materials and objects				
The development of reality, how was it in the past, how will it be in the future e.g., in the past it was more limited, it has developed along with technology and science, it is evolving				
Temporal characteristics of reality e.g., reality can last from a second to eternity, some parts of it exist milliseconds, it can last for eons				

Feelings and emotions that reality can evoke e.g., it can evoke admiration or satisfaction, anxiety, worries, fear, depression, anger, happiness, joy, love, no feelings at all				
Who deals with reality or is concerned with it in some way e.g., scientists, philosophers, economists, politicians deal with it; everyone discusses it or thinks about it				
People or objects affected by reality e.g., all people are affected by reality or its absence, objects, things, ideas are affected by reality, events, entities, situations, all beings, not dreams or thoughts				
The manner of operation of reality, how it functions e.g., reality functions by means of physical processes, the actions of people, reactions of materials				
Results, consequences and implications of reality e.g., the results of reality are life, death, revolutions, changes, happiness				
The weight or mass of reality e.g., it can be light or heavy, its weight depends on the materials of which it consists, on the experiences which it evokes				
The belongings or possessions of reality e.g., everything that exists belongs to it, all things that are real are possession of reality, nothing belongs to it, reality possesses human beings who become enslaved to it or addicted to it				
The sensory characteristics of reality: its form, colors, brightness, its sound, tactile characteristics e.g., its form can be straight or curved, its colors dim, its sound unclear or melodious; reality can affect the visual sense or the auditory one; it can affect all senses, the internal and the external ones				

AUTHOR INFORMATION

Full name: Shulamith Keitler
Institutional affiliation: School of Psychological Sciences, Tel-Aviv University
Institutional address: Tel-Aviv University, Ramat Aviv, Tel-Aviv, Usrel 69978
Short biographical sketch: Shulamith Kreitler was born in Tel Aviv. She is a full professor of psychology at Tel Aviv University since 1986, and has worked at Princeton, Harvard and Yale Universities. She is a certified clinical psychologist and health psychologist. She has established the Center for Psychooncology Research at the Sheba Medical Center, Tel-Hashomer and functions as its director. She is a world-renown psychologist, known for her new approach to meaning, and the cognitive orientation approach for predicting and changing behaviors, and for her work in the psychology of the arts. She has published over 200 articles in major journals and 24 scientific books about cognition, meaning, personality traits, and the perception of art. Her most recent publications are two books about meaning (The construct of Meaning, Spheres of Meaning) an two books aout creativity (New Frontiers in Creativity, New Horizons in Creativity). She has been married to Hans Kreitler (who died in 1993) and has one son and two grandchildren.

Chapter #24

THE IMPACT OF ENACTMENT AND IMAGERY ENCODING ON FALSE MEMORY

Frédérique Robin & Canelle Garnier
Nantes Université, Université Angers, Laboratoire de psychologie des Pays de la Loire (LPPL, UR 4638) F-44000 Nantes, France

ABSTRACT
The standard DRM task (Roediger & McDermott, 1995) has been adapted in order to generate memory errors for everyday life action lists (i.e. daily routines like "to make a coffee"). Therefore, the associated word lists have been replaced with thematically-related action lists. Each action list refers to a temporally-connected action routine, i.e. a script. In addition, we examined the effects of enactment and motor imagery encoding on false memories. Compared to the numerous studies on imagination effects on false memories, the enactment effect on the creation of false memories of thematically-related actions has not yet been tested. Therefore, we compared three experimental conditions: (1) a control condition, in which participants were asked to listen to all lists attentively; (2) an imagery condition, where participants were instructed to visualize themselves performing each action, presented orally; (3) an enactment condition, in which participants had to mime each action heard as if they were really performing it. The results confirmed the creation of false memories for associated action lists (scripted actions). Nevertheless, false memories were high and of the same magnitude under all encoding conditions. These findings are discussed in the light of the classical models of memory and embodied cognition theory.

Keywords: actions, enactment, false memories, visual imagery, script.

1. INTRODUCTION

Usually when we remember events, we visualize individuals and objects in a sequence of actions (such as seeing oneself closing the door or turning off the oven before leaving, etc.). In these circumstances, false memories might result from the memory of an event, which was never enacted and was imagined. Compared to the numerous studies on imagination effects in false memory paradigms, few studies have investigated enactment effects on false memories. Therefore, the present study aims to extend our knowledge of false memories from an adaptation of the DRM paradigm (Roediger & McDermott, 1995) in order to generate memory errors for everyday life action lists. Script sentences describing semantically-associated actions may involve visual and motor simulation of the scene, which may lead to the production of false memories.

Imagination as the cause of distorted memories is known as *imagination inflation*. Inflation of the imagination occurs when an imagined event strengthens an individual's certainty or belief that the event actually happened. For example, participants claim to have performed an action or seen an object, when they simply imagined them. Some authors (Goff & Roediger, 1998; Lindner & Echterhoff, 2015) have confirmed this phenomenon by highlighting the repeated effects of the imaging encoding process on the increase of false memories. The hypothesis was that the more an event is imagined, the closer it is to perception (i.e. to a real event) and the more the individual will make an error regarding the

origin of this information by declaring that the event was perceived, although it was imagined. In the Goff and Roediger study (1998) the more the participants imagined themselves performing an action (e.g. throwing a ball), the more source errors they produced. Participants mistakenly believed that they had actually performed the actions when they had only imagined them. Overall, findings have shown that imagining actions makes them as vivid and real as their actual realization (Lyle & Johnson, 2006; Mitchell & Johnson, 2009). In contrast, few studies have shown a reduction of false memories for imagined action sentences (Maraver, Lapa, Garcia-Marques, Carneiro, & Raposo, 2021).

Whereas imagination effect has been widely examined with word lists or action lists in false memory paradigms, few studies have investigated the enactment effect. Nevertheless, Sauzéon, N'Kaoua, Pala, Taillade, and Guitton (2016) found an increase in correct recognition performance and a reduction in false recognition in a source memory task in which participants had to follow a path in a virtual environment. Thus, although the benefits of motor activity (enactment effect) on memorization compared to motor-imagery or verbal encoding have been widely demonstrated (see Horstein & Mulligan, 2004; Koriat & Pearlman-Avnion, 2003), the enactment effect on the production of false memories of thematically-related actions has not yet been tested. Therefore, it was interesting to compile evidence and explore the impact of enactment and motor-imagery on false memories.

This study aimed to explore the effects of visual-motor imagery and enactment on false memories of thematically-associated actions. It is well known that visual-motor imagery and enactment-encoding strategies increase correct memorization performances. In accordance with the distinctiveness heuristic hypothesis (Dodson & Schacter, 2001; Schacter, Israel, & Racine, 1999) explaining the effects of visual imagery encoding on DRM false memories (see Foley, 2012; Robin, Ménétrier, & Beffara-Bret, 2021), we expected that visual-motor imagery and enactment as encoding strategies compared to a control condition (listening to the action lists) should reduce false memories. Indeed, the distinctiveness heuristic hypothesis suggests that reductions in false recollection result from the monitoring decision based on a distinctive detail of the encoding context, which allows participants to decide whether an event has been previously experienced. When sufficient distinctive features have been encoded, participants call upon a strict decision criterion, i.e. one that demands access to the distinctive features (Israel & Schacter, 1997; Schacter et al., 1999). Therefore, we expected imagined and enacted actions to provide distinctive details that increase the memorization of studied actions and thus preclude false memories. The impact of imagined and enacted actions on the creation of false memories was not investigated within the DRM task. Therefore, the Deese-Roediger-McDermott paradigm (DRM, Roediger & McDermott, 1995), considered to be the most robust in the field of false memories, was adapted. Moreover, the validation of this DRM task adaptation would make it possible to bring an ecological dimension to the DRM, which in a later version could be intended for the evaluation of false memories in a clinical context.

2. METHOD

2.1. Participants

Ninety undergraduates of Nantes University, France (excluding students in psychology) were randomly assigned to one of the following conditions: control; enactment; motor-imagery. Three groups of 30 participants were established. They were between 18 and 41 years of age (M = 24.32; SD = 5.48; 42 women and 48 men) and all were native French speakers. The sample size was enough sensitive, the G*Power analysis

yielding a total sample size equal to 54 for statistical analyses (for alpha = .05, power = .95, number of groups = 3, a medium size effect = .25 for the Anova repeated measures within-between interaction). In compliance with the Declaration of Helsinki, all participants gave their written informed consent, freely consented to participate and were able to withdraw whenever they wished. Exclusion criteria were significant neurological or psychiatric illness, and major motor, visual, or auditory difficulties.

2.2. Material

The action lists consisted of eight lists, each corresponding to a script, comprising 12 sentences of associated actions converging on the most central action, the title of the script corresponding to the action lure. The scripts were "to move home", "to make a coffee", "to do the housework", "to do the garden", "to wash one's hair", "to withdraw cash from the ATM ", "to change a flat tyre" and "to write a letter". These action lists were selected from script norms validated in French by Corson (1990). The selected actions were the most central and distinctive in each script. The recorded actions of each script were presented in chronological order at the rate of one action per 5,000 ms (see Goff & Roediger, 1998).

The recognition task consisted of a list of 52 actions distributed randomly: 24 studied actions (the 1st, 5th and 11th action) selected in each script; 8 action lures corresponding to the titles of the eight scripts, which were never presented; 20 false alarms from five scripts not studied corresponding to the 5 script titles and 15 actions (the 1st, 5th and 11th action) selected in each script.

The recognition of each action sentence consisted in evaluating on a 4-point scale the certainty with which the participant believed they had or had not heard the action sentence: 1 point "I am sure I did not hear this action"; 2 points "I am almost sure that I didn't hear this action"; 3 points "I am almost sure that I heard that action"; 4 points "I'm sure I heard that action". We used the same scale as in previous studies with DRM wordlists (see Robin & Mahé, 2015; Robin et al., 2021). For each answer, participants had to indicate their level of consciousness by responding to the Remember/Know test (Tulving, 1985). They checked "R" when they remembered details associated with the encoding situation (a conscious recollection) and "K" when they felt that the sentence sounded familiar, simply having the feeling they had already heard it or not, without being able to give the slightest detail.

2.3. Procedure

The participants carried out the task individually. First, they completed a consent form, and then, in all three experimental conditions, participants were instructed to listen carefully to the recorded eight lists of 12 actions each. In the control condition, participants had to listen carefully to the action lists. In the imagery condition, for each sentence heard, they had to imagine themselves performing the actions, as if they were actually performing them. An example was provided: "if you hear the sentence, 'hammering a nail', you must imagine yourself with a hammer in your hand and imagine the movements that one usually makes when hammering a nail, all by feeling the sensations (muscular and articular) associated with this movement. Imagine that you are actually hammering a nail." In the enactment condition, the instruction explicitly invited participants to mime each action as if they were actually performing it. Here again an example was provided. Mime rather than real activity (i.e. with real objects) was proposed for practical reasons, and because of the negligible impact of the presence of real objects on memorization compared to mime (see

Engelkamp & Cohen, 1991). Then, participants filled out a demographic questionnaire for about five minutes. Then, without prior warning, they completed the recognition test. At the end of this test, participants had to specify what they thought about the objectives of the study in order to discard all participants who had expected a study on false memories.

3. RESULTS

3.1. Confidence Ratings on the 4-Point Scale

An ANOVA with repeated measures was carried out with Action type as a within-subject factor (studied actions, lures and false alarms) and Condition as a between-subject factor (control, imagery and enactment). Table 1 presents the mean rating confidence for each encoding condition and each action type. The effect of Condition was not significant: $F(2, 87) = 1.15$, $p = .32$, $n^2_p = .03$. The analyses revealed a significant effect of Action type: $F(2, 174) = 211.14$, $p < .001$, $n^2_p = .71$. The analyses also reported a significant Condition x Action type interaction effect, with $F(4, 174) = 3.14$, $p = .02$, $n^2_p = .07$. Post-hoc analyses (*Bonferroni*) indicated that mean rates of recognition for the studied actions were significantly higher than recognitions of lures and false alarms: all $p_s < .001$ (respectively, Cohen's $d = 2.30$; Cohen's $d = 2.46$). In contrast, recognition rates for lures were as high as for false alarm rates ($p = .72$, Cohen's $d = 0.16$).

Table 1.
Mean confidence ratings (standard deviation) on a 4-point scale for each action type (studied; lures; false alarms) in each experimental condition (control, imagery, enactment).

	Studied actions	*Lures*	*False alarms*
Control	*3.27 (0.30)*	*2.26 (0.70)*	*2.33 (0.69)*
Imagery	*3.62 (0.15)*	*2.38 (0.74)*	*2.28 (0.28)*
Enactment	*3.65 (0.30)*	*2.32 (0.79)*	*2.10 (0.09)*

3.2. Comparisons of "Old" Responses

An ANOVA with repeated measures was carried out with the mean proportions of "old" responses (responses 3-4) associated to each Action type. The mean percentages of recognition are presented in Table 2.

Table 2.
Mean percentage of old responses (responses 3 and 4) for each action type (studied; lures; false alarms) in each experimental condition (control, imagery, enactment).

	Studied actions	*Lures*	*False alarms*
Control	*78.33 (11.29)*	*40.00 (28.12)*	*5.09 (8.46)*
Imagery	*90.28 (5.40)*	*42.08 (27.36)*	*2.63 (3.59)*
Enactment	*90.42 (9.49)*	*41.67 (29.05)*	*2.28 (3.30)*

Note: standard deviation in parentheses.

The analyses revealed a significant effect of Action type, with $F(2, 174) = 588.44$, $p < .001$, $n^2_p = .87$, which supported the presence of false memories. Indeed, post-hoc analyses (*Bonferroni*) indicated that rates of veridical recognition for the studied actions were significantly higher than false recognitions of action lures ($p < .001$, Cohen's $d = 2.59$). False recognitions of lures were higher than false recognitions of false alarms ($p < .001$, Cohen's $d = 2.59$). The effect of Condition was not significant: $F(2, 87) = 1.11$, $p = .33$, $n^2_p = .02$. The Condition x Action interaction effect was marginally significant, with $F(4, 174) = 2.13$, $p = .08$, $n^2_p = .05$.

Post-hoc analyses (*Bonferroni*) showed that correct recognition rates of studied actions were higher in the enactment and imagery conditions than the control condition (all $p_s < .001$, Cohen's $d = 0.69$; Cohen's $d = 0.69$). Correct recognition rates were not significantly different between both the enactment and imagery conditions. Surprisingly, the rates of false recognition of lures were high in all three conditions, with all $p_s = 1.000$. Lastly, false recognitions of false alarms were the lowest rates and did not vary significantly among the encoding conditions, with all $p_s = 1.000$.

3.3. Responses Remember vs Know

The mean proportion of responses R/K in each encoding condition has been calculated for each action type which has been recognized as "old" (responses 3 and 4). An ANOVA with repeated measures was carried out with the mean proportions of R/K responses associated to each Action type. The mean percentages and standard deviations are presented in Table 3.

Table 3.
Mean percentage of responses Remember vs. Know for old responses (3 and 4 on the recognition scale) for each action type (studied; lures; false alarms) in each experimental condition (control, imagery, enactment).

REMEMBER	*Studied actions*	*Lures*	*False alarms*
Control	*51.94 (20.55)*	*19.16 (20.69)*	*2.10 (5.28)*
Imagery	*73.61 (17.72)*	*30.41 (25.57)*	*0.70 (1.82)*
Enactment	*79.02 (15.61)*	*30.00 (26.79)*	*0.70 (1.82)*

KNOW	*Studied actions*	*Lures*	*False alarms*
Control	*26.94 (18.46)*	*20.83 (21.36)*	*2.81(4.73)*
Imagery	*17.36 (15.71)*	*13.33 (15.37)*	*1.75 (2.88)*
Enactment	*11.39 (11.58)*	*12.08 (14.49)*	*1.40 (2.74)*

Note: standard deviation in parentheses.

The analyses revealed a significant R/K effect: $F(1, 87) = 103.71$, $p < .001$, $n^2_p = .54$; a significant Action type effect: $F(2, 174) = 633.56$, $p < .001$, $n^2_p = .88$; a significant interaction Condition x R/K effect: $F(2, 87) = 10.42$, $p < .001$, $n^2_p = .19$; a significant R/K x Action type interaction effect: $F(2, 174) = 115.17$, $p < .001$, $n^2_p = .57$. The Condition effect was not significant: $F(2, 87) = 1.39$, $p = .254$, $n^2_p = .031$.

Overall, Remember response rates were higher than Know response rates. Post-hoc comparisons (*Bonferroni*) revealed that Remember response rates were higher for studied actions than action lures and false alarms, $t(87) = 16.10$, $p < .001$; $t(87) = 78.90$, $p < .001$,

respectively. Remember responses were also more frequent for action lures than false alarms ($t(87) = 14.00$, $p < .001$).

The Remember responses were higher in the enactment and imagery conditions than in the control condition ($t(87) = 3.94$, $p = .002$; $t(87) = 3.40$, $p < .015$, respectively). There was no difference between the enactment and the imagery conditions.

Post-hoc comparisons (*Bonferroni*) revealed that correct recognitions of studied actions lead to a recollection (Remember responses) instead of a feeling of familiarity (Know responses): $t(87) = 14.47$, $p < .001$. False recognitions of action lures were associated with higher Remember than Know responses, $t(87) = 3.26$, $p < .024$. For false alarm rates, there were no differences between Remember and Know responses, $t(87) = 1.81$, $p = 1.000$.

