

Psychology Applications & Developments X

Edited by Clara Pracana & Michael Wang



Psychology Applications & Developments X
Advances in Psychology and Psychological Trends Series

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



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FOREWORD

inScience Press is pleased to publish the book entitled *Psychology Applications & Developments X* 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 tenth 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 7 major areas (divided into 7 sections) within the broad context of Psychology: Clinical Psychology, Psychoanalysis and Psychoanalytical Psychotherapy, Social Psychology, Educational Psychology, Environmental Psychology, Health Psychology and Legal Psychology. 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 2024) 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 25 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: *Open-Ended Supportive Therapy*; by Rodrigo Sanchez Escandon. In this chapter, I examine the essential role of supportive interventions in treating patients who lack the ego strength for traditional psychodynamic or cognitive therapies. These interventions help individuals navigate life-altering events such as bereavement, relational conflict, medical diagnoses, trauma, or social and

work-related stress. After outlining the core principles of supportive therapy, I present two case studies utilizing the Open-Ended Supportive Therapy approach (Hinshelwood, 2013). One case demonstrates the successful application of this method, while the other highlights its misuse, emphasizing the critical importance of adhering to the therapeutic fundamentals for effective outcomes.

Chapter 2: *Arriving at a Survey for Co-Living: Quality of Life in Aging*; by Marie J. Myers & Akomaye A. Undie. Increasingly people look at co-living to cut costs and fight loneliness. For aging populations, the idea is to live well and be serene throughout retirement. In our research, we uncovered characteristics for the creation of a survey for co-living. For this study, we investigated retired independent women in a government subsidized co-living building in Paris to establish desirable criteria to adapt the formula in Canada. At present, there are no such arrangements that have lasted. Retirement homes often do not meet the needs of more independent people. Studies show that people living together while also keeping independent enjoy longer healthier lives. In our qualitative approach, the first step was to have members of the co-living model make regular journal entries to identify desirable traits and attitudes. The journals were analyzed along with data found in the public domain on the group. The data analysis initially resulted in 33 distinct items. After grouping these items, the questionnaire was streamlined, reducing the number of questions from 167 to 78. Following that, we searched established well-being surveys to tease out corresponding questions to the items we had uncovered. We then created a questionnaire. The themes were explored and discussed considering our findings and their relevance. We present the different steps involved and the discussions that were held. Suggestions for further steps will be made.

Chapter 3: *Thriving After Trauma: Uncovering Pathways to Posttraumatic Growth in Covid-19 Survivors*; by Gabriela Aissa Suciú & Adriana Baban. COVID-19 former patients have endured physical and psychological stress during infection, hospitalization, and recovery. Research indicates that some discharged patients experience Post-Traumatic Growth (PTG) following adversity. This research aims to explore former patients' experiences within the post-acute period, in terms of positive long-term post-COVID effects and the role of coping resources in the recovery period. Semi-structured interviews were conducted from November 2022 to April 2023, involving 21 participants (57% female), mean age 64, residing in Romania, previously hospitalized for severe COVID-19. Thematic analysis identified four major themes: (1) Coping strategies - reframing the experience positively, break the recovery path into manageable actions, self-care, support seeking, and acceptance; (2) Inner Strengths - optimism, actively living life, determination, independence, and experience with hardship previously; (3) Changed Life Perspective - increased compassion, helping others, and valuing close relationships; (4) Gratitude - the awareness of personal wellbeing's value prompted gratitude and hope. Some participants described making concerted

efforts to appreciate each new day, others increased prosocial and altruistic behaviors, while others conveyed gratitude. The findings underscore the factors that contributed to participants' PTG and provide unique insights into the pathways from medical adversity to enduring positive changes across cognitive, emotional, behavioral, and relational domains.

Chapter 4: *Anxiety, Social Desirability, Coping Strategies and Defensive Styles of Coping in Hypersexual Men Before and After Therapy: Preliminary Results*; by Angelika Kleszczewska-Albińska. Hypersexuality include intense focus on sexual fantasies, urges or behaviors that an individual cannot control. It was proved that people suffering compulsive sexual behaviors experience high levels of distress and anxiety, and report difficulties in personal and professional areas of their life. In order to verify whether the levels of anxiety, social desirability and preferred coping styles of hypersexual persons change after the therapeutic process the preliminary empirical study was conducted. In the presented project participated 8 volunteer hypersexual men who underwent six months long CBT-based group psychotherapy. In order to measure the levels of anxiety, social desirability, and coping styles Trait Anxiety Scale, Social Desirability Questionnaire and Mini-COPE were used. The results obtained in the study proved that respondents presented high levels of anxiety. The levels of maladaptive styles of coping presented by hypersexual men before the therapy were higher in comparison to the levels of these strategies after the therapy. The results obtained in the study might serve as a starting point for planning future research, since they are only preliminary, and collected in a small sample of volunteers.