Respectively, we expected that high rates of correct recognition of studied actions and high rates of false recognition of action lures would be positively correlated with a detailed source memory, that is, a high rate of Remember responses. In contrast, the low rates of false recognitions of false alarms should be positively correlated with a high feeling of familiarity, that is, Know responses, or else the alternative was a positive correlation by chance, with Remember vs Know responses. Pearson's correlation revealed a strong and significant positive correlation between confidence ratings for studied actions (responses 3-4) and Remember responses in all conditions: $r = .659$, $p <. 001$. Correlations between confidence ratings and Know responses were low and negative: $r = -.234$, $p <. 05$. According to the Fisher *r*-to-*z* transformation, the *z* value revealed a significant difference between these two correlation coefficients, with $z = 3.57$, $p <.0001$, suggesting that participants' confidence in the correct recognition of studied actions was systematically based on a recollection. High false confidence rates that action lures had been studied were highly and positively correlated with Remember responses, $r = .772$, $p <. 001$; correlation with Know responses was also significant: $r = .450$, $p <. 001$. Nevertheless, it appeared that false memories were more related to detailed memories than a feeling of familiarity, as was usually demonstrated in the DRM task with word lists ($z = 3.57$, $p <. 0002$). Finally, as has been studied, low false confidence rates for false alarms were highly and positively correlated by chance ($z = 0.05$, $p = .48$) with Remember and Know responses, $r = .786$, $p <. 001$; $r = .783$, $p <. 001$, respectively.

4. DISCUSSION

The present study aimed to evaluate the impact of sensory-motor encoding on false memories. The original DRM material (consisting of word lists semantically associated with a thematic word) was replaced by action lists semantically associated with a script. The results confirmed the validity of the experimental task with regard to the creation of false memories within stereotyped actions such as scripts. However, the results showed that enactment and visual-motor imagery did not reduce false memories, contrary to what was expected. These findings led us to question the classical models of memory which assume that the enactment effect and visual imagery favour distinctive conceptual processing to the detriment of relational processing, with the consequence of reducing false recognitions (see Foley, 2012; Goff & Roediger, 1998; Robin & Mahé, 2015; Robin et al., 2021).

Another likely explanation might be that the encoding of contextually-associated action lists relies on a multi-sensorial simulation (Barsalou, 1999; Barsalou, Santos, Simmons, & Wilson, 2008). Indeed, according to the embodied cognition theory, it might be that the processing of actions could automatically trigger the perceptual, sensorimotor, and experiential traces associated with prior experiences. Hence, the participants may

automatically simulate the situation evoked by each action (i.e. the script). Zwaan and Yaxley (2004) evidenced that shape and orientation of the objects were depicted in the mental simulation after the processing of sentences describing actions. Kan, Barsalou, Solomon, Minor, and Thompson-Schill (2003) have observed an activation of visual areas during semantic processing without the participants having explicitly received an imagery instruction.

In the present study, the combination of the multimodal traces might have led to an elaborate simulation, rich in specific details, reinforcing the correct recognition of the studied actions while increasing the probability of creating false memories. This might explain the high rates of false and veridical memories in the enactment and imagery conditions as well in the control condition. Therefore, the emergence of knowledge such as scripts might be based on simulation experiences in which contextual and sensory-motor traces form a global multimodal trace, which is not free from false memories.

Addressing the potential effects of sensory-motor and imagery encoding on the creation of false memories, from the embodied cognition approach, assumes that multimodal processing and integration of information mobilize a single episodic memory system. This conception considers cognitive functioning in a dynamic and systemic way where the conceptual, perceptual and contextual dimensions are in constant interaction. From this viewpoint, memories are more often subject to a phenomenon of reconstruction and in fact can move away from the source memory (i.e. the original). It therefore seems crucial to explore the issue of false memories but also confabulations within the theories of embodied cognition in order to specify their mechanisms; consequently, the assumptions resulting from this study merit further investigation.

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AUTHORS' INFORMATION

Full name: Frédérique Robin
Institutional affiliation: Laboratoire de Psychologie des Pays de la Loire
Institutional address: Nantes Université, Faculté de Psychologie, chemin de la Censive du Tertre, 44000 Nantes, France
Short biographical sketch: Ph.D. Professor in Cognitive Psychology, psychologist-psychotherapist. My research covers the impact of mental imagery (integrating its rapports with emotions) on memory functions and emotional regulation. In particular, my works focus on imagination effects on false memories in healthy adults or individuals with cognitive disorders. I am also interesting about the role of hypnosis on the attentional control and emotion regulation.

Full name: Canelle Garnier
Institutional affiliation: Laboratoire de Psychologie des Pays de la Loire
Institutional address: Nantes Université, Faculté de Psychologie, chemin de la Censive du Tertre, 44000 Nantes, France
Short biographical sketch: Psychomotrician, psychologist, Ph.D. student in cognitive psychology (under the supervision of Frédérique Robin and Ph.D. Professor Thibault Deschamps). Canelle Garnier thesis examines the role of motor imagery on prospective memory rehabilitation in patients with multiple sclerosis. To do this, we have developed a prospective memory assessment tool in virtual reality.

Section 5
Psychoanalysis and Psychoanalytical Psychotherapy

Chapter #25

BIPOLAR AFFECTIVE DISORDER: THE PSYCHODYNAMIC APPROACH OF ETIOLOGY

Mariana Băncilă[1], Ana Maria Cojocaru[2], & Simona Trifu[3]
[1]CIP Buharest, Romania
[2]Doctoral School, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania
[3]Neuroscience Department, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania

ABSTRACT
This chapter represents an attempt to review recent studies on the etiology of bipolar affective disorder from a psychodynamic perspective. The multifactorial etiology of bipolar disorder, although recognized and empirically demonstrated, continues to generate difficulties in understanding because the individual contribution of these factors is generally low, most of them being not specific to bipolar disorder. During the last years, more and more studies focused on investigating the impact that environmental factors have in triggering bipolar disorder. Among these, traumatic childhood events seem to influence the risk of developing bipolar disorder, but the way this occurs remains unclear and needs further examination. The psychodynamic approach of etiology of bipolar disorder does not exclude the impact of genetic and biological factors, but the emphasis is placed on the unique significance that these stressors have for each patient. Exploring, from a psychodynamic perspective, the relational patterns and the defensive and adaptive processes that the patient calls upon can facilitate the understanding of the etiology and related therapeutic implications.

Keywords: psychodynamic psychiatry, resistant depressive episodes, genetic factors, hypomania.

1. INTRODUCTION

The perspective that the present material wishes to emphasize is that currently, in clinical practice, there is a higher recurrence of depressive episodes in bipolar affective disorders, a longer duration of them, and a lower rate of complete and rapid recovery. Thus, currently, depressive episodes in bipolar affective disorders are a therapeutic challenge for both psychiatrists and psychotherapists, due to the high suicidal risk and the emotional "void" that must be processed and with which the "psi" specialist has the duty to empathize. Consequently, this article emphasizes both the pharmacological and the psychoanalytic perspective on the major depressive episode in bipolar affective disorders, more than the particularities of the manic episode are highlighted.

Affective disorders represent a group of illnesses with various etiologies and intensities, with a primary impairment of mood and, adjacently, of thinking and activity. They manifest as depressive, manic, hypomanic and mixed episodes, the evolution of these episodes being cyclical, with good remission. Bipolar affective disorder is a severe mental disorder characterized by dramatic mood swings, abnormal changes in a person's mental state, energy and ability to function. Depressive episodes are followed by manic episodes, the term bipolar reflecting precisely this continuous swing between two extremes, from the depressive pole to the manic one. In DSM-5, bipolar and related disorders, found in Chapter 3, constitute a separate chapter, placed between Schizophrenia Spectrum Disorders and

Other Psychotic Disorders (Chapter 2) and Depressive Disorders (Chapter 4) (American Psychiatric Association, 2013). This positioning suggests the recognition of the role of bipolar disorder as a bridge between the two diagnostic classes, in terms of symptomatology, family history and heritability. DSM-5 abandons the multi-axial formulation of the previous edition, the current formulation being a non-axial one. There is a frequent overlap between affective disorders and psychoses, both symptomatically and syndromologically. Situations of this kind can be encountered in schizophrenia (for example, in post-schizophrenic depression), in schizoaffective disorders, or in schizophreniform disorders associated with mood disorders. On the other hand, many cases of treatment-resistant depression may actually be cases of bipolar depression, mistakenly thought to be unipolar depression.

2. ETIOLOGY

As regards etiology, there is a consensus that the genesis of bipolar disorder is multifactorial, at the junction of biological factors with life events and vulnerability factors. In the last decade, the increased interest in this disorder contributed to the emergence of new evidence about the contribution of genetic factors and their interaction with environmental factors. However, although numerous genetic and environmental risk factors have been identified, their individual contribution is generally small, and most of these factors are not specific to bipolar disorder.

In 2017 University of Michigan published the results of a study carried out throughout 12 years on a sample of 1.100 people, to identify the causes of bipolar disorder (Michigan Medicine, 2017). Out of the 1.100 volunteers, more than 730 suffered from bipolar disorder, and the research team analyzed a myriad of data related to participants' genetics, emotions, life experiences, medical history, motivations, diet, temperament, sleep, and cognitive patterns throughout the study. The research program used 7 phenotypes, including the standard criteria used by doctors to diagnose and monitor bipolar disorder. These phenotypes included: cognitive changes (thinking, reasoning, and emotion processing), psychological dimensions (personality, temperament), motivated behaviors (substance use or abuse), life aspects (family, intimate relationships, and traumas), sleeping patterns and circadian rhythms and indicators related to change in symptoms or response to treatment over time. The results of this research show that there are no single factors - genetic changes, chemical imbalances or life events - that fundamentally contribute to the onset of bipolar disorder, the experiences of patients with this disorder being unique. And yet, they all share certain traits that have been grouped into the 7 categories of phenotypes, accompanied by the following results:

- migraines are 3.5 times more common among people with bipolar disorder than among people without this disorder. Eating and anxiety disorders, alcohol problems, and metabolic syndrome are also more common among people with bipolar disorder;
- people with bipolar disorder reported more frequently the presence of a childhood trauma, associated with changes in self-control and attention;
- persons with bipolar disorder had higher levels of saturated fat in their diet, and researches have shown the connection between the level of certain fat molecules in patients' blood and their emotional state or symptom severity;
- the study has highlighted a low level of key bacteria in the gastrointestinal tract and a lower microbial diversity in patients treated with antipsychotics;
- poor sleep plays a key role in bipolar disorder, connections being identified to the severity of depression and mania in female patients but not in male patients;

- persons with bipolar disorder - and especially men - who also have a strong neurotic tendency are more likely to show a more severe form of bipolar disorder;
- a number of cognitive abilities-memory, executive functioning, and motor skills-were lower among people with bipolar disorder;
- two genes - CACNA 1 (Calcium voltage-gated Channel subunit Alpha 1) and ANK3 (Ankyrin-3) – seem to play an important role in susceptibility to developing bipolar disorder. Moreover, many genetic variations have been identified as risk factors for bipolar disorder, and more recent researches have examined the role of these variations in the development of bipolar disorder; moreover, recent genome-wide association studies identified 15 genes linked to bipolar disorder and more than 60 associated genomic loci (Mullins et al., 2021; Stahl et al., 2019);
- stem cells sampled from participants have also proven useful in studying the cellular aspects of bipolar disorder. For example, neurons derived from the patients' stem cells were found to be more excitable, but they calmed down when they were exposed to lithium, a drug commonly used in the treatment of bipolar disorder;
- the key features of the verbal patterns of these patients can be used to estimate the patients' affective states and, at the same time, they can be used to anticipate the need for intervention to prevent manic or depressive episodes.

In 2018, a review of the relevant literature on etiology and risk factors in the occurrence of bipolar disorder. The authors' conclusion was that although various genetic and environmental factors have been identified, they are non-specific to bipolar disorder, being associated with other mental disorders. On the other hand, the analyzed articles emphasized the importance of studying the interaction between genetic factors and environmental factors and the authors examine these interactions separately, for each category of factors (Rowland & Marwaha, 2018).

Therefore, as regards genetic factors, their contribution to bipolar disorder has been identified and demonstrated, the concordance in the case of monozygotic twins being between 40-70% and the risk of developing this disorder throughout life in first-degree relatives being of 5-10% (Craddock & Jones, 1999). However, much more frequently, the relatives of bipolar patients suffer from unipolar depression, suggesting that genetic risk transcends diagnostic categories. Moreover, bipolar disorder does not follow a Mendelian pattern of transmission, the studies not identifying individual genes with a strong causal connection to this disorder (Badner et al., 2012). The risk of developing this disorder is only partly due to multiple single-nucleotide polymorphisms, which are otherwise widespread in the general population (Craddock & Sklar, 2013). Although various studies have attempted to identify the genes responsible for this disorder through associative studies or linkage analyses, the results have not led to the identification of a specific mode of genetic transmission.

2.1. Infections

It is presumed that infections (and especially intrauterine infections) interfere with fetal and postnatal neural development. Two analyzed studies revealed a 4-, respectively 5-fold higher risk of occurrence of bipolar disorder with psychotic symptoms in patients whose mothers were exposed to influenza during pregnancy (Okusaga et al., 2011; Parboosing, Bao, Shen, Schaefer, & Brown 2013). However, the hypothesis that gestational viral infections would increase susceptibility to bipolar disorder has not been confirmed. Exposure to viral infections in adulthood has been investigated by only a few studies, which analyzed the connection between seropositivity for Coronaviruses, influenza type A and type B viruses and affective disorders with or without psychotic features and suicide

attempts. Only influenza type B was correlated to a history of suicide and psychotic symptoms (Aldinger & Schulze, 2017).

A week immune system or immune dysfunctions could lead to infections frequently associated with bipolar disorder. Considering the important function as regulator for the immune system of the HLA-G (human leukocyte antigen G), it has shown that this protein is linked to the etiology of bipolar disorder (Sundaresh et al., 2018).

2.2. Smoking during Pregnancy

Few studies have highlighted an increased risk for bipolar disorder caused by smoking during pregnancy, but so far there are no systematic research protocols regarding the correlation between smoking during pregnancy and bipolar disorder (Ekblad, Gissler, Lehtonen, & Korkeila, 2010; Talati et al., 2013). Moreover, sometimes the mother who smoked during pregnancy is most likely due to confounding by familial background factors (Chudal, Brown, Gissler, Suominen, & Sourander, 2015).

2.3. Birth Complications

It is still unclear whether bipolar disorder is in any way influenced by birth complications. A single study suggests a 2.5 times higher risk of developing bipolar disorder in patients born by planned cesarean section (Chudal et al., 2014). Other studies analyzed a possible connection between the baby's weight at birth, the mother's age and bipolar disorder, but the hypothesis was not confirmed. Only one study found that premature birth could be associated with bipolar disorder (Nosarti et al., 2012). Till today, there are no other studies analyzing the potential impact of birth complications on the clinical evolution of bipolar disorder so that is difficult to decide for a clear association.

2.4. Climate and environmental factors

It is presumed that climate changes influence the regulation of affective states, particularly in the case of bipolar disorder (Rybakowski, 2021). Some connection between seasonal variations and bipolar symptoms have been highlighted through systematic reviews, the climate been a trigger for the onset of bipolar disorder or for seasonal peaks or patterns for different mood episodes associated with bipolar disorder (Geoffroy, Bellivier, Scott, & Etain, 2014). A higher correlation between seasonal frequency and manic episodes have been observed comparing with depressive episodes. Generally, the climax of mania occurs in spring and summer, with another third peak in the middle of winter, while depression is more common in winter and spring (Hochman, Valevski, Onn, Weizman, & Krivoy, 2016). Moreover, the data show that climatic factors such as the middle hours of the day, the average temperature, the number of sunshine hours - day-night alternation - are associated with relapses in bipolar disorder. It is the reduction of natural light that mainly triggers depressions. The correlation between sunlight and affective states is also supported by the therapeutic effect of phototherapy in mood disorders (Niemegeers, Dumont, Patteet, Neels, & Sabbe, 2013; Galima, Vogel, & Kowalski, 2020). Young argue, however, that this factor gradually loses its importance given the weakening of the circadian rhythm caused by electric lighting – the switch between manic and depressive states corresponding to high activity during lighting period (increased catecholaminergic expression) to low activity, depression (increased somatostatin and corticotrophin releasing factor) (Young & Dulcis, 2015). It is not clear if the vulnerability to climate and seasonal changes is linked to gender considering that there are studies that consider it greater for women and others for man (Hochman et al., 2016; Geoffroy, 2014).

2.5. Childhood Traumas

A life history that includes childhood traumas is common in patients with bipolar disorder. The prevalence of post-traumatic stress disorder (PTSD) in patients with bipolar disorder ranges from 16% to 39% (Otto et al., 2004). Broadly, traumas are obvious in nearly 50% of the patients with bipolar disorder and influence both the onset and clinical evolution of bipolar disorder (Garno, Goldberg, Ramirez, & Ritzler, 2005). The review of Aas (Aas et al., 2016) concluded that:

o childhood traumas influence the clinical evolution, generating a younger age at which the onset of bipolar disorder occurs. Traumas also increase the risk of a rapid cyclical evolution, the risk of psychotic symptoms, the risk of more lifetime episodes, of suicidal ideation and suicide attempts, as well as the risk of substance abuse;

o gender differences also seem to be significant. Women with bipolar disorder reported more frequently childhood traumas and had a more severe evolution of bipolar disorder (increased episode cyclicity, early onset, suicide attempts, and more frequent depressive episodes).