Chapter 5: *Elkins Hypnotizability Scale: Adaptation of the French Version*; by Frédérique Robin, Elise Le Berre, Sacha Morice, & Marion Letellier. This study aims to adapt the Elkins Hypnotizability Scale (EHS, Elkins, Johnson, Johnson, & Sliwinski, 2015) to a French sample and to determine its psychometric properties. The EHS was conceived in order to assess individuals' responsiveness towards suggestions guiding hypnotic experiments, ranging from motor responses to imagery and hypnotic amnesia. We also investigated the role of social desirability, attitudes and beliefs towards hypnosis, and vividness of visual imagery on individuals' hypnotizability level. Usually, these factor effects are considered in the light of hypnotizability (see Bret, Deledalle, Capafons, & Robin, 2024; Koep, Biggs, Rhodes, & Elkins, 2020). Preliminary results revealed that the French version of EHS showed a good internal consistency. The gender effect on EHS scores was not significant. A significant, moderate and positive correlation between the EHS and the attitudes/beliefs towards hypnosis suggest that attitudes/beliefs might predict efficiently the responsiveness to hypnotic suggestions. A moderate and a positive correlation was found between the EHS and the vividness of visual images, no significant correlation was found between the social desirability and the EHS scale, confirming its relevance. These findings tend to show that the French adaptation of the EHS may be an available brief assessment of hypnotic suggestibility, useful for researchers and clinical practitioners.

Chapter 6: *Applying Awareness Integration Therapy as a Trauma-Informed Care Modality*; by Foojan Zeine, Nicole Jafari, & Kenneth Blum. Individuals impacted by trauma often struggle to process memories, thoughts, and feelings associated with their experiences, which can affect cognitive, somatic, and emotional domains, leading to disrupted self-awareness and autobiographical memory loss (Schoore, 2003). Trauma survivors may hold intensely negative core beliefs, resulting in doubt, despair, and low self-confidence (Lanius et al., 2015; Frewen et al., 2008, 2020). Even when seeking treatment, they may struggle to understand trauma's pervasive impact or avoid addressing it altogether (Center for Substance Abuse Treatment, 2014). This chapter explores Awareness Integration Theory (AIT) as a trauma-informed intervention model, bridging emotional, cognitive, and somatic disconnects to promote mental equilibrium. AIT applies trauma-informed care principles to support healing while preventing re-traumatization. By fostering self-awareness, neuroplasticity, and integration, AIT enables individuals to acknowledge cognitive and emotional patterns, bypass regression, and construct trauma narratives that integrate their emotional, cognitive, and behavioral experiences. Key components of the AIT model include: (a) creating a detailed trauma narrative, (b) identifying psychological disconnects, and (c) reconstructing the story in an integrated framework. Using evidence-based methodologies, AIT empowers individuals to address trauma's impact, restore self-awareness, and advance healing in alignment with trauma-informed care principles.

Section 2, entitled “Psychoanalysis and Psychoanalytical Psychotherapy”, presents chapters that report on different approaches and methods to treat mental health concerns.

Chapter 7: *Moral Masochism in Substance Use Disorder: The Perspectives of Psychodynamic Therapists*; by Kyle Muscat & Greta Darmanin Kissaun. The current study aimed at investigating the manner in which psychodynamic therapists conceptualise and treat moral masochism in patients who use substances. A qualitative methodology was adopted for which five psychodynamic psychotherapists informed by diverse psychodynamic theories and experienced in working with Substance Use Disorder (SUD) were recruited. Five in-depth, semi-structured interviews were conducted with participants and data was analysed using Reflexive Thematic Analysis (RTA). The study yielded several key findings, including the existence of common factors linking moral masochism and substance use-related behaviours, such as the presence of dependency, aggression and a sense of disconnection and emptiness. Themes elicited from the data also included possible motives underlying patients' behaviours, shedding light on how, according to therapists, patients deploy these as coping strategies, defence mechanisms, methods for achieving a temporary sense of control and as attempts to expiate guilt. Essential considerations for therapists treating this patient group were also highlighted, including the relevance of recognising the self-sustaining cycle powering morally masochistic and substance use-related behaviours. Particular

transferential challenges faced when treating such patients were also considered. The importance of reflexive practice in order to help navigate specific emerging issues of transference and countertransference was also emphasised.

Chapter 8: *Depressive Symptoms and Help-Seeking Intentions in University Students During the Covid-19 Pandemic*; Ján Kulan & Oľga Orosová. Background: The COVID-19 pandemic significantly impacted university students, a vulnerable group with a low tendency to seek help. Aim: To explore the association between students' depressive symptoms and their help-seeking intentions while controlling for gender, fear of COVID-19, and well-being among Slovak university students during the COVID-19 pandemic. Methods: During November and December of 2021, 258 students ($M = 21.86$, $SD = 2.05$; 77.1 % women) from Slovak universities participated in an online survey. Findings were analyzed using the Mann-Whitney U Test and hierarchical multiple regression. Results: We identified three primary sources of help that included informal help from partner, friends, and parents of university students. Women were more likely to seek help from informal sources. Students with prior formal help-seeking (28.2 %) were more likely to seek help from formal sources, such as mental health professionals. Women and students with higher life satisfaction and fear of COVID-19 exhibited a higher level of help-seeking intentions, while those with more depressive symptoms were less likely to seek help. Conclusion: The results of this study support previous findings related to the willingness of young people, especially to use informal sources of help-seeking.

Section 3, entitled “Social Psychology”, gives a glance at projects from a psycho-social perspective.

Chapter 9: *Navigating Technostress: The Role of Personal and Organizational Resources in Regulation of Digital Strain and Well-Being*; by Eva Rošková and Laura Šmatlavová. This cross-sectional study aimed to utilize the Job Demands-Resources theory to examine whether inhibitors of technostress within organizations, computer self-efficacy and resilience can reduce employees' perception of digital strain and positively impact job-related well-being. Conversely, it investigated whether technostress creators exacerbate employees' perception of digital strain and negatively affect job-related well-being. The research sample comprised 183 employed individuals utilizing information technologies at work, including 87 men and 96 women aged between 21 and 63 years. Participants completed a series of self-assessment online questionnaires via social media platforms. The results indicated that resilience, support for digital literacy, and provision of technical support were predictors of positive job-related well-being. Conversely, techno-overload, techno-invasion, techno-complexity, and techno-uncertainty predicted negative job-related well-being. Notably, resilience was the sole predictor that attenuated the impact of techno-stressors on positive well-being. Digital strain was associated with techno-overload, techno-invasion,

and techno-complexity, with computer self-efficacy being the only significant predictor mitigating the effects of techno-stressors on digital strain. Our findings thus have the potential to contribute to the creation of a better and healthier work environment, and they could be valuable for managers and organizations striving to address the challenges associated with digital transformation and modern technologies in the workplace.

Chapter 10: *Exploring the Representations of Disabled Women Using the Repertory Grid Technique*; by Amy Camilleri-Zahra, Mary-Anne Lauri, & Gottfried Catania. This study aims at exploring the representations of disabled women held by disabled women themselves. Most of the literature available explores the representations of disabled people held by non-disabled people. However, this study aimed to fill a gap in the literature by shedding light on disabled women's views. This study is underpinned by social representations theory, intersectionality theory and the social model of disability. The way disabled women are treated often stems from the representations held about them by society. The understanding of the representations of disabled women can have significant implications for the drafting of policies and the development of services for disabled women. The repertory grid technique was used to collect data from 14 disabled women aged between 28 and 63 years old. The constructs yielded from the repertory grid technique were analysed using an adaptation of the core-categorisation method. The constructs were grouped under three themes, which are: The Power of First Impressions, A Part of One's Identity, and The Dichotomy of Career and Family. This study shows that participants care about body image and fashion, do not think that the impairment represents disabled women's entire identity, and that having a career is important.

Chapter 11: *Evaluating the Effectiveness of Exposure to Counterstereotypic Fathers on Reducing Implicit Father and Mother Stereotypes in Japan: II Ordinary Fathers as Counterstereotypic*; by Mizuka Ohtaka. An earlier study that exposed famous fathers as counterstereotypic exemplars suggested that, for men, exposure to counterstereotypic fathers can reduce the implicit father and mother stereotypes. However, one possible reason for such results is that, for women, famous fathers might be considered a subtype of fathers distinct from ordinary fathers. Therefore, this study examined whether exposure to ordinary fathers who took childcare leave for at least 3 months could reduce the implicit association between 'father' and 'work' and between 'mother' and 'home'. The Implicit Association Test (IAT) was conducted among Japanese adults. The participants were randomly assigned to the counterstereotypic or control group by gender and age group. 210 respondents (105 men and 105 women in their 20s, 30s, 40s, 50s, and 60s) were included in the analysis. The results indicated that, for the 50s, with strong implicit father and mother stereotypes, exposure to counterstereotypic fathers could reduce the implicit father and mother stereotypes. In other age groups, however, the intervention did not reduce the implicit father and mother stereotypes. Therefore, future studies will need to examine interventions with stronger effects.