By contrast, Quarantini point out that bipolar patients with childhood traumas showed more manic than depressive symptoms compared to the control group (Quarantini et al., 2010). In terms of type of trauma, most researches focus on sexual and physical abuse, but there are indications that emotional abuse and parental neglect are the most prevalent of the types of traumas. A possible explanation would be the difficulty of detecting emotional abuse through assessment questionnaires. It is worth noticing that, in this context, to the traumatic experience of bipolar patients caused by childhood traumas, their own turbulent behaviour during manic episodes is added.

Childhood traumas are associated with lower resilience that links directly with decreased quality of life in bipolar disorder (Citak & Erten, 2021).

2.6. Life Events

Psychological stressors represent life events that affect the evolution of bipolar disorder, although their relationship to the onset of the disorder has been much less investigated, compared to the onset of unipolar depression. Various researchers have pointed out that certain life events influence the age of onset and the clinical evolution of bipolar disorder. According to their type, certain events trigger either mania or depression (Johnson, 2005; Alloy et al., 2005). The literature highlights that, in general, positive events and achievement of some goals are followed by manic episodes; negative events, not just the positive ones, can trigger both depression and mania (Johnson et al., 2008). Many factors have been studied: interpersonal problems (e.q. loss of a loved one, illness), social status, financial crises, work-related difficulties, failure, job-related issues (e.q. unemployment), number of exposures to events as they are a trigger or a risk factor of relapse and psychotic features. Gershon concluded that exposure to trauma is correlated with more severe interpersonal difficulties leading to more severe depressive episodes (Gershon, Johnson, & Miller, 2013).

Bipolar disorder is frequently associated with substance abuse, such as cannabis, opioids, cocaine, sedatives, and alcohol, although the causality is more difficult to demonstrate because of the relatively small number of prospective and longitudinal studies. However, more and more studies highlight cannabis as a risk factor and examine the relationship between the frequency of consumption, age of the consumer, and the onset or severity of bipolar disorder (Lalli, Brouillette, Kapczinski, & de Azevedo Cardoso, 2021). For opioids, alcohol, and drugs, prospective studies show that they increase the risk associated with bipolar disorder, without examining the specific differences (Preuss, Schaefer, Born, & Grunze, 2021).

2.7. Social Support

According to Greenberg, people with bipolar disorder show greater deficits in the area of social relationships, such as relationships with parents, family, partner and friends (Greenberg, Rosenblum, McInnis, & Muzik, 2014). The relapse rate is higher for people without a support system. Moreover, the presence of a partner at the onset of the disorder has a positive effect on the clinical evolution and especially on the recovery between episodes, while patients without partners are at a higher risk of psychotic manifestations. In addition to social support, family behavior significantly influences the evolution of bipolar disorder. Excessively expressed emotions and negative affective style increase the risk of relapse and may even influence the prevalence of suicidal ideation in young bipolar patients. Miklowitz points out that patients who were overly criticized by close relatives showed more severe symptoms in both depressive and manic episodes (Miklowitz, Wisniewski, Miyahara, Otto, & Sachs, 2005).

In conclusion, according to the authors, the studies prove that, of all the factors examined, childhood traumas contribute the most to the onset and evolution of bipolar disorder. Bipolar patients with a traumatic history will have a more rapid episode cyclicity, more frequent psychotic manifestations, a greater number of episodes throughout life, and a greater risk of suicide, suicidal ideation, and substance abuse. It is noteworthy that emotional abuse is generally ignored in the literature, even though it is assumed to have the highest prevalence among early adversities.

2.8. Parental Style

A recently published comparative study examines parenting style as an important risk factor associated with psychiatric disorders (Abbaspour, Bahreini, Akaberian, & Mirzaei, 2021). The study compares parental styles in 130 patients suffering from schizophrenia, bipolar disorder or depression using the Parental Bonding Instrument (PBI) to analyze the data. The results show that the optimal parental style (low control, increased care) is present in 43.05% of bipolar patients, in 47.7% of patients with severe depression and in 38.5% of patients with schizophrenia. However, 62.30% of all analyzed patients reported ineffective paternal styles and 51.53%, ineffective maternal styles. Moreover, maternal parenting styles were significantly different ($p=0.007$), while paternal styles did not show significant differences ($p= 0.848$). In the case of bipolar patients, they experienced an excessive control from both parents. Most patients were affected by ineffective parenting styles and, despite the existence of bio-psychosocial factors associated with these disorders, the crucial role of the parents, and especially of mothers, should not be ignored.

3. DIFFERENTIAL DIAGNOSIS

The differential diagnosis can be made with other mental disorders, with other medical conditions and with the effects of certain medicine substances. General medical conditions that can give symptoms similar to bipolar affective disorder are cardiac disorders, respiratory disorders (pneumonia), endocrine disorders, infectious or inflammatory diseases, malignant tumors, metabolic deficiencies, nutritional deficiencies, stroke, hydrocephalus, Alzheimer's dementia, Parkinson's disease, arthritis rheumatoid, tuberculosis. Pharmacological causes can be the administration of analgesics, antibacterial agents, antineoplastics, cardiac and antihypertensive medication (betablockers), antipsychotics, anti-inflammatory (corticosteroids), contraceptives.

Psychiatric disorders that can mimic the symptoms of bipolar affective disorder are depression or mania secondary to a somatic condition, dysthymic disorder, substance-induced mood disorder, recurrent depressive disorder, adjustment disorder with depressed mood, sadness, grief depression, dementia, attention deficit hyperactivity disorder (ADHD), schizophrenia with negative symptoms, the depressive or manic phase of schizoaffective disorder.

4. THE MANAGEMENT OF MAJOR DEPRESSIVE EPISODE IN BIPOLAR AFFECTIVE DISORDER

The management of major depressive episode in bipolar affective disorder has as main goals ensuring the safety of the patient: assessing the risk of suicide, assessing the need for hospitalization; verifying the diagnosis by reference to non-psychiatric differential diagnoses (medical causes or drugs) and trying to clarify the psychiatric diagnosis; collection of anamnestic data; paraclinical investigation to exclude other possible causes of secondary depression (hemogram, urine samples, thyroid function, liver function, calcium dosage, phosphate dosage, glucose, vitamin B12, folic acid); using a combined therapeutic approach that includes pharmacological agents and psychotherapy.

The evaluation is done considering several criteria: clinical form, intensity, comorbidities, somatic problems, suicidal risk, level of social functioning. The diagnosis is made according to ICD 10 and DSM 5.

Monitoring involves tracking the patient's general condition, psychiatric symptoms, as well as his somatic condition (clinical and paraclinical effects of the treatment), compliance level and social functioning.

The therapeutic approach involves psychological treatment (which can be achieved through cognitive-behavioral therapy, interpersonal therapy, psychoanalytically oriented psychotherapy, supportive psychotherapy, group therapy, family therapy, drug associations), lifestyle change (physical exercise, increasing the group of social support, adequate nutrition) and the pharmacological approach (with serotonin-norepinephrine reuptake inhibitor (SNRI), selective serotonin reuptake inhibitors (SSRIs), tricyclic antidepressants, heterocyclic antidepressants).

The treatment phases are:

a. acute phase (up to 12 weeks to achieve complete remission);

b. continuation phase (lasts from 4 to 6 months);

c. maintenance phase (long-term commitment to prophylactic treatment with an antidepressant, relapse prevention).

Choice of antidepressant medication is done according to the clinical image. It is considered that activating antidepressants can potentiate anxiety and insomnia, and by decreasing psychomotor inhibition they can increase the risk of suicide. When they are used, it is necessary to combine them with benzodiazepine-type anxiolytics (which also have a secondary antidepressant effect) and some sedative-type neuroleptics (Levomepromazine, flupentixol decanoate - Fluanxol). Suicidal risk requires strict supervision, and sleep disorders are corrected with neuroleptics.

In elderly patients, antidepressants without atropine action are preferred, so that they can be administered even in the presence of comorbidities (glaucoma, prostate adenoma, heart disease).

The choice of an antidepressant will consider therapeutic adequacy, tolerance and compliance, avoiding adverse reactions, as far as possible, using an effective dose in monotherapy, efficiency and effectiveness in the medium and long term.

For short periods, we are interested in rapid onset of action, resolution of symptoms, good tolerance, safety in administration (no lethal effect in suicide attempts)

For the long term, we are interested in: tolerability, the possibility of being titrated easily (blood level), prevention of symptoms appearing when the treatment is interrupted (absence of discontinuity syndrome), recovery as complete as possible, with a remission that leads to the return to the most previously achieved high level of functioning, avoiding relapses and recurrences, respecting the patient's dignity and quality of life, the financial possibility to procure the medicine in the long term.

Relapse is defined as: the exacerbation of depressive symptoms in a patient with an acute episode of the disease, after the initial suppression of symptoms and their reappearance within 6-9 months from the onset of the acute episode. In patients with bipolar depression, the relapse may take the form of a manic turn. In patients with unipolar depression, the frequency of relapses can reach up to 66% of cases, being most often a form of manifestation of therapeutic inadequacy. This is favored by: the obvious severity of the acute depressive episode, the heredocollateral history of unipolar depressive affective illness, a large number of previous depressive episodes. Relapse prevention is achieved through continuous treatment, over an average duration of 6-9 months.

5. THE PSYCHODYNAMIC PERSPECTIVE

Text Contemporary psychodynamic approaches also admit that affective disorders are strongly influenced by genetic and biological factors. From a psychodynamic perspective, affective disorders refer to people whose character structures are generated by depressive dynamics, including personalities characterized by the denial of depression and who are called manic, hypomanic and cyclothymic. But the fundamental themes that organize depressive and manic people are similar. From a psychoanalytic point of view, the manic mood is unconsciously sought as a form of release from the oppression of depression (Bollas, 2021). Early experiences of abuse, neglect or separation can lead to a neurobiological sensitivity that predisposes the individual to respond to stressors by developing a major depressive episode. Kendler, Neale, Kessler, Heath, and Eaves (1992) reported an increased risk of major depression in women separated from their mother or father during childhood or adolescence. In 2001, Kendler, Gardner, Neale, M. and Prescott also noticed gender differences regarding the depressogenic effect of stressful life events: men were more sensitive to the depressogenic effects of divorce, separation, and professional problems, while women reacted mainly to the depressogenic effects of relationships with those close to them. Losing a parent in childhood significantly increases the risk of major depression in adulthood. Parental divorce in early childhood has also been associated with increased risk for depression (Gilman, Kawachi, Fitzmaurice, G. & Buka 2003). But not only early losses are associated with greater vulnerability to depression, but also physical and sexual abuse. Various studies show that women with a history of abuse or neglect have a two times higher probability to have negative relationships and low self-esteem compared to women without such a history (Bernet & Stein, 1999; Bifulco, Brown, Moran, Ball, & Campbell, 1998; Brown, 1993) and abused or neglected women who have negative relationships and low self-esteem are ten times more likely to develop depression. Gabbard (2005) reviews a number of studies that have analyzed the influence of early trauma on depression and the permanent biological alterations that these traumas produce, such as: 18% lower left hippocampus volume in depressed women abused vs. depressed women non-abused in childhood; an increased level of corticotropin (CRF) that induces pituitary secretion of adrenocorticotropic hormone (ACTH), so early experiences of

neglect or abuse can activate the stress response and they can induce an increase in the activity in neurons containing CRF; increased pituitary, adrenal, and autonomic responses to stress, etc., the researchers concluding that hyperactivity of the hypothalamic–pituitary–adrenal axis and of autonomic nervous system associated with hypo-secretion of CRF are a persistent consequence of childhood abuse that may contribute to the diathesis for adult depression.

Although early stressors are an inherent component of the psychodynamic model that associates adult pathology with early trauma, the dynamic perspective also considers the significance of individual stressors. The clinician must always monitor the meaning that an apparently common stressor may have for the patient and to explore the meaning of all stressors, to identify the unique way in which each stressor affects the patient. Hammen (1995) notes that a considerable consensus has been reached that what matters less is the occurrence of a negative life event and more the personal interpretation of the meaning of the event and its importance in the context of its occurrence.

The most psychodynamic approaches suggest that in the case of depressive patients it is question of a fundamental narcissistic vulnerability and a fragile self-esteem, to which anger and aggressiveness are added (which result in guilt or self-denigration) and the search for a protective authoritarian figure that cannot be found and a punitive Superego completes the depressive picture. Freud (Mourning and Melancholia, 1917) links depression to early childhood losses and sees self-depreciation - omnipresent in depressive patients - as the result of an inward-directed rage against the background of identification with the lost object. Abraham (1924) develops this idea, suggesting that depressive adults experienced a severe decline in self-esteem in childhood, adult depression being triggered by a new loss or injury, which arouses intense negative feelings toward present and past figures who have hurt the patient through withdrawals, real or imaginary, of their love. Klein (1940) sees manic defences (omnipotence, denial, contempt, and idealization) as response to painful feelings caused by the object loss. An integral aspect of the manic defensive posture is often a desire to triumph over the parents and to reverse the parent-child relationship, a desire that can give rise to guilt and depression. In Klein's view, this mechanism is partly responsible for the depression that often occurs after success or failure. According to Gabbard (2005), Klein's formulation can help clinicians decipher the psychological significance of the coexistence of manic episodes with biological determinants. In dysphoric manic patients, the defensive function of mania is obvious: anxiety and depression pierce the manic episode, requiring the re-emergence of manic denial. In a much attenuated form, hypomanic defences are designed precisely as a defence against the threat of depressive affects. Unlike Freud and Klein, Bibring (1953) sees melancholic states as the result of tension between ideals and reality, any damage to self-esteem being a possible trigger for depression. For Bibring, the key to understanding depression was narcissistic vulnerability and the Superego had no key role in this process. Joffe and Sandler (1965), who studied the files of depressive children at the Hampstead Clinic in Great Britain, note that they become depressed when they feel that they lost something essential to their self-esteem and feel too helpless to prevent this loss, which becomes a kind of lost paradise, idealized, desired with intensity but unattainable. Jacobson (1971) develops Freud's formulation, suggesting that depressed patients actually behave as if they were insignificant, lost love objects, and eventually this bad internal object - or lost external love object - turns into a sadistic Superego. Arieti (1977) postulates a pre-existing ideology in severely depressed patients: the husband, the wife or an institution is often a dominant other in the psychological world of the depressed individual, who lives for this other, being convinced that life is worthless if he/she cannot get the desired answer from the partner.

In the phenomenology of depression, in the foreground is a loss of self-esteem, says Otto Fenichel (1945). I have lost everything; now the world is empty, the patient seems to feel, when the loss of self-esteem is mainly caused by a loss of external resources or I have lost everything because I deserve nothing, when, in the intra-systemic conflict between Ego and Superego, the Superego wins. Psychoanalysis attributes an important role to aggressiveness in the onset of depression in adults, with countless psychoanalysts considering aggressiveness to be one of the most important components - if not the most important - in the onset of depression. The depressive reaction seems to be always related to undischarged aggression. (Joffe & Sandler, 1965) or inhibited, aggressive drives are the core of depression. (Schultz-Hencke, 1940)

Adler (1908) gave the aggression drive a prominent role but, unlike Freud, for whom aggressiveness had its origin in the death drive, he derives aggressiveness from sexual and self-preservation drives. In the subsequent debates about the compulsive or non-compulsive nature of aggressiveness, Anna Freud would conclude that aggressiveness lacks the characteristics of a drive (the organ, the energy) and Kunz proved the supposed non-specificity of aggressiveness by the lack of an object reserved for it. *That is why we emphasize, like Kunz, that the enormous efficiency, the characteristic of being always ready of aggressiveness and destructiveness does not become sufficiently intelligible except under the premise of its reactive nature* (Thomä & Kächele, 2006). Kohut would criticize the theorization of aggressiveness as a primary drive, for him destructiveness representing a primitive product of disintegration, "the narcissistic rage" having a role of self-preservation, of maintaining some systems of the Self. Thomä and Kächele (2006) would also identify the considerable difference between aggressiveness and destructiveness:

The loud aggression, which is directed against people or objects that stand in the way of our satisfaction, quickly disappears after the goal is achieved. The narcissistic rage, on the other hand, is inexhaustible, it never ends. Conscious and unconscious phantasms have acquired their independence from events that give rise to rivalry aggressiveness, and now act permanently as inexhaustible forces of cold-blooded destruction.

Facing the threat of loss of self-esteem, the patient tries to retroactively cancel this loss, aggravating the situation, says Otto Fenichel (1945), by pathologically introjection of the loved object in an ambivalent way, which leads to feelings of absolute annihilation.

The sadistic-oral introjection of the object, whose love is desired as a narcissistic resource, is like a lighted match thrown over the dust of dammed narcissistic need.

Through this narcissistic identification (*the shadow of the object has therefore fallen over the Ego*), the object is completely replaced by the alteration of the Ego. After the introjection, the sadism is taken over by the Superego and attacks the Ego already altered by the introjection. Now the Superego treats the Ego as the patient unconsciously wishes to treat the object. Freud saw the melancholic's self-reproaches as accusations directed against the introjected object, and Abraham added that often, contrary to expectations, grievances appear from the introjected object and in the form of accusations that the real object has actually brought to the patient. Fenichel (1945) adds an important detail: yes, in depression, the Ego is helpless and cedes in front of the Superego, but in terms of the existence of a reproaching Superego, self-reproach is not the only way to try to attack an introjected object; in terms of the existence of an Ego who is reproached, self-reproach is both the flattery of the Superego and a plea for forgiveness, a way of getting into the Superego's good graces. But this attempt fails.

The immeasurable sadism, inherent in the oral instinctual tendencies and remobilized through regression, devoted itself to the Superego; all the rage with which the Ego unconsciously wished to attack its object is now unleashed against the Ego (Fenichel, 1945).

In other words, the Ego lays down the arms:

The melancholic's fear of death allows only one explanation: that the Ego surrenders, because it is hated and persecuted by the Superego instead of feeling loved (Fenichel, 1945).

For Freud, the genesis of a severe Superego corresponds to a gentle education or, on the contrary, it is in proportion to the aggressiveness that the child felt towards the parents and that he/she had to repress. Stiemerling (2002) distinguishes four important characteristics of the Superego of depressive persons:

- they are in conflict with the Ego, which they treat as an object;
- remained at a stage of infantile development;
- may be the genetic heir of the parental instance;
- the child probably had considerable aggressiveness against the authorities (parents) and had to give up satisfying those vengeful aggressive tendencies. He/she helps himself/herself out of this situation, recognizing this authority that becomes the Superego

Any psychodynamic pattern of depression will focus on the early traumatic experiences that determine the child to develop problematic Self and object representations, as well as the defence mechanisms that the child uses to control painful affects. Of these, some may contribute to the development of depression, while others may contribute to protection against depression. Therefore, turning against oneself through excessive self-criticism is an immature defence that contributes to the development of dysphoria, while intellectualization can positively influence the level of dysphoria. As regards the relational patterns of depressive people, psychodynamic approaches have identified the origins of dysthymic dynamics in early experiences of separation or loss of the object, as well as in other family circumstances, such as: parental neglect towards the child's needs, the absence of explanations that facilitate the child's understanding of traumatic events, a family atmosphere where mourning is discouraged, or a parent's depression. According to Gabbard (2005), the psychodynamic perspective on defences, as well as the identification of the unique meanings that defence mechanisms and object relations have for each depressed person can facilitate the understanding and treatment of depression.

6. THE REVERSE OF DEPRESSION: HYPOMANIA

People with hypomanic personality have a fundamentally depressive organization, counteracted by the defence of denial, and when this defence fails, depression emerges. The hypomanic individual is full of enthusiasm and energy, boastful, grandiose and funny. He/she makes big plans, can't slow down, and can be attracted to drugs, alcohol, or medication. For Akhtar (1992), the individual with hypomanic personality is overtly cheerful, highly sociable, idealizes others, workaholic, seductive and logical, and at the same time, secretly guilty of aggression towards others, unable to be lonely, empathically deficient, unable to love, corruptible and lacking a systematic approach in his/her cognitive style. McWilliams (1994) nuances this portrait, pointing out that most individuals with a hypomanic character, however, present a more attenuated version than that described by Akhtar, being capable of love and having an integer character: individuals with hypomanic psychology are known for their high energy, state of excitement, mobility, distractibility and sociability. They are often very good hosts, story-tellers, mimes, good at puns,

treasures to their friends who, nevertheless, complain, because, owing to their habit of turning any serious remark into a joke, it is difficult to you get too close to them emotionally.

Fenichel (1945) also noticed the oral organization of hypomanic people: they talk all the time, crunch, smoke, drink or chew gum, and they are often overweight. Their constant agitation, however, suggests considerable anxiety, despite their displayed enthusiasm, and their joy seems fragile, unstable. Bollas (2021) points out, however, that it is the anal organization that becomes obvious in the analysis of the manic-depressive, the analytical work contributing to the understanding of the fact that there is a subjacent sexualisation of the manic episode: The manic-depressive individual sucks the productions of the mind as if they were a mother's breast. The mind-sucking is violent and intense. Although some of the mental food is orally discharged through speech, it is as if a phantasm unconscious of the discharge of the residues through the anus is operating at the same time. The urethra is activated, creating an anal-urethral connection that generates a genital sensation. Thus, he/she fools the world through manic processes of elimination.

The manic self is terrified of attachment because losing the object could be devastating for it. Suicide attempts and blatant psychotic behaviour can suddenly invade the manic fortress if any loss becomes too painful to be denied (McWilliams, 2011). Moreover, on the background of the primitiveness of the defensive and adaptative processes involved, many hypomanic and cyclothymic individuals are prone to self-fragmentation, their precarious self-esteem being maintained only by avoiding pain and capturing the attention of others. Hypomaniac individuals are masters in attracting others and awakening their deep attachment, but without the reciprocity of an equally deep investment. Bollas (2021) also confirms this picture:

Manic-depressive individuals are like Zeus. They do not need sexual contact with the other to procreate - their children are born through the mouth, anus, urethra, and genitals. By inversion logic, this absence of need for another person means that all others need the manic-depressive. There is therefore an extreme urgency, almost at the limit of panic, to make the world recognize that it needs him/her before being hit by a catastrophe. As in the case of depressive persons, regarding the relational patterns of manic individuals, the clinician discovers repeated traumatic separations that the child could not process emotionally, the death of an important person whose grief could not be elaborated, divorces, repeated moves, criticism, physical or emotional abuse. But the extreme defences to which the manic resorts - denial, cleavage, turning against oneself, etc. - indicate, however, that these losses were somehow different from those of the depressive person, perhaps more severe or much less metabolized. Bollas (2021) describes the early environment of the manic-depressive person as veiled in an invisible inertia, people with this disorder being deprived of the experience of processing the ups and downs of life, of emotional oscillations of any kind: This does not happen in the family of the manic – depressive person, who prefers a quiet life and doesn't bother to help his/her children manage their drives. The manic-depressive individual was an unseen and uncelebrated child, whose family was generally inattentive to his/her inner world.

7. MOURNING AND MELANCHOLY. THE SIMILARITY BETWEEN THE TWO IN THE FACE OF LOSS

In presenting his early theory of mourning in "Mourning and Melancholy" (Freud, 1917), Freud begins by defining the similarities between the two responses to loss that he otherwise seeks to distinguish. Mourning and melancholia involve similar symptoms:

"deeply painful detachment, cessation of interest in the outside world, loss of the capacity to love, [and] inhibition of all activity." Moreover, both mourning – "normal" and melancholia – "pathological" can occur as "a reaction to the loss of a loved one or to the loss of an abstraction that has taken one's place, such as one's country, freedom, and ideal, and so on". Whether in response to literal death or symbolic loss, mourning is an experience of pain and a process by which the sufferer relinquishes emotional ties to the lost object. While drawing on prevailing assumptions about the mourning process, Freud suggested that this detachment of the libido occurs through a "reality testing."

Although he acknowledged a lack of complete knowledge of reality testing, Freud argued that the weeper destroys attachments, primarily through memory work: "Each of the memories and expectations in which the libido is linked to the object is raised and discharged, and the detachment of the libido is achieved as far as it is concerned. When this stage of mourning is completed, the Ego becomes free and uninhibited again."

The work of overcoming mourning, as Freud describes it, involves a process of obsessive recollection during which the survivor revives the existence of the lost other in the space of the psyche, replacing a real absence with an imaginary presence. This magical restoration of the lost object allows the bereaved to assess the value of the relationship and understand what he has lost through the loss of the other. But the prolongation of the existence of the lost object, at the heart of the effort to overcome the pain, does not persist indefinitely, because Freud argued that the sufferer, comparing the memories of the other with the actual reality, reaches an objective determination that the lost object no longer exists. With a very specific task to perform, the experience of Freudian loss then attempts to transform the memory to which the person is attached into a memory without a future. Mourning comes to a decisive and "spontaneous" end, according to Freud, when the survivor has detached his emotional connection to the lost object and attached his free libido to a new object, thus accepting consolation in the form of a substitute for what he been lost.

It is confusing that the term "depression" has been applied both to the state accompanying mourning and to what results from defenses against suffering. The path leading to confronting and grieving the loss is associated with a painful depressive feeling involving guilt, regret, remorse, and a desire to make amends. These feelings were thought by Klein in 1952 (Klein, 2011) to represent the depressive position and are very different from those observed in depressive illnesses. Although mixed states are common, severe depressive illness or melancholia results from the defense against loss and therefore against all those feelings associated with the depressive position. Freud's (1917) description of both mourning and melancholia gains further depth from his later formulation, which argues that all conflict has deeper roots in the conflict between the life and death instincts. Specifically, although attitudes toward this formulation vary, it appears to be particularly applicable to bereavement conflict. After a mourning, the life instinct seems to slowly recover and help the patient to let go of the attachment to the dead object and engage in feeding the life instinct. The death instinct is more difficult to formulate, but it can be thought of as an anti-life force, expressed as the conservative tendency to hold on to the lost object and thus favor the development of melancholy.

The central problem remains the ability to judge reality. In the case of real loss through death, Freud (1917) described how "each of the memories and expectancies, which demonstrate the attachment of the libido to the lost object, is subject to the verdict of reality that the object no longer exists" (Phillips, 1999, pp. 122-123). Here the judgment involves the question of loss of love, and the particular incident of "neglect or disappointment" must disappear by the application of the "proof of reality." The choice dictates whether the loss of love is faced and perceived in realistic proportions, requiring an appropriate amount of

guilt to be felt, leading to a loss of idealization - both of Self and of the object. Sometimes the patient's level of development propels him in the direction of change because the patient comes to believe that he is strong enough to survive threats of loss.

8. CONCLUSION/DISCUSSION

The studies on the etiology of bipolar affective disorder have highlighted various risk factors: from genetic, perinatal, neuro-anatomical and neuro-chemical influences to environmental, psychosocial or climatic factors. The multifactorial etiology of bipolar disorder, although recognized and empirically demonstrated, continues to generate difficulties because the individual contribution of these factors is generally small, most of which being not specific to bipolar disorder. Therefore, during the last years, more and more studies focused on investigating the impact that environmental factors have in triggering bipolar disorder. Among these, early traumas appear to be omnipresent in the case of patients with bipolar disorder, the relationship between childhood abuse and bipolar disorder severity being an additional argument for the increased causal relation in this case. And yet, although traumatic childhood events seem to influence the risk of developing bipolar disorder, the manner in which this occurs remains unclear and needs further examination. In the case of bipolar patients, traumatic childhood events seem to be closely correlated with increased affective instability or emotional disturbances. The psychodynamic approach of etiology of bipolar disorder does not exclude the impact of genetic and biological factors, but the emphasis is placed on the individual significance of stressors. The clinician must continuously monitor the meaning that an apparently common stressor may have for the patient and explore the meaning of all stressors to identify the unique way in which each stressor affects the patient. The exploration, from a psychodynamic perspective, of the relational patterns and the defensive and adaptative processes that the patient calls upon can facilitate the understanding of the etiology and related therapeutic implications.

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AUTHORS' INFORMATION

Full name: Mariana Băncilă
Institutional affiliation: CIP, Bucharest, Romania
Institutional address: Str. Dionisie Lupu no. 37, Sector 2, Bucharest, Romania
Short biographical sketch: Licensed in Philology, University of Bucharest; Licensed in Psychology, "Titu Maiorescu" University; Master Degree in Psychoanalysis, "Titu Maiorescu" University; Psychoanalysis training, INSIGHT association for Clinical and Theoretical Psychoanalysis; Psychoanalysis translator for "Trei" Publishing House

Full name: Ana Maria Cojocaru
Institutional affiliation: "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania
Institutional address: Str. Dionisie Lupu no. 37, Sector 2, Bucharest, Romania
Short biographical sketch: Graduated "Carol Davila" University of Medicine and Pharmacy in 2019; third year resident doctor in Psychiatry at "Alex. Obregia" Clinical Hospital of Psychiatry; first year PhD student at Doctoral School of "Carol Davila" University of Medicine and Pharmacy; currently in training in Integrative Psychotherapy at Romanian Association of Integrative Psychotherapy since 2021.

Full name: Simona Trifu
Institutional affiliation: "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania
Institutional address: Str. Dionisie Lupu no. 37, Sector 2, Bucharest, Romania
Short biographical sketch: Senior Psychiatrist, hab. associate professor Department of Clinical Neurosciences, Psychiatry Discipline – Clinical Hospital of Psychiatry "Alex. Obregia" of "Carol Davila" University of Medicine and Pharmacy, PhD in medicine UMF "Carol Davila", PhD in Psychology University of Bucharest, Master Degree in Public Health, Psychoanalyst, direct member of International Psychoanalytical Association, more than 200 published articles, 17 published scientific books.

Chapter #26

SOCIO-EMOTIONAL COMPETENCIES ACROSS ADULTHOOD: STABILITY, CHANGES, AND THEIR ROLE ON WELLBEING DIMENSIONS

Teresa Maria Sgaramella & Laura Foresta
Department of Philosophy, Sociology, Education and Applied Psychology, University of Padova, Italy

ABSTRACT
Social and emotional learning is an integral part of human education and development and is the process through which everyone, children, and adults develop the skills, attitudes, and values necessary to acquire social and emotional competence.
The main objective of the study was to observe how the different stages of the adult life are characterized by social and emotional skills. A second goal was to understand the relationships holding between Social and Emotional Competences (SECs), wellbeing experienced, and future time perspective.
A total of 212 adults living in Northeast of Italy were surveyed for their Socioemotional skills, future time perspective, and wellbeing. According to their age, three groups were identified, including young adults, adults and middle adults.
Results confirm the specificity of SECs across adult development. Regression-based mediation models evidence the role of SECs as mediator in the relationship between future time perspective and psychological wellbeing. Social and Emotional Learning (SEL) reveal as an integral part of adult education and lifelong learning and a guide in prevention and support actions.

Keywords: socio-emotional competences, future time perspective, wellbeing, adult development, education.

1. INTRODUCTION

Adults live in a globalized society characterized by high insecurity, challenges, and rapid changes that include digitization and individualization, economic crisis, global competition and reshape their lives in a way that they struggle to predict (Balliester, & Elsheikhi, 2018). Additionally, the challenges and the transitions that adults face through their adult life are diverse: emerging adults face the transition of identity from student to the young worker and the achievement of an economic level that ensures independence; middle adults' life is characterized by challenges concerning the work and family environment. Later, adults play a constellation of roles from which derive many responsibilities as to the end of the working career. During adult development, life skills such as social and emotional skills, being able to achieve the set goals derived from the different roles can influence the ability to both manage daily challenges and project into the future and (Arnett, Robinson, & Lachman, 2020; Kjellström & Stålne, 2017; Robinson, 2020). It is important then to understand their role in adult positive development and wellbeing.

2. BACKGROUND

2.1. Socio-Emotional Competences and their Impact on Everyday Life

Socio-Emotional Competences (SECs) include the ability to understand and manage emotions, express emotions in appropriate ways, set and achieve positive goals, feel empathy and concern for others, establish positive relationships, and make responsible decisions (Weissberg, Durlak, Domitrovich, & Gullotta, 2015). Social and emotional learning is an integral part of human education and development and is the process through which everyone, children and adults develop the skills, attitudes, and values necessary to acquire social and emotional competence (CASEL, 2020).

Five broad domains are proposed by the Collaborative for Academic Social and Emotional Learning's (CASEL): (a) self-awareness (recognizing own thoughts and behaviours, assessing own strengths and weaknesses), (b) self-management (regulating emotions and behaviors, working toward important goals), (c) social awareness (taking others' perspectives, understanding behavioural norms, utilizing social support), (d) relationship skills (creating and maintaining positive relationships, communicating effectively), and (e) responsible decision-making (making sound decisions in the context of internal and external demands (Weissberg et al., 2015).

In more recent studies (Davidson et al., 2018) Self-Awareness and Self-Management are proposed as the two main domains of analysis. Self-Awareness divided into (a) self-awareness of strengths/weaknesses, which involves capacities for accurately recognizing their own abilities, and (b) self-awareness of emotions, which captures students' abilities to recognize their own feelings and how those feelings impact their behaviours. Self-Management was separated into (a) self-management of emotion, which refers to the ability to manage negative emotions and control impulsive behaviours; (b) self-management of goals, which means the ability to set and work toward personal and academic objectives; and (c) self-management at work, which reflects the ability to focus on the requests and engage in behaviours that keep them on track in their work goals.

Literature suggests that the competence to adequately manage emotional challenges in the professional field is related to greater wellbeing experience (Dorociak, Rupert, & Zahniser, 2017; Mayordomo, Viguer, Sales, Satorres, & Meléndez, 2016). Professionals with high relational and emotional skills seem to have more resources at their disposal to deal with the challenges in their work context, thus maximizing their professional results (Sanchez-Gomez, Breso, & Giorgi, 2021). Additionally, international organizations recognize the relationship between socio-emotional skills and social progress, with this last referring to various aspects of life, such as health, satisfaction, professional success, civic engagement (OECD, 2015).