Chapter 12: *Facilitating Acculturation in Educational Settings: An Analysis of Policies and Practices for Supporting International Students in Irish Higher Education*; by Borui Zheng & Keegan Covey. In an era of increasing global mobility, Irish higher education institutions (HEIs) are experiencing a significant rise in international student enrolments, highlighting the need for enhanced acculturation supports. This study uses a social psychological framework to analyse policy documents, teaching guides, and programme descriptions from a representative sample of Irish universities. It evaluates the inclusivity and effectiveness of these supports through parameters like social trust and psychological well-being. Findings reveal a wide range of acculturation practices, from formal orientation programmes to informal cultural exchange initiatives, though variability exists across institutions. Administrative supports such as visa assistance and housing play a crucial role but have limited impact on social trust and well-being compared to inclusive classroom practices. While culturally responsive teaching is increasingly recognised, structured training and resources for faculty remain insufficient. Social trust—particularly “bridging trust” between diverse groups—emerges as key to successful acculturation, with stronger correlations to psychological well-being than bonding trust within shared identity groups. Inclusive teaching practices are identified as the most effective means to foster social capital and improve psychological health, while administrative supports enhance vertical trust and academic outcomes. The study recommends standardising inclusive teaching practices to better support international students and optimise acculturation outcomes in Irish HEIs.

Chapter 13: *Understanding Group Issues: The Syrian Refugee Experience in Brazil*; by Carlos Antonio Massad Campos & Edinete Maria Rosa. Refugees are people who are outside their countries because of a well-founded fear of persecution for reasons of race, religion, nationality, political opinion, or social participation, and who are unable (or unwilling) to return home. According to data released by the Brazilian National Committee for Refugees in its eighth edition (BRASIL, 2023), between January 2011 and the end of 2022, Brazil had identified 65,840 people as refugees in Brazil. Among the main countries of nationality or habitual residence of people identified as refugees in the period from 2011 to 2022, Syria stood out, with a total of 3,762 asylum requests granted, following Venezuela, which stood out in recent years. Syrian refugees have acquired great magnitude and representation in the issue that involves the policy of reception and insertion of refugees throughout the world and in Brazil. The arrival of these refugees in Brazil caused different reactions and behaviors, including potential conflicts. This work aimed to discuss the matter of how we see certain groups and their common and right away generalization that naturalizes this view with often preestablished standards without there being reflection and better knowledge about this group of people.

Chapter 14: *Middle Corridor Perspective: What Does Georgia's Political Identity Change?*; by Elene Kvanchilashvili. This Chapter considers a wider Black Sea Region for Georgia's identity search considering Georgia's geopolitical location, its Euro-Atlantic aspirations and its main value for the region and beyond – all features for a successful transit hub. It is even more relevant in the context of the current geopolitical changes and an increased focus on Middle Corridor. The Middle Corridor, also called TITR (Trans-Caspian International Transport Route), is a trade route from Southeast Asia and China to Europe via Kazakhstan, Caspian Sea, Azerbaijan, and Georgia. It is an alternative to the Northern Corridor, to the north through Russia, and the Ocean Route to the south, via the Suez Canal. Geographically, the Middle Corridor is the shortest route between Western China and Europe. International Sanctions on Russia and COVID-19 before that make Middle Corridor a safer and better option for trade. Based on different intergroup approaches developed in social psychology (e.g., Social Identity Theory, Realistic Conflict Theory), political identities refer to identification with and meaning attributed to membership in politically relevant groups, including political parties and national, ethnic, linguistic, or gender groups. A key concept in this intergroup approach to political psychology is political identity. This Chapter argues that (i) Georgia's political identity is strongly tied with its Euro-Atlantic aspirations and (ii) Georgia will embrace its regional identity if it sees the perspective of strengthening its political identity.