Studies underline the relevance and complexities associated with maintaining psychological wellbeing across the life span and the challenging role of these competences (Charles, 2010). Although the number of studies addressing both social and emotional competencies are limited, good emotional management, greater motivation, and awareness of oneself and the people around us, seem to impact the quality of life experienced, that is the satisfaction and participation, hence wellbeing in everyday life (Gupta, & Sharma, 2022). Finally, older adults are aware of the limited time they have remaining, and so to maximize social and emotional gains they prioritize emotional meaning over knowledge acquisition (Littman-Ovadia, & Russo-Netzer, 2019). The maintenance or even growth in psychological wellbeing that occurs with age (Charles & Carstensen, 2008) may reflect their role.

2.2. Future Time Perspective and its Role in Adult Life

Future Time Perspective is defined as a person's conceptualization of and link to the future. Based on this concept, two aspects of FTP have been emphasized: value and connectedness. The ability to foresee, anticipate, and plan for future desired outcomes which involves attributing high value to future goals, and connectedness is the cognitive aspect of FTP, which involves predicting, in the present, the long-term outcomes of a potential action (Shell & Husman, 2001).

Being able to achieve future goals influence the ability to both manage daily challenges and successfully project themselves into the future (Arnett et al., 2020; Savickas & Porfeli, 2012). Significant relationships have been also evidenced between intraindividual characteristics and future time perspective (Henry, Zacher, & Desmette, 2017). Thinking about the future is considered vital to the successful building of a career, making important career decisions, and adapting to changes in a career path (Savickas & Porfeli, 2012).

People with stronger future orientation have expectations, aspirations, and plan. Changes in time perspective may lead them to focus more on emotion-regulating or redirect their social interactions toward few close relationships (Carstensen, 2006; Carstensen, Fung, & Charles, 2003; Mather & Carstensen, 2005). Similar patterns emerge in younger adults who perceive limited time due to impending relocation, health threats, socio-political changes, or graduation (Fung & Carstensen, 2004). Older adults view the future less positively when compared to younger and middle-aged adults and score lower than younger adults in measures related to positive evaluations of the future, demonstrating a more limited future time horizon or perceiving a limited time left in life (Coudin & Lima, 2011; Lang & Carstensen, 2002; Webster, & Ma, 2013).

2.3. Objectives

Results in the literature highlight the relevance of addressing changes across the life course in the specific dimensions under study. Wellbeing, in fact, changes over time and in particular the environmental mastery and autonomy increase over the course of adult life (Ryff & Keyes, 1995). At the same time the social-emotional sphere becomes increasingly important in positively orienting individuals towards the future (Carstensen, 2006).

It is then worth to observe how the different stages, or phases, proposed by recent models of adult development, are characterized in terms of social and emotional skills. We expect that some SECs are stable across adulthood while other may be more sensitive to age related functioning hence may reveal changes.

A second goals is then to understand the relationships holding between SECs and respectively wellbeing experienced, and components of future time perspective. SECs are then expected to play a mediating role in the relationship between future temporal perspective and wellbeing experienced.

Addressing these two quite distinct questions, will help understanding the changes adults face or are expected to face in the resources and the positive experience they go through. At the same time identifying the determinants of wellbeing among the dimensions under study, might inform applied research studies and psychoeducational actions.

3. METHODS

3.1. Participants and Procedures

A total of 212 participants participated in the study; 68.4% were female and 31.6% were male. Their age ranged from 19 to 60 years. To capture life-course differences three groups were identified: emerging, young and middle-aged. As for schooling, 6.1% up to 8 years of education, 40.6% have a secondary school diploma (from 9 to 13 years of study) and 53.3% have a three-year or higher education degree (from 13 years of study upwards).

Forty-two (21.7%) carried out social and health or psycho-educational professions, 61 (28.8%) were in the technical-organizational field, 48 (22.6%) were students and 61 (28.8%) were in volved in other professions. As regards relational life, 80 (37.7%) described themselves as single or unmarried, 125 (59%) mentioned a stable relationship, 7 (3.3%) are widowed or divorced.

Participants did not refer being under continuous treatment for medical diseases, suffering from psychological distress or disability.

Following suggestions from the literature (Arnett et al., 2020) participants were grouped into young adults (or emerging adults, age range 19-29) involving 104 people (49.1%); Adults (from 30 to 45 years) consisting in 64 participants (30.2%) and Middle adults (from 45 to 60 years) including 44 adults (20.8%).

The study was conducted via an online survey created on the Google Forms platform. Local family associations, vocational training schools and networks were proposed the project for approval. The participants involved were invited through the sharing of the survey link.

3.2. Measures

Several tools were proposed to study participants tapping dimensions under study:

Social–Emotional Competencies (from Davidson at al., 2018). The tool investigates social-emotional skills with 40 items. The tool is characterized by 8 subscales that identify the different SECs: Self-awareness of one's own strengths, Self-awareness of one's emotions, Management of emotions, Management of goals, Management at work, Social Awareness, Social Skills and Decision Making. Participants are asked to express the easiness of their experience for each statement on a 5-point scale where 1= very difficult, 2= quite difficult, 3= neither easy nor difficult, 4= quite easy, 5= very easy.

Psychological Wellbeing Scales (PWBS; Ryff, & Keyes, 1995). The 18-item questionnaire covers six dimensions of eudaimonic wellbeing (autonomy, environmental mastery, personal growth, purpose in life, positive relations with others, and self-acceptance) with a 4-point scale (1= very much in disagreement, 2= in disagreement, 3 = agree, 4 = very agree).

Future time perspective (Zacher, & Frese, 2009). The tool investigates the orientation to the future according to its 3 dimensions: breadth of the future, the perceived limits and the opportunities that can be seen. It consists of 10 items scale. Participants are asked to express the degree of consensus on 4 points (1= very much in disagreement, 2= in disagreement, 3 = agree, 4 = very agree).

3.3. Results

Data analysis was realized using IBM SPSS Statistics, version 27 and *jamovi* version 1.6.

A Multivariate Analysis of Variance (MANOVA) conducted between the different stages of adult life compared to SECs dimensions showed a main significant effect [Wilks Lambda: 0.842, F (3,211) = 2.262, p<.005]. Specifically, a significant effect of age comparing groups respectively for Self-awareness [F (1vs3) = -3.74, p<.05; F (2vs3) =-3.22; p<.05), and Management [F (1vs2) = -3.50; p<.05) were found. As regards Self-awareness, older adults showed a significantly higher mean level than the other two age groups, while for Management the group of adults showed a significantly mean level in comparison with the young group (Table 1).

The results show a significant difference between groups in Self-awareness of one's strengths (F(1vs2)=-0.86; p<.05, F(2vs3)=-,88, p<,05), Self-awareness of emotions (F(1vs3)=-2.29; p<.05; F(2vs3)=-1,70, p<.05), Emotion Management (F(1vs2)=-1,07; p<0.05,) and Management at Work (F(1vs2)=-1,53; p<.05). For the first two scales the middle adults show a significantly higher level of SECs for the first two, while for the second two were the adults of the intermediate age group to present a higher score.

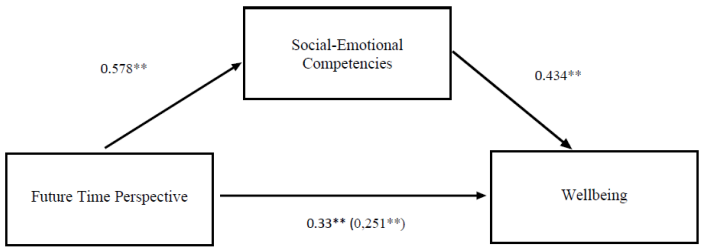
Table 1.
Means and Standard Deviations (SD) in scores reported in the dimensions addressed and summary of pairwise comparisons. Significant differences are in bold italics.

Dimensions	*Young adults (1)*	*Adults (2)*	*Middle adults (3)*	*Multiple comparisons*		
	M (SD)	*M (SD)*	*M (SD)*	*1-2*	*1-3*	*2-3*
Total SECs	142,21 (14,7)	146,55 (15,2)	147,86 (14,2)	-4,34	-5,65	-1,32
AWARENESS	53,60 (6,0)	54,12 (6,7)	57,34 (5,9)	-,519	***-3,74****	***-3,22****
MANAGEMENT	69,94 (9,1)	73,44 (8,3)	71,59 (7,7)	***-3,50****	-1,65	1,85
Decision making	18,66 (2,5)	18,98(2,5)	18,93 (2,2)	-,32	-,27	,05
Self Awareness of Strengths	14,00 (1,7)	13,98 (1,9)	14,86 (1,8)	,02	***-,86****	***-,88****
Self Awareness of emotions	20,89 (3,6)	21,48 (3,7)	23,18 (2,8)	-,59	***-2,29****	***-1,70****
Management of Emotions	12,18 (2,8)	13,25 (2,7)	13,20 (2,2)	***-1,07****	-1,02	,05
Management of goals	13,84 (2,9)	14,33 (2,3)	13,89 (1,9)	-,49	-,05	,44
Management of work	21,48 (3,9)	23,01 (3,3)	22,27 (2,8)	***-1,53****	-,79	,74
Social Awareness	18,71 (2,5)	18,65 (2,6)	19,29 (2,5)	,06	-,58	-,64
Social Skills	21,73 (3,6)	22,84 (3,3)	22,23 (3,3)	-,40	,22	,62

To test the mediation role of SECs, *Path Analyses* were carried out based on regression models to observce the impact of SECs on the relationship bewteen future time perspective and components of wellbeing. Before evaluating the hypotheses, intercorrelations between the study variables showed significant relationships between variables under study.

The mediating role of SECs in the relationship between temporal perspective and perceived global wellbeing was then analyzed (Figure 1). SECs seem to partially mediate the relationship between future perspective and wellbeing (β=.251, p<.001), although the direct effect between the two indices is greater (β=.33, p<.001). It is wort to highlight the predictive effect of the future time perspective (β=.578, p<.001) on SECs, which have a predictive effect on psychological wellbeing (β=.434, p<.001).

Figure 1.
*Regression model of SECs and the relation with future time perspective and. Indirect effects are reported in parentesis. Legenda: *p<.005, **p<.001.*



Consequently, future time perspective plays a role in the wellbeing of the person and this relationship is mediated by the SECs. Results are summarized in Table 2.

Table 2.
Direct and indirect and mediation effects of Social-Emotional Competencies.

				95% C.I. (a)				
Type	**Effect**	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**z**	**p**
Indirect	*Future Time Perspective, SECs, Wellbeing*	0.255	0.0436	0.169	0.340	0.251	5.84	< .001
Component	*Future Time Perspective, SECs, Wellbeing*	1.437	0.1393	1.164	1.710	0.578	10.31	< .001
		0.177	0.0250	0.128	0.226	0.434	7.08	< .001
Direct	*Future Time Perspective, SECs, Wellbeing*	0.339	0.0622	0.217	0.461	0.334	5.45	< .001
Total	*Future Time Perspective, , Wellbeing*	0.594	0.0566	0.483	0.705	0.586	10.49	< .001

The model highlights the predictive effect of time perspective on SECs, which in turn have a predictive effect on psychological wellbeing. Thus, it is worth emphasizing the importance of Social-Emotional Skills as a coping mechanism.

4. FUTURE RESEARCH DIRECTIONS

Results described provide evidence for patterns of Social and Emotional Competences across adulthood and the hypothesized relationships. They however, open the attention to further research questions and their implications for practice and interventions.

As regards the life course patterns, adults from diverse age groups are certainly characterized by different involvement in work activities and experience with diverse work activities. The duration of permanence in specific activities in the work context and the type of work activities may have influenced patterns of SECs characterizing emerging and middle adults. Their role still calls then for further exploration.

The relationship between future time perspective and wellbeing is in line with the literature (Li & Hasson, 2020, Dorociak et al., 2017). In this first study eudaimonic wellbeing has been addressed using the Ryff's scale as a single global measure. Ryff's model and the derived scale include six components of different nature: autonomy, environmental mastery, personal growth, purpose in life, positive relations with others, and self-acceptance. A study involving a larger group of participants in the diverse age groups may deepen the analysis and help addressing the question at the level of the single intraindividual or systemic dimensions called into play by Ryff's model. We expect these components to be differently sensitive to age related changes, both in terms if increase or decrease in the level of wellbeing experienced, and specifically related to attitudes towards future. What the work described adds is the specific role played by SECs. A specific mediating role of awareness and management related SECs or self vs others may then emerge.

5. DISCUSSION AND CONCLUSION

Results from the studies described in this work suggest two levels of reflections. The first is related to the evidence provided of age-related patterns in the constructs under analysis, and the second to the relationships emerging between dimensions.

Social and Emotional competencies vary both in the awareness and in management components. Emerging adults involved in the study show significantly lower levels in total SECs, but also in some Self-Awareness and Management components, that is Awareness of Emotion and Work Management. A closer look to data collected, shows that some awareness-related SECs seem characterized by a linear increase from emerging to middle adulthood. The dimensions of self-awareness we refer to here deal with awareness of personal strengths and emotions. Moving from emerging adulthood, that is the age of identity explorations, instability, feeling in-between and sense of broad possibilities (Tanner, & Arnett, 2016) to periods of established adulthood represented here by the other two groups of participants, seems to go together with an increase in self-knowledge both in terms of the processing of personal emotional experiences as well as the personal characteristics adults recognize themselves as unique and personal strengths (Cate & John, 2007).

On the other hand, some SECs related to management seem sensitive to change in a specific adulthood period. Management of emotions in general and specifically in the work context might be challenged, and at the same time stimulated, by contextual requests that adults from 30 to 45 years seem ready to address more effectively. This might be due to the longer experience in the world of work and the practice with management strategies they might have developed.

From a theoretical point of view, these results support the need for integration of a lifespan developmental framework that conceives human development as a continuous, multidimensional, and multidirectional process as well as individual action regulation and adaptation to changing environments and life course perspective which focuses on the interplay between systems and the individual (Zacher & Froidevaux, 2021).

The results also highlight the critical role of social-emotional skills for understanding the complex relationship between future time perspective and subjective wellbeing. In the face of the many daily challenges, the adult who has the highest skills to project himself/herself into the future and to manage emotions and goals, will be also able to experience greater psychological wellbeing. Although the study underlines the need for further extended studies on the issues addressed here, social and emotional learning should definitely be considered an integral part of adult education and lifelong learning.

More specifically, a significant mediation role of SECs between future perspective, wellbeing. Consequently, favoring the development of SECs adults might experience greater wellbeing in different contexts of life, as suggested by recent research studies (Taylor et al., 2017). With the progress of adult development, the relationship component becomes more and more important (Carstensen, 2006).

It is then suggested that adults who develop greater competencies in understanding and managing emotions and social aspects will experience an increase in their wellbeing. In particular, mastery of the environment might be related with the management of emotions in general and in the work context, thus emphasizing the importance for adults to cope with the professional and work challenges that arise in everyday life (Arnett et al., 2020).

Results also call for a reflection on the theoretical models on adult development. Age effects are derected and described, confirming recent theorizations of adult development that emphasize the importance of discerning the different stages of adult development, as they differ in physical and psychological characteristics (Ackerman & Kanfer, 2020; Arnett et. al., 2020; Robinson, 2020). However, the results do not show significant differences in the relationships at different stages of adult life. Since in the literature social support is proposed as a resource for the wellbeing of people, especially in the lives of adults (Matud, Bethencourth, Ibáñez, & Fortes, 2020), the specific patterns in awareness and management of one's own and others might be influenced by the social support experienced and more in general by the characteristics of the living contexts.

A final note on implications for practice is also relevant. Counseling programs aimed both at wellbeing and positive future orientation should focus on and aim at increasing awareness and management of social and emotional competencies. Study results, suggest that adult education and prevention actions should focus on self-orientation, orientation towards others, orientation towards development goals or adapting to change.

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AUTHORS' INFORMATION

Full name: Teresa Maria Sgaramella
Institutional affiliation: Department of Philosophy, Sociology, Education and Applied Psychology, University of Padova, Italy
Institutional address: Via Venezia 14, 35131 Padova, Italy. phone: +39 049 8271297;
Email address: teresamaria.sgaramella@unipd.it
Short biographical sketch: Teresa Maria Sgaramella PhD. She is an associate professor in psychology at the Department of Philosophy, Sociology, Pedagogy and Applied Psychology, University of Padova, Italy**.** She teaches Psychology of Adult Development Across Cultures, Developmental and Educational Psychology, Rehabilitation Counseling. Research interests deal with Integrative Positive Development (IPoD) from childhood through adulthood with a focus on the role of social and emotional competencies, executive skills, and systemic influences and their role on well-being and positive future selves. A specific attention is devoted to developing educational and rehabilitation innovative programs

Full name: Laura Foresta
Institutional affiliation: Department of Philosophy, Sociology, Education and Applied Psychology, University of Padova, Italy
Institutional address: Via Venezia 14, 35131 Padova, Italy. phone: +39 049 8271297;
Email address: laura.foresta@gmail.com
Short biographical sketch: Laura Foresta, main interests have been the study of wellbeing as associated with socioemotional development in adults of different ages.

Chapter #27

ANXIETY DISORDERS

Ionela-Anca Lungu[1], Ionuț-Stelian Popa[2], Florentina Mădălina Petcu[3], Ilinca Vlaicu[4], & Simona Trifu[5]
[1]CIP Bucharest, Romania
[2]"Alex. Obregia" Clinical Hospital for Psychiatry, Bucharest, Romania
[3]CIP Bucharest, Romania
[4]Private practice, Bucharest, Romania
[5]Neuroscience Department, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania

ABSTRACT
In modern society characterized by conflicts and crises, almost every person experience anxiety which is most often characterized by a diffuse, unpleasant feeling of fear, accompanied by symptoms such as headaches, sweating, digestive discomfort, palpitations. Anxiety disorders are widely spread among the population, with a predilection for women in a ratio of 2:1 In most cases, anxiety disorders begin in childhood, becoming exacerbated in adulthood if not properly treated. Anxiety disorders differ from normal, everyday anxiety in that they involve anxiety that is much more intense (e.g., panic attacks), lasts longer (anxiety that persists for months or more, instead of fading after the stressful situation passes), or leads to phobias that affect your life. Being among the most common mental disorders that are associated with significant individual and social costs, this chapter aims at the theoretical and scientific approach to anxiety disorders.

Keywords: anxiety, fear, distress, panic attack, anxiety disorders, phobias.

1. INTRODUCTION

In the ICD-10 International Classification of Mental and Behavioral Disorders, it is specified that "for anxiety disorders, the dominant symptoms are variable, but include common complaints of constant nervousness, tremors, muscle tension, sweating, dizziness, palpitations and epigastric discomfort. The fear that the subject or a close relative of the subject will have an accident or will become ill is often expressed, along with a variety of other fears and bad premonitions". We live in an uncertain and effervescent world, in the true sense of the word, where the changes and certainty of tomorrow affect the population of the entire globe. Society is in a continuous and dizzying change, carrying the individual through a multitude of mental states, some of which cause emotional distress and even serious imbalances in his functionality. Thus, anxiety is an inevitable part of life in contemporary society and there are many situations that occur in our routine to which it is normal to react with anxiety. Anxiety is a signal that alerts us to a possible danger long before pain. Moderate anxiety accompanies the escalation of desire, while excess diminishes performance.

Anxiety disorders are associated with increased morbidity and are often chronic and resistant to treatment. They can be seen as a family of pathologies, having common aspects, but also important differences and include agoraphobia, panic disorder, social anxiety

disorder or phobia, specific phobia, and generalized anxiety disorder. (Sadock, Sadock, & Ruiz, 2014)

Thus, if for a long time, until the end of the 80s, anxiety was a subject of psychological and psychiatric research and a theme for scientific meetings, today it has become a problem that almost any individual in society can testify to. Moreover, it has become a really successful media topic. Media coverage mobilized many individuals to a more careful introspection on this issue.

Thus, certain questions inevitably arise: "What is the boundary between normal anxiety and pathological anxiety?", "What causes anxiety?", "How do anxiety disorders manifest themselves?" "What are the consequences of pathological anxiety?", "Is there more than one kind of anxiety?", "Do we have to treat all forms of anxiety?", "How?", "What are pathological anxiety disorders?"

Out of the desire to contribute to society's evolutionary approach by providing answers to these questions, the following chapter will address the theoretical and scientific aspects of anxiety disorders.

Anxiety disorders are differentiated from each other by the types of objects or situations that induce fear, anxiety, or avoidance behavior as well as by the associated ideation. Thus, although anxiety disorders tend to be frequently comorbid with one another, they can be differentiated by analyzing the types of situations that are feared or avoided and the content of associated ideas or beliefs (American Psychiatric Association, 2013). Anxiety disorders differ from normal fear and anxiety, specific to developmental stages, in that they are excessive or persist after the completion of the appropriate developmental stages. They also differ from transient fear or anxiety, often induced by stress, by their prolonged nature (for example, a duration of more than 6 months). The duration criterion represents a general recommendation, allowing a certain degree of flexibility, the duration being sometimes shorter for children (American Psychiatric Association, 2013).

Normal anxiety is characterized by a vague, diffuse, unpleasant feeling of fear. Often it is accompanied by symptoms such as stomach discomfort, tightness in the chest, palpitations, tremors, and dizziness.

It is necessary to differentiate anxiety from fear. Anxiety is a warning signal. It announces an imminent danger and empowers the person to take measures against that danger. Fear is also a warning signal, but it must be differentiated from anxiety. Fear is a response to an external, defined danger, while anxiety is a response to an undefined, vague, internal danger (Sadock et al., 2014).

2. BACKGROUND

Regular anxiety can be felt by every individual, but it is different from anxiety disorders that require specialized intervention and even medication treatment. Anxiety disorders are classified as follows: separation anxiety disorder; selective mutism; specific phobia; social anxiety disorder (social phobia); panic disorder; panic attack; agoraphobia; generalized anxiety disorder; substance/medication-induced anxiety disorder; anxiety disorder due to another medical condition; other specified anxiety disorder; unspecified anxiety disorder (American Psychiatric Association, 2013).

Anxiety was defined by as fear without an object, manifested by psychomotor restlessness, vegetative changes, and behavioral dysfunctions, having a character of potentiality, deforming the present experience in relation to the future perceived as hostile and predetermined as such (Tudose, Tudose, & Dobranici, 2011, p. 226).

Anxiety is common and contributes to the activation of the body's alert mechanisms. Together with fear and the instinct to run away, they constitute defense mechanisms in the face of danger and adaptation to new situations. Anxiety is the way of reaction of any person who feels threatened. When there is a potentially dangerous situation or such a situation is anticipated, the feeling of fear appears first. Fear triggers a biological mechanism in the body that leads to the secretion of adrenaline. Adrenaline is a hormone that alerts the whole body and prepares it for flight or fight, normal reactions in case of danger. Thus, the man becomes more alert, his heart beats faster and pumps blood with greater pressure, breathing becomes more alert, and muscles tense. Fear is the expression of a concrete situation, of an immediate threat.

There is a connection between anxiety and stress. An event is perceived as stressful or not depending on a person's psychological resources and coping mechanisms. All this involves the ego. The ego is an abstraction according to which a person perceives, thinks, and behaves being stimulated by internal and external stimuli. A person with a functional ego is in an adaptive balance with the external and internal worlds, but if the ego does not function correctly, the person will suffer from chronic anxiety. If the imbalance is internal, between the person's impulses and consciousness, or external, between the pressure of the external world and the person's ego, the lack of stability produces a conflict. There is also the possibility of a combination of these two imbalances, for example, employees who have very critical bosses are subject to impulses that must be controlled in order not to lose their jobs (Sadock et al., 2014).

Anxiety has 2 major components: the awareness of being scared or nervous and the awareness of the psychological sensations. The feeling of shame can increase anxiety, and the individual not wanting others to notice these reactions to him. Many people are amazed when they find out that those around them have not noticed that they have anxiety, or if they have, they have not appreciated its intensity. In addition to visceral and motor effects, anxiety affects perception, thinking, and learning. It often produces confusion, and distorted perceptions, not only regarding time and space but also regarding people and the significance of events.

These distortions can decrease the ability to concentrate, reduce memory, and decrease the ability to make associations.

An important aspect of emotions is their effect on the selectivity of attention. Anxious people tend to select certain aspects of the environment and ignore other aspects, these things making them feel entitled to consider the situation as dangerous (Sadock et al., 2014).

Pathological anxiety differs from usual restlessness or fear when it becomes permanent and can cause major disruptions in the individual's life, not being linked to a certain object or a certain situation, but being possible by only imagining a potential danger that does not exist in the immediate vicinity and is even unlikely to happen.

Anxiety affects the entire being of the individual. It is a physiological, psychological, and behavioral reaction at the same time. At a physiological level, anxiety can cause an acceleration of the heart rate, muscle tension, nausea, feeling of dry mouth, sweating, and feeling of suffocation. At a behavioral level, anxiety can paralyze the ability to act, express or experience everyday situations. The psychological impact translates into a subjective state of fear and embarrassment.

The etymology of the word anxiety comes from the Latin "anxietas" which means experience marked by agitation, insecurity, fear, and fright. Although it is attested in the dictionary since 1771, it is considered that the notion of anxiety was introduced for the first time by S. Kierkegaard, who presents anxiety as a thrill, a fear of something undefined and indeterminable, as opposed to the feeling of fear, in which the object is concrete and individual (Kierkegaard, 1998).

3. EXPLANATORY THEORIES OF ANXIETY

Anxiety is a complex psychological phenomenon and there are various explanatory theories of this concept. These theories are psychological (psychoanalytic, behavioral, existential theories) and biological theories: genetics, neurotransmitters (noradrenaline, serotonin, GABA).

In the psychoanalytic view, Freud connects the term "anxiety" with libido and explains anxiety through the frustrations of the libido and the prohibitions dictated by the "Superego". Anxiety is the danger signal addressed to the "Ego", that is the conscious personality; it is an emotional state with two distinct aspects: a specific note of discomfort and a motor determinant, both felt, and experienced by the subject (Freud, 2004). Anxiety is a preparation reaction for an effective confrontation with dangers and threats, a reaction whose place is at the level of the "Ego". Freud believes that anxiety, at its origin, is adaptive, requiring an intensive consumption of psychic energy, thus, when anxiety becomes chronic, when it manifests itself over long periods of time, it makes it necessary for individuals to use some means of managing it (Freud, 2004).

Nowadays, many neurobiologists continue to emphasize many of Freud's ideas and theories, such as the role of the amygdala. The amygdala serves the fear response without any reference to conscious memory and this underlines Freud's concept of an unconscious memory system for anxious responses. A shortcoming of considering anxiety as a disease and not a signal is that the real reason that led to anxiety can be ignored. From a psychodynamic perspective, the goal of therapy is not necessarily to eliminate anxiety, but rather to increase tolerance to it. This would allow the client to experience the anxiety and use it as a signal to investigate the inner conflict (Sadock et al., 2014).

Adler believes in his theory that there is a connection between anxiety and the inferiority complex. The individual who lives in this complex feels bad and unfit. Anxiety appears in connection with the need to restore the lost social emotion when the social environment puts certain tasks before the individual. Even when the task is very easy, one perceives it as a verification of his integrity, which leads to an emotional reaction and a strong tension during its solving (Adler, 1996). If the anxiety comes from the inferiority complex, then the person who relives it has an additional motivation that is not related to the current situation. Also, Adler (1996) believes that anxiety is determined by tasks that endanger the individual's self-esteem.

According to psychoanalytic theories, anxiety is a signal for the danger of penetration into the unconscious of unacceptable, repressed infantile desires of a sexual nature. If the defense mechanisms fail to neutralize the danger, anxiety arises. Psychoanalysts state that by perceiving anxiety as a disorder, the meaning of the signal is lost sight of and there is a danger of ignoring the underlying causes (Freud, 2004).

Neo-Freudian representatives give anxiety new meanings and dimensions. K. Horney believes that anxiety is the dynamic center of all neuroses, the main source of anxiety being, not sexual impulses (as Freud claimed), but hostile impulses. Horney uses the term anxiety as synonymous with fear, thereby indicating a relationship between anxiety and fear. She believes that both are actually emotional reactions to danger and both can be accompanied by physical sensations such as: shaking, sweating, and violent palpitations, which can be so strong that an instant and intense fright can lead to death. Anxiety is a proportional reaction in relation to hidden and subjective danger (Horney, 1998).

Although cognitive psychology and humanistic psychology have different conceptual frameworks, the approach to anxiety in these two currents is practically similar. From the perspective of cognitive and humanistic psychology, anxiety occurs in the event of a

collision with a new experience that does not correspond to human knowledge or representations and presents a threat. Cognitive and humanistic theories are of great importance because they go beyond psychoanalytic and learning theory to explain anxiety by introducing the cognitive pattern model. According to this view, the subject who manifests anxiety tends to overestimate the degree of danger of a certain situation and, at the same time, underestimate his ability and capacity to face that physical or mental threat perceived by him.

3.1. Biological Approach to Anxiety Disorder

Research into the biological etiology of anxiety disorders aims to identify a direct relationship between symptoms, mental syndromes, and brain activity, thus establishing the pathophysiological bases of anxiety. Anxiety disorders have in common some disorders of serotoninergic and noradrenergic neurotransmission of the hypothalamic-pituitary-adrenal and hypothalamic-pituitary-thyroid axes functioning as well as the response to lactate, CO2 and other anxiogenous substances (Udristoiu, Marinescu, Podea, & Dehelean, 2011).

Stimulation of the autonomic nervous system causes certain symptoms of anxiety, such as headache, diarrhea, tachycardia, and tachypnea. The autonomic nervous system of certain patients with anxiety disorder, especially those with panic disorder, shows excessive sympathetic manifestations and adapts slowly to repeated stimuli.

Regarding the neurotransmitters, animal studies have revealed 3 main neurotransmitters to be involved in anxiety disorders: norepinephrine (NE), gamma-aminobutyric acid (GABA), and serotonin.

Some of the symptoms experienced by patients with anxiety disorders, such as panic attacks, insomnia, and intramuscular tension, are characteristic of excessive noradrenergic function. The general theory regarding the involvement of norepinephrine in these pathologies is that the affected patients have a deficient regulation of the noradrenergic system with bursts of activity occurring at certain times. Noradrenergic neurons are located mainly in the locus ceruleus, and their axons project into the cerebral cortex, limbic system, spinal cord, and brainstem. Experiments on animals have shown that stimulation of the locus ceruleus leads to a fear response, while ablation of this area eliminates the fear response in animals.

Human studies have shown that in people with panic disorder, the use of beta-agonist drugs increases the severity and frequency of panic attacks.

The role of GABA in anxiety is best highlighted by the spectacular effect that benzodiazepines have in these pathologies, they increase GABA activity as they act on GABA type A receptors. Benzodiazepines with low potency are useful for the treatment of generalized anxiety disorder, while benzodiazepines with high potency are useful for the treatment of the panic disorder. These observations, together with several studies, have led to the hypothesis that certain patients with anxiety disorder have abnormal functioning of the GABA A receptor.

Numerous types of acute stress led to an increase in serotonin in the prefrontal cortex, amygdala, nucleus accumbens, and lateral hypothalamus. Interest in this direction was also stimulated by the fact that it was observed that certain serotonergic antidepressants have an effect on anxiety disorders, such as obsessive-compulsive disorder. The effectiveness of buspirone, a serotonin receptor agonist in the treatment of anxiety disorders also suggests the possibility of a link between serotonin and anxiety. Serotonergic neurons are located in the raphe nuclei in the rostral brainstem and project to the cerebral cortex, hypothalamus, and limbic system.

There is multiple evidence in the literature regarding the fact that psychological stress increases the synthesis and release of cortisol. Cortisol has the role of mobilizing and restoring energy reserves and contributes to increasing vigilance, attention, and memory. Excessive and sustained secretion of cortisol can have serious adverse effects, such as hypertension, osteoporosis, immunosuppression, insulin resistance, dyslipidemia, coagulation disorders, atherosclerosis, and cardiovascular disease. Alterations of the Hypothalamic-Pituitary-Adrenal Axis (HPA) have been demonstrated in PTSD. In patients with panic disorder, blunted adrenocortical hormone response to corticotropin-releasing factor has been observed in certain studies (Sadock et al., 2014).

Serotoninergic pathways (originating in the dorsal nucleus of the raphe), innervate the amygdala and the frontal cortex, facilitating avoidance behavior as well as escape behavior. The noradrenergic system (originating in the locus coeruleus) and the dopaminergic system sensitize autonomic activation and vigilance in response to a threat (Rang, Dale, Ritter, & Moore, 2003).

Structural studies, such as those of MRI or CT, have shown in certain patients the increase in the size of the cerebral ventricles (Engel, Bandelow, Gruber, & Wedekind 2009). In one study, the increase was correlated with the duration of benzodiazepine administration. Another MRI study highlighted a specific defect in the right temporal lobe in patients with panic disorder (Fontaine, Breton, Déry, Fontaine, & Elie 1990). Other imaging studies have highlighted abnormal changes in the right hemisphere, but none in the left hemisphere. These changes raise the issue that certain asymmetries could be important in the development of anxiety in certain people (Martin, Ressler, Binder, & Nemeroff 2009).

Functional brain imaging (fMRI) has highlighted in certain studies abnormalities in the frontal cortex, temporal and occipital areas of patients with anxiety disorders. One interpretation of these results is that certain patients with anxiety disorders may have structural and functional brain abnormalities (Sadock et al., 2014).

Genetic studies have produced strong evidence that certain genetic elements contribute to anxiety disorders. Heredity is a predisposing factor for this category of disorders. Almost half of the patients with anxiety disorders have one or more affected members. It is obvious that there is a connection between genetics and anxiety disorders, but these disorders are not only due to genetics. One study attributed anxiety disorders to an abnormality in the genes encoding the serotonin transporter. People with this variant produce less transporter and have increased levels of anxiety (Sadock et al., 2014).

The raphe nuclei and the locus coeruleus project especially in the limbic system and the cerebral cortex in combination with the results of imaging studies, have become the focus of most hypotheses regarding anxiety disorders (Morris, McCall, Charney, & Murrough, 2020).

In addition to being innervated by the serotonergic and noradrenergic systems, the limbic system also contains a high concentration of GABA A receptors. Two areas of the limbic system have been highlighted in many studies over time, namely the increase in activity in the septohippocampal pathway that can the cingulate gyrus, which is mainly involved in OCD, also leads to anxiety (McGovern & Sheth, 2017).

The frontal cerebral cortex is connected with the cingulate gyrus and the hypothalamus. and may be involved in anxiety disorders. The temporal cortex has also been implicated in anxiety disorders (Sadock et al., 2014).

Anxiety disorders are among the most widespread psychiatric pathologies. The National Comorbidity Study reported that one in four people meet the diagnostic criteria for at least one anxiety disorder. From an epidemiological point of view, the prevalence of

anxiety disorders is 30.5% in women and 19.2% in men. According to the statistics carried out by WHO globally, they indicate significant effects of the COVID-19 pandemic on the population, increasing anxiety disorders by 25.6% compared to 2019 (76.2 million new cases), with women and young people being the most affected categories.

Anxiety is accompanied by a multitude of changes at the biological, affective, cognitive, and behavioral levels: at the biological level - the changes induced by the imbalance of the vegetative nervous system dominate, with the predominance of the sympathetic; at the affective level – the person describes feelings of fear, immediate catastrophe, helplessness, and horror; at the cognitive level – maladaptive processing and informational contents lead to preferential processing of anxiogenic environmental stimuli, ignoring neutral or positive stimuli from an affective point of view - the existence of a discrepancy between what the person wants or must do and what he thinks he can do; at the behavioral level - the behavior of avoiding anxiety-provoking situations appears.

Among the specific manifestations of anxiety, the following categories can be mentioned:

• physiological manifestations: tremors, agitation, muscle tension, sweating, dizziness, palpitations, weakness, cold and wet hands, dry mouth, short and rapid breathing, hot flushes, or cold shivers, feeling sick, nausea, feeling of emptiness in the stomach, generalized fatigue, hyperventilation, insomnia;

• affective manifestations: mental tension, fear, nervousness, restlessness, irritability, and a permanent state of worry;

• cognitive manifestations: decreased ability to concentrate, exhaustion and mental tension, intellectual confusion, and mental discomfort;

• behavioral manifestations: avoidance, psychomotor agitation, disorganized activity, and the tendency to overcome the state of discomfort through defensive mechanisms.

It is not necessary that anxiety-specific changes to occur simultaneously at all four levels in a way that the person is aware of.

4. GENERAL INFO REGARDING THE CLASSIFICATION

4.1. Panic Attack

Panic attack is defined as a distinct state in which there is a sudden onset of feelings of fear, terror, and a feeling of impending disaster. These are associated with somatic symptoms (palpitations, chest pain, feeling of suffocation) and the fear of going crazy or losing control; A panic attack can occur in the context of any anxiety disorder, as well as in the case of other mental disorders (for example in depression, PTSD, substance use disorders, etc.) but also in case of medical conditions (cardiac, respiratory, etc.) the diagnosis of a panic attack can be established, according to the following symptoms:

1. Palpitations, pounding heart or accelerated heart rate.
2. Sweating
3. Trembling or shaking
4. Sensation of difficult breathing (dyspnea) or suffocation
5. Feeling of choking
6. Precordial pain or discomfort
7. Nausea or abdominal distress
8. Feeling dizzy, unsteady, light-headed, faint
9. Chills or heat sensations
10. Paresthesias (numbness or tingling sensations)

11. Derealization (feeling of no reality) or depersonalization (being detached from oneself)

12. Fear of losing control or "going crazy"

13. Fear of dying (p. 208)

The average age of onset of panic attacks in the US is about 22-23 years in adults. In preadolescent children, panic attacks are uncommon, and unpredictable panic attacks are rare. Risk factors are temperament factors (negative affectivity, anxious sensitivity) and environmental factors (smoking, interpersonal stressors, stressors related to physical well-being, and negative experiences) (American Psychiatric Association, 2013).

4.2. Separation Anxiety Disorder

It is a mental condition that is part of the anxiety disorders category and that manifests itself, according to the DSM-5 by an excessive fear and anxiety inappropriate for the developmental stage regarding separation from attachment persons, evidenced by at least three of the following:

1. Recurrent excessive distress when anticipating or experiencing separation from home or major attachment figures.

2. Persistent and excessive worry about losing attachment persons or about possible harm to them, such as illness, injury, disasters, or death.

3. Persistent and excessive worry about experiencing an event (e.g., getting lost, being kidnapped, having an accident, becoming ill) that could cause separation from the major attachment figure.

4. Persistent reluctance or refusal to go out, away from home, to school, to work, or elsewhere because of fear of separation.

5. Persistent and excessive fear or reluctance about being alone or without a major attachment figure at home or in other settings.

6. Persistent reluctance or refusal to sleep away from home or go to sleep without being near a major attachment figure.

7. Repeated nightmares involving the theme of separation.

8. Repeated complaints of physical symptoms (e.g., headache, stomachaches, nausea, vomiting) when separated from major attachment figures occurs or is anticipated (American Psychiatric Association, 2013, p. 190-191).

The prevalence of separation anxiety disorder among the population is 4.8% and the onset is considered to be around 18 years (Schiele & Domschke, 2021).

Periods characterized by intense separation anxiety from close people are normal in the early stages of development and may indicate the development of secure attachment relationships (Sadock et al., 2014). The onset can occur in the preschool age, the earliest, anytime during childhood, and less often in adolescence (American Psychiatric Association, 2013). The disorder evolves with exacerbations and remissions if it is not treated in time or case of non-compliance with treatment.

The manifestations of separation anxiety disorder vary with age. Young children are more reluctant to go to school or avoid school altogether. They do not show concern or specific fears regarding certain dangers to which the parents, the house, or themselves could be subjected, and the anxiety is manifested only when the separation takes place. As children grow, worry appears, there are often concerns about certain types of danger or mild worry related to the lack of attachment figures. In adults, a separation anxiety disorder can limit the ability to adapt to changes in circumstances. In some situations, the symptoms persist into adulthood. In most cases, however, it is remitted until the patient becomes an adult.

The risk factors include a stressful event in life, especially a loss (death, illness, major changes, divorce) combined with the overprotection and intrusiveness of the parents. More than that it seems that this disorder is genetically passed through generations.

The functional consequences of separation anxiety disorder are multiple, and affected persons usually limit their independent activities outside their environment or in the absence of major attachment figures (e.g., children avoid school, do not go to camps, have trouble sleeping alone, adolescents do not want to go to high school) (American Psychiatric Association, 2013).

4.3. Selective Mutism

It is an anxiety disorder manifested by an individual's constant inability to speak in social situations where it is necessary to speak (e.g., school), although the individual can do so in other contexts, according to the definition given by the American Psychiatric Association (2013). This disturbance affects the person's social and professional relationships and academic performance, in the case of children. The dysfunction is not better explained by a communication disorder (e.g, childhood-onset fluency disorder) and does not occur exclusively in the setting of an autism spectrum disorder, schizophrenia, or other psychotic disorder. It is a relatively rare disorder and occurs more frequently in younger children compared to adolescents and adults, usually starting before the age of 5. The disorder usually does not come to the doctor's attention until the start of school, when social interactions and performance demands increase, such as reading aloud.

As far as selective mutism is concerned, it must be kept in mind by the cultural environment because children of families who have emigrated to a country where another language is spoken may refuse to speak the new language due to the lack of knowledge of it. If the understanding of the new language is adequate but the refusal to speak it persists, the diagnosis of selective mutism is justified.

Functional consequences of selective mutism led to impairments in social functioning because children may be too anxious to engage in social interactions with other children. As they grow up, these children will face increasing social isolation. At school, they may show academic deficits because they do not communicate their academic or personal needs to the teachers. There is frequently a severe deficit in school and social functioning, to which the teasing of colleagues also contributes.

When we are looking at risk factors and prognosis, we see that maternal and paternal psychopathology and high paternal age have a high risk of selective mutism for their children (Koskela et al., 2020), neurotic character or behavioral inhibition can play a role, as can parental history of shyness, social isolation, and social anxiety. Parents' social inhibition can serve as a model for social reticence and selective mutism in children. Also, parents of children with selective mutism were described as hyper-protective or exerting more intense control than parents of children with other anxiety disorders or without disorders.

The treatment considered several approaches: long term cognitive behavioral therapy as recommended therapy (Oerbeck, Overgaard, Stein, Pripp, & Kristensen, 2018) and some other solutions like psychomotor 45 minutes sessions - the development of how children process information through movement during play sessions (Esposito et al., 2017).

4.4. Specific Phobia

It is characterized by the presence of clinical-level anxiety, due to the confrontation with a situation or object that causes fear; frequently leading to behavioral avoidance of the anxiogenic stimulus. Scientific literature highlights the following main characteristics of a

phobia: a stimulus-bound fear reaction that is distressing to the point of causing emotional, social, or occupational disruptions; recognized as excessive or unreasonable and leads to avoidance or intense anxiety upon exposure to the feared stimulus (Andrews et al., 2013, p. 261).

The ICD-10 Classification of Mental and Behavioral Disorders proposes meeting all the conditions listed below for a definite diagnosis: symptoms, psychological or vegetative, must be primary manifestations of anxiety, and not secondary to other symptoms such as delusions or obsessive thoughts: anxiety must be limited to the presence of particular situations or objects; phobic situations are avoided whenever possible (World Health Organization, 1993, p. 230-231).

Phobias are characterized by agitation or severe anxiety when a person is exposed to specific objects or situations or when the respective person anticipates exposure to certain situations or objects. Exposure almost invariably results in panic attacks in a susceptible person. People with phobias try to avoid phobic stimuli, some even becoming very complicated in this regard. For example, a person with a phobia of airplanes will travel very long and tiring distances by bus or car, just to avoid meeting the phobic stimulus, i.e. the airplane. Many patients associate substance use disorders with their attempt to reduce the stress of the phobic stimulus. In addition to these, approximately one-third of those with social phobia suffer from a major depressive disorder (Sadock et al., 2014).

Phobias are common in the general population, with 60% of adults reporting some form of phobic fear, but for most of them, the levels of distress and impairments presented are not severe enough for a specific phobia diagnosis (Leahy, Holland, & McGinn, 2012). However, the National Comorbidity Study found that 12.5% of respondents had at some point in their lifetime significant enough deficits to meet diagnostic criteria for specific phobia; this places specific phobia as the third most common psychiatric diagnosis in the general population (Kessler et al., 2005).

It is the most common anxiety disorder, with a prevalence in the general population of 10-11.3%. It manifests itself more often in women, with a ratio of men to women – 1:2 (American Psychiatric Association, 2013). Approximately 75-90% of people with animal phobias, natural phenomena, or situational forms of phobias are women.

Depending on the individual's phobia, one will show decreased functioning in the domain adjacent to the phobia (e.g. individuals with blood phobia avoid seeking medical help even when they suspect the presence of a medical condition, or the fear of vomiting or suffocation can substantially reduce food intake) (American Psychiatric Association, 2013).

The production of a specific phobia usually results from coupling an object or situation with fear or panic. When a specific event (for example driving a car) is coupled with an emotional experience (for example a car accident), the person is susceptible to the permanent association between the two (for example driving a car with anxiety). The emotional experience can be a response to an external incident, such as a car accident, or an internal incident, most commonly a panic attack. Other mechanisms of association between the phobic object and phobic emotions include modeling, in which one person observes the reaction of another (e.g., a parent), and the person is taught or warned about the dangers of specific objects (e.g., snake venom).

Specific phobias sometimes occur following an event that has traumatically affected the individual (e.g., after the individual is attacked by an animal or gets stuck in an elevator), after seeing other people go through such an event (e.g., witnessing someone's drowning), after the transmission of information (e.g., very detailed media coverage of a plane crash or other traumatic events). However, most individuals with a specific phobia cannot remember the particular cause of the onset of the phobia.

Specific phobia tends to be present in several family members. The blood-injection-injury type has an increased prevalence among family members. Studies have reported that two-thirds of those affected have at least one first-degree relative with the same type of phobia (Sadock et al., 2014).

The specific phobia shows two peaks from the point of view of the age of onset, a peak being in childhood for animal phobia, blood-injection-injury phobia, and natural environment phobia and a peak in adulthood for other phobias, such as situational phobias. Since patients with isolated specific phobias rarely present themselves for treatment, there are not many studies on the evolution of the disease. The limited information available in the literature up to this point suggests that most specific phobias that begin in childhood and persist in adulthood will persist for many years (Sadock et al., 2014).

4.5. Social Anxiety Disorder (Social Phobia)

Social anxiety disorder (under the older name of social phobia) is the exaggerated fear of one or more social situations. Among the situations that generally trigger social anxiety symptoms, we include public speaking and other types of public performances, social gatherings, meeting new people, eating in public, using public restrooms, contradictory discussions, and discussions with higher-status persons. In such situations, people with social anxiety disorder fear that they will be criticized or judged in negative terms, either because they did not perform well or because they are simply seen as being anxious (Leahy et al., 2012).

In the case of social phobia, avoidance is the clearest behavioral symptom. Many patients will avoid feared situations as much as possible, but will experience intense anxiety when the negative consequences of avoidance are perceived to be greater than those of participation (Andrews et al., 2013).

The specific symptoms of social phobia are flushing, sweating, shaking, palpitations and nausea. This disorder can lead to alcoholism as many individuals consume alcohol to relieve these symptoms, unaware that they are socially phobic (Bourne, 2015).

The lifetime prevalence for social anxiety disorder is between 3% and 13% (Ponniah & Hollon, 2008). The US National Comorbidity Survey Replication (Kessler et al., 2005) shows that 12.1% of the US population meets diagnostic criteria for social anxiety disorder at some point in their lifetime, this fact placing this disorder in fourth place on the list of the most common psychiatric disorders encountered. Lower values of the prevalence estimated at 12 months are found in several areas of the globe, clustering around the value of 0.5 - 2.0%; the average prevalence in Europe is 2.3%. The prevalence rate at 12 months for children and adolescents is comparable to that for adults. The prevalence rate decreases with age (American Psychiatric Association, 2013).

Several studies have reported that certain children have a pattern characterized by behavioral inhibition (Lahat et al., 2014; Henderson, Pine, & Fox, 2015). This characteristic is common in children whose parents suffer from panic disorder and can develop into severe shyness as the children grow. At least some of the people with social anxiety presented behavioral inhibition during childhood. Probably together with this characteristic, which is believed to be biologically determined, there are psychological data that indicate that the parents of people with social anxiety are usually less caring, more rejecting, more overprotective than other parents.

The success of drug therapy on social anxiety led to the emergence of two neurochemical hypotheses regarding two types of social anxiety. Specifically, the success of beta-adrenergic antagonists in performance phobia (e.g public speaking) led to the development of the adrenergic theory. Patients with performance phobia might release

more adrenaline and noradrenaline both peripherally and centrally compared to people without phobia, or they might release a normal amount, but show an excessive sensitivity to these neurotransmitters. The observations that MAOIs are more effective than tricyclic antidepressants in the treatment of this pathology led to the hypothesis that there is a dopamine disorder in this pathology (Kim & Amsterdam, 2019). A study found in patients with social anxiety significantly lower levels of homovanillic acid than in those without this pathology (Wingerson, Cowley, Kramer, Petty, & Roy-Byrne, 1996).

First-degree relatives of people with social anxiety are more likely to be affected by social anxiety than first-degree relatives of those without mental disorders. Just like in other anxiety disorders, there is a genetic component, but also an environmental one in the cause of the emergence of social anxiety disorder. If one identical twin has this issue, there is a 30-50% chance that the other will also have this problem. Heritability in first-degree relatives is five to six times higher than in other relatives. At the same time, the social anxiety of adoptive parents is significantly correlated with the social anxiety of adopted children (Kendler, Karkowski, & Prescott, 1999).

The onset age of social anxiety disorder is between 11 and 16 years. However, many patients report the onset in early childhood. Social anxiety disorder can rarely appear after the age of 20, except in situations where there are certain precipitating factors such as physical suffering or other major changes in the patient's life (Leahy et al., 2012).

A significant percentage of individuals who suffer from social anxiety disorder are also diagnosed with depression, or other anxiety disorders (panic disorder, generalized anxiety disorder, or substance abuse). Among patients diagnosed with social anxiety disorder, up to 50% of them experience spontaneous remissions within two or three years; the other 50% continue to exhibit symptoms of the disorder for much longer, without receiving treatment (Bourne, 2015).

Social anxiety disorder has temperamental risk factors (basic personality traits that predispose individuals to social anxiety disorder through inhibited behavior and fear of negative judgment;) environmental factors (maltreatment and difficulties in childhood); genetic and physiological factors (there is a genetic component, first-degree relatives of patients with social anxiety disorder are 2-4 times more likely to suffer from the same disorder) (American Psychiatric Association, 2013).

Social anxiety disorder can lead to serious impairments in academic performance, occupational and social functioning. Individuals suffering from social phobia have below average academic performance and economic status; also, a significant number of them have poor interpersonal relationships, not having a partner and a couple life (Belzer, McKee, & Liebowitz, 2005). Despite the discomfort and social impairments, in Western societies only about half of these individuals seek treatment, and this happens after 15-20 years of experiencing symptoms.

4.6. Panic Disorder

A panic attack is a sudden and distinct episode of intense discomfort and/or fear, accompanied by various physical symptoms (dizziness, palpitations, tremors, feeling of suffocation or lump in the throat, sweating, chest pain, nausea, dizziness, numbness, tingling, chills or hot flashes, feeling faint) and cognitive symptoms (fear of losing control, fear of dying and feelings of detaching from reality and derealization). Panic attacks come on suddenly and are brief, rarely lasting more than 30 minutes, with the maximum level of anxiety being reached within the first 10 minutes (Leahy et al., 2012).

In the process of diagnosing panic disorder, all causes of possible medical conditions (hypoglycemia, hyperthyroidism, reaction to excess caffeine, or abstinence from alcohol, tranquilizers, or sedatives) must be ruled out. The causes of panic disorders are a combination of heredity, chemical imbalances in brain and recent personal stress (Bourne, 2015, p. 24). Panic attacks can also occur in other anxiety disorders, but to be diagnosed with panic disorder, the patient must have repeated and unexpected panic attacks. At the same time, the patient experiences a permanent fear regarding the suffering of other panic attacks, or of the repercussions of these panic attacks (Leahy et al., 2012).

Panic attacks without an anxiety disorder occur in 22% of the general population (Kessler et al., 2005), and the estimated 12-month prevalence of panic disorder in the US and some European countries is approximately 2–3% in adults and adolescents, women being more affected than men, the ratio being approximately 2:1. The lower prevalence of panic disorder is in older adults and may be attributed to age-related attenuation of the autonomic SN response (American Psychiatric Association, 2013).

People tend to develop panic disorder in their late teens or early 20s. About half of those who have a panic disorder developed it before the age of 24. In a third of these cases, panic is complicated by the appearance of agoraphobia, because individuals suffering from panic disorder will avoid going out in open spaces for fear of having panic attacks and the situation could get out of control.

The first panic attack is often spontaneous. Sometimes, panic attacks occur in situations of excessive effort, excitement, sexual activity, and emotional trauma. Therapists must do a brief analysis of the situations that happened before the panic attacks. Such activities may include excessive consumption of caffeine, alcohol, nicotine, or other substances. Unusual eating or sleeping patterns can contribute to panic attacks. The attack often begins with a 10-minute period of increasing symptoms.

The main symptoms are extreme fear and a feeling of imminent death. People usually cannot name the source of the fear, often having trouble concentrating and being confused. Physical signs often include tachycardia, palpitations, dyspnea, and sweating. Often, patients leave their situation and seek help. The attack usually lasts between 20 and 30 minutes, rarely more than an hour. Patients may feel depressed or depersonalized during the attack. Symptoms can disappear quickly or gradually.

Between attacks, patients may have anticipatory anxiety about other attacks. Worries about death by cardiac or respiratory arrest are the main focus of patients during panic attacks. Up to 20% of patients have episodes of syncope during a panic attack. Such patients are found in emergency rooms and although the doctors say they are healthy, they insist on the fact that they are about to die from a heart attack. Hyperventilation can cause respiratory alkalosis, breathing in a bag is useful in this regard (Sadock et al., 2014).

Depressive symptoms are often found in panic disorder and some patients, a depressive disorder coexists with panic disorder. Studies show that the risk of suicide in those with panic disorder is higher than in those without mental disorders (Sadock et al., 2014).

Panic disorder, according to DSM-V presents temperamental risk factors (individuals presenting negative affectivity, neurotic character, tendency to experience negative emotions, anxious sensitivity); environmental risk factors (childhood sexual abuse, maladaptive environment, smoking, illicit substances, alcohol consumption); genetic and physiological factors (children of parents with anxiety, depressive and bipolar disorder have an increased risk for being diagnosed with panic disorder; medical conditions – bronchial asthma). Panic attacks and a diagnosis of panic disorder are associated with a higher

frequency of suicidal ideation and suicide attempts, even when other suicidal risk factors are considered (American Psychiatric Association, 2013).

In case of panic disorder, the costs imposed by this diagnosis are high both for the affected individual and for society. Individuals diagnosed with panic disorder experience significant occupational, interpersonal, and physical impairments. Because panic disorder accounts for the highest number of consultations of all anxiety disorders (American Psychiatric Association, 2013), individuals diagnosed with this disorder are among the highest users of health care services, including emergency department and hospitalizations (Barlow, 2002). Also, for this reason, they miss work twice as much as patients with other psychiatric conditions, thus creating greater deficits than those caused by the chronically ill, thus generating direct costs (hospitalization) as well as indirect costs (labor productivity) for the health system (Barlow, 2002).

Panic disorder severely impairs the interpersonal functioning of affected individuals. The fear of suffering panic attacks in public places severely limits their ability to socialize with other people (Leahy et al., 2012).

4.7. Agoraphobia

The word agoraphobia denotes the fear of open spaces, but the essence of agoraphobia is the fear of having panic attacks (Bourne, 2015). Individuals suffering from agoraphobia are afraid of being put in situations from which escape may be difficult, or of being put in embarrassing situations, should they suffer a panic attack. Fear and shame play a key role. The most common feature of agoraphobia is the anxiety caused by the thought of the agoraphobic individual being away from the person to whom there is a primary attachment (Bourne, 2015).

According to the data presented in the Manual of Diagnosis and Statistical Classification of Mental Disorders, "each year approximately 1.7% of adolescents and adults are diagnosed with agoraphobia. Women are twice as likely as men to experience agoraphobia. The 12-month prevalence in individuals older than 65 is 0.4%" (World Health Organization, 1993, p. 219).

Agoraphobia can begin in childhood, but the peak incidence is towards the end of adolescence and young adulthood. Chronic remission is rare unless the agoraphobia is treated. The development of agoraphobia can be complicated by various conditions, especially other anxiety disorders, depressive disorders, substance use disorders, and personality disorders (American Psychiatric Association, 2013). In many cases, agoraphobia appears to arise from panic disorder, as the affected individual practically avoids facing the symptoms of a panic attack in public, reaching in severe cases the restriction of all activities (Bourne, 2015).

4.8. Generalized Anxiety Disorder

Generalized anxiety disorder is characterized by chronic anxiety that persists for at least six months but is not accompanied by panic attacks, phobias, or obsessions (Bourne, 2015). Patients with generalized anxiety disorder express extreme and/or chronic apprehensive worry and related physical symptoms, failing to control their worries and reporting various problems such as fatigue, irritability, restlessness, muscle tension, and insomnia. (Leahy, et al., 2012).

As with all mental disorders, before establishing a correct diagnosis of generalized anxiety disorder, the assessment will be made according to the criteria established by the Diagnostic and Statistical Manual of Mental Disorders, DSM-5. As with all other disorders, the clinician must rule out the possibility that the patient being evaluated and suspected of

having a generalized anxiety disorder is caused by physical illness or alcohol or drug abuse/withdrawal (Leahy et al., 2012).

Epidemiological studies indicate that the lifetime prevalence of generalized anxiety disorder is estimated to be between 5.8 and 9%, with the risk being higher in women (2.5:1 ratio), young adults, and people of color (Blazer, George, & Winfield, 1991). Individuals of European descent tend to experience this disorder more frequently than individuals of other origins. Peak prevalence is in midlife and declines in later years of life (American Psychiatric Association, 2013).

Generalized anxiety disorder is probably the pathology that is most frequently associated with another mental disorder, usually social phobia, specific phobia, panic disorder, or depressive disorder. In this way we can see the disorder as part of a spectrum of mood and related disorders. Probably between 50 and 90 percent of those with a generalized anxiety disorder also have another mental disorder (Tyrer & Baldwin, 2006).

The therapeutic effect of benzodiazepines and buspirone has focused scientific research on GABA and serotonin regarding this pathology (Garakani et al., 2020). Although there is no convincing data to attest to the fact that there are benzodiazepine receptor abnormalities in generalized anxiety disorder, we suspect dysfunctions of the occipital lobes, and secondarily of the basal ganglia, the limbic system, and the frontal cortex. Other neurotransmitter systems that have been researched in generalized anxiety disorder are those that regulate norepinephrine, cholecystokinin, and glutamate.

Neuroimaging studies of patients with generalized anxiety disorder have revealed important changes. A PET study reported a decreased metabolic rate in the basal ganglia and white matter in patients with generalized anxiety disorder compared to people without mental illness (Wu et al., 1991).

The two schools that studied this pathology in depth are the cognitive-behavioral school and the psychoanalytic school. According to the cognitive-behavioral school, patients with generalized anxiety disorder respond to dangers that are incorrectly perceived. The inaccuracy starts from the fact that they pay selective attention to the negative details in the environment, thus distorting the information processing.

The psychoanalytic school believes that anxiety comes from unresolved, unconscious conflicts. Sigmund Freud first presented this theory in 1909 with the description of Little Hans. Before that, Freud conceptualized anxiety as having a physiological basis.

The onset of generalized anxiety disorder is rare in adolescence, with most individuals reporting that they have felt anxious and nervous throughout their lives, with the average age of onset for this disorder being 30 years (American Psychiatric Association, 2013). Because of its chronicity and poor compliance with treatment, some clinicians have considered generalized anxiety disorder to be a lifelong disorder (like diabetes), and others consider it a personality disorder (Leahy et al., 2012).

Generalized anxiety disorder can be exacerbated by any stressful situation that evokes fears of failure, illness, rejection, abandonment, demanding performance, marital conflict, or any situation that increases the impression of danger and threat (Bourne, 2015).

4.9. Anxiety Disorder due to Another Medical Condition

This diagnostic category is reserved for situations where considerable anxiety (which may take the form of panic attacks or generalized anxiety) is a direct effect of an illness. Individuals may be affected by different types of illnesses that can cause anxiety, including endocrine conditions, cardiovascular or respiratory conditions (asthma), metabolic conditions (vitamin deficiencies, porphyria), gastrointestinal illness (irritable bowel

syndrome, gastroesophageal reflux disease) or neurological conditions (fibromyalgia, epilepsy, cerebral palsy) (Bourne, 2015; Meuret, Tunnell, & Roque, 2020).

To correctly establish this diagnosis, clinicians can review the diagnostic criteria established by DSM-5: panic attacks or anxiety predominate the clinical picture; there is evidence from the history, physical examination, or laboratory findings that the disturbance is the direct pathophysiological consequence of another medical condition; the disturbance is not better explained by another mental disorder; the disturbance does not occur exclusively during delirium; the disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning (American Psychiatric Association, 2013, p. 230).

4.10. Substance or Medication-Induced Anxiety Disorder

The diagnosis of substance and medication-induced anxiety disorder will be made when the patient being evaluated has generalized anxiety or panic attacks that are caused by the physiological effect of a substance, whether it is a drug of abuse, a medication, or exposure to toxins. Anxiety can be caused by exposure to a substance or withdrawal from a substance (Bourne, 2015). Substance-induced anxiety is common, both as a result of ingesting recreational drugs and also as a result of ingesting certain medications. Sometimes is difficult to distinguish this disorder and delirium, that is included in the differential diagnosis.

Several medications can cause anxiety. Although sympathomimetic substances, such as cocaine, amphetamines, and caffeine have been most frequently associated with the production of anxiety, many serotonergic substances can cause chronic anxiety in users. The clinical characteristics of substance-induced anxiety vary depending on the substance involved. Even the rare use of psychostimulants can lead to anxiety disorder in certain people. These cognitive deficits are usually reversible when the substance is stopped.

The most frequently reported symptoms when using steroids, antiepileptic drugs, antimalarial drugs, and antiretroviral drugs are corelated with psychosis with persecutory delusions and auditory hallucinations. Mood changes and anxiety may precede psychosis after steroids and antimalarials (Niebrzydowska & Grabowski, 2022).

5. CONCLUSION/DISCUSSION

The complexity and high prevalence of anxiety disorder have led many specialists to conceive various materials about this issue, in different forms, bringing their beneficial contribution to the information of those interested. The present work has addressed all anxiety disorders in a somewhat conventional form as brief reviews intended for clinicians and beyond. Anxiety and related disorders are generally defined by the characteristics of excessive anxiety, fear, worry, and avoidance. While anxiety may be a normal part of everyday life, anxiety disorders are associated with functional impairment and cause clinically significant distress or impairment in social, occupational, or other important areas of functioning. Anxiety disorders constitute a major clinical and public health problem, being associated with a significantly increased risk of mortality, and the co-occurrence of these disorders led to an increased risk of death. Due to the high prevalence of anxiety disorders, the associated excess mortality has a huge impact on public health. A recent meta-analysis indicated that approximately five million deaths worldwide can be attributed to mood and anxiety disorders each year (Olariu et al., 2015). It is also important for clinicians to realize that anxiety disorders and depression are associated with increased mortality from both natural and unnatural causes and that physical health assessment in

these patients is always important. Low rates of recognition of anxiety disorders have been described at the level of primary care (Hofmann & Smits, 2008).

The current conceptualization of the etiology of anxiety disorders includes an interaction of psychosocial factors, for example, the person's adversity, stress, or trauma, and a genetic vulnerability, which manifests itself in neurobiological and neuropsychological dysfunctions. Evidence for potential biomarkers for anxiety disorders in the fields of neuroimaging, genetics, neurochemistry, neurophysiology, and neurocognition has been summarized in two recent consensus papers (Bandelow et al., 2017). Despite extensive and high-quality neurobiological research in the field of anxiety disorders, reviews indicate that specific biomarkers for anxiety disorders have not yet been identified. Thus, it is difficult to make recommendations for specific biomarkers (e.g., genetic polymorphisms) that might help identify individuals at risk for anxiety disorder. Developing an appropriate approach to patients with anxiety disorders and comorbid general medical conditions requires the involvement of a multidisciplinary team, with an emphasis on early recognition of risk factors and appropriate treatment. Personal, social, and disease factors can each intervene to delay or complicate treatment. All patients with anxiety disorders require supportive discussion and attention to the emotional problems associated with the anxiety disorder. Psychoeducation includes information about the physiology of bodily symptoms, anxiety reactions, and the justification of available treatment possibilities. Many patients may require formal psychological treatment interventions, which are mostly done in outpatient or private psychological practices. It is a common belief that patients with anxiety disorders treated with medication relapse immediately after stopping the medication, whereas gains from psychological therapies are maintained months or years after treatment discontinuation. This would give psychological therapy a considerable advantage over medication treatment of anxiety.

The impact of the increasing prevalence of anxiety disorder on society is considerable, and it is imperative that specialists are well-documented and trained to contribute favorably to public health.

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AUTHORS' INFORMATION

Full name: Ionela-Anca Lungu
Institutional affiliation: CIP Lungu Ionela Anca
Institutional address: Str. Mihail Kogalniceanu 15, Botoșani, Romania
Short biographical sketch: Clinical psychologist, master's student at "A.I. Cuza" University Iași (clinical evaluation, counseling and psychotherapy for couples and family), teacher for special psycho-pedagogy at "Sf. Stelian" Special Professional School, Botoșani, volunteer psychologist at Botoșani penitentiary.

Full name: Ionuț-Stelian Popa
Institutional affiliation: Prof. Dr. Alex. Obregia" Clinical Psychiatry Hospital
Institutional address: Sos. Berceni no. 10, Bucharest, Romania
Short biographical sketch: Resident physician committed to helping people improve their mental health. I graduated from "Carol Davila" Faculty of Medicine and Pharmacy in 2019 and began my training at „Prof. Dr. Alexandru Obregia" Psychiatry Hospital. My work focuses on offering, together with the attending physician, a diagnosis and treatment as correct as possible to psychiatric patients. I believe in taking a collaborative approach to helping patients achieve their goals. I am passionate about creating resources for people struggling with mental disorders and I am interested in participating in workshops, webinars, courses and conferences to expand my knowledge base. Over time, I participated in 12 national and international psychiatry and psychology conferences. Also, I published 18 articles in national and international magazines.

Full name: Florentina Mădălina Petcu
Institutional affiliation: Private practice, Bucharest, Romania
Institutional address: Bucharest, Romania
Short biographical sketch: Clinical Psychologist; Licensed in Psychology, University of Bucharest, Faculty of psychology and Educational Sciences; Master Degree in Clinical psychology, hypnosis and Short-term therapeutic interventions, "Titu Maiorescu" University Bucharest, Romania

Full name: Ilinca Vlaicu
Institutional affiliation: Private practice, Bucharest, Romania
Institutional address: Bucharest, Romania
Short biographical sketch: Graduated from the University of Bucharest with a bachelor's degree and a master degree, then continued her studies at the National Institute of Experiential Psychotherapy. She is licensed clinical psychologist, psychological counselor and psychotherapist. Her work take place in her private practice and involves collaboration with clinics and a private international school. She has published numerous scientific articles and is co-author of a book on psychodynamic psychiatry.

Full name: Simona Trifu
Institutional affiliation: "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania
Institutional address: Str. Dionisie Lupu no. 37, Sector 2, Bucharest, Romania
Short biographical sketch: Senior Psychiatrist, hab. associate professor Department of Clinical Neurosciences, Psychiatry Discipline – Clinical Hospital of Psychiatry "Alex. Obregia" of "Carol Davila" University of Medicine and Pharmacy, PhD in medicine UMF "Carol Davila", PhD in Psychology University of Bucharest, Master Degree in Public Health, Psychoanalyst, direct member of International Psychoanalytical Association, more than 200 published articles, 17 published scientific books.

AUTHOR INDEX