Chapter 15: *The Evolution of Hate Language in Politics: Shifts in Public Perception and Recognition Over Time*; by Medea Despotashvili. This study investigates the perception of hate language in political speeches and its impact on voter preferences, comparing data from 2013 and 2023. In 2013, neutral language was preferred, followed by critical language, with hate speech rated the lowest. Over the decade, public preferences shifted, with speeches promoting equality and inclusion becoming the most favored in 2023. A significant correlation between age and education was observed, indicating that older and more educated individuals tend to reject hate language more strongly. Younger respondents were more likely to identify hate speech. For example, respondents aged 18-35 rated hate language significantly higher. ANOVA and post-hoc tests revealed generational shifts, as younger respondents in 2023 demonstrated greater rejection of hate speech compared to their counterparts a decade earlier. The study also explored perceptions of hate language targeting specific groups (age, religion, gender, sexual orientation), finding that while most forms of hate speech were clearly identified, ageism remained less recognized. These findings reflect societal changes in attitudes toward political discourse and highlight the role of demographic factors in shaping perceptions.

Section 4, 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 16: *Learning Styles of Generation Z Based on Kolb's Learning Theory: A Case of Indonesian Undergraduates Majoring in Education*; by Yoshitaka Yamazaki, Michiko Toyama, & Murwani Dewi Wijayanti. This study aimed to empirically examine the preferred learning styles of undergraduate students of Generation Z based on Kolb's learning theory. The literature has highlighted unique learning characteristics of Generation Z, but empirical investigations have been inconclusive in terms of Generation Z's learning style, particularly in relation to Kolb's learning model. We applied Kolb's Learning Style Inventory, examining 423 undergraduate elementary education students in an Indonesian university. All of the participants were in Generation Z, ranging from 18 to 23 years old in 2023. Results revealed that as a whole, students preferred the learning mode of abstract conceptualization (i.e., thinking) over concrete experience (i.e., feeling), as well as preferred the mode of reflective observation (i.e., reflecting) over active experimentation (i.e., acting). Furthermore, the most common learning style was Diverging (63%); the second, Assimilating (28%); the third, Converging (5%); and finally, the fourth, Accommodating (4%). Based on these results, we discuss implications and limitations.

Chapter 17: *Effects of Virtual Reality Collaborative Learning Using a Giant Maze on Sociality and Learning*; by Aya Fujisawa. In this study, two experiments examined the effects of collaborative virtual reality (VR) learning on sociality and learning outcomes using a giant maze. In Experiment 1, differences between VR/Head Mounted Display (HMD) and VR/desktop conditions were evaluated using the same collaborative learning task. Experiment 2 compared cooperative learning with competitive learning using the same VR learning material. Participants in Experiment 1 included 24 female students, whereas Experiment 2 involved 54 students. Participants, paired for the task, navigated a giant maze in the VR collaborative learning material “ayalab Shall we walk?” with a 10-minute completion time. In Experiment 1, participants were randomly assigned to either the VR/HMD condition (META Quest 2 headset) or the VR/desktop condition (iPad 9th generation) in individual small laboratories. In Experiment 2, participants experienced one learning activity, either VR competitive or cooperative learning activities, using an iPad. Group cohesion, the Interpersonal Reactive Index, and critical thinking attitudes were measured before and after the sessions using Microsoft Forms. Experiment 1 showed differing learning effects between VR/HMD and VR/desktop conditions, whereas Experiment 2 demonstrated varied effects between VR cooperative and competitive learning environments. These findings are discussed in detail in this chapter.

Chapter 18: *Investigating Early Signs of Developmental Dyslexia at the Preschool Age: The Role of Stress and Systematic Intervention*; by Victoria Zakopoulou, Christos-Orestis Tsiantis, Elena Venizelou, Angeliki-Maria Vlaikou, Vasiliki Chondrou, Argyro Sgourou, Michaela D. Filiou, Alexandros Tzallas, George Dimakopoulos, & Maria Syrrou. Developmental dyslexia (DD) is a multifactorial, specific learning disorder characterized by dysfunctions of biological, neurophysiological, cognitive, and psychomotor factors. This study investigated the association between the early signs of DD and stress. Variants and methylation levels of genes involved in stress response were studied along with mitochondrial DNA copy number (mtDNAcn), a stress-related indicator. From 306 preschool-age children (5.0–6.0 years) recruited, 10 typically developing and 20 identified ‘at risk’ of dyslexia were tested. Of the latter group, 10 underwent a systematic intervention program, and the rest constituted the control group. Two screening tests for early identification of DD were administered, while a developmental history and the CBCL 11/2–5 form of the ASEBA were completed. Genotyping was performed along with mtDNAcn and methylation levels estimation before and after the intervention. Statistically significant differences were observed within the DD group that underwent intervention on cognitive, psychomotor, and linguistic factors, before and after the intervention. Differences in methylation were observed before and after the intervention, and in mtDNAcn only after the intervention. Stress could be involved in the onset of DD, so early detection may contribute to the implementation of effective interventions, thereby reducing or preventing negative effects in later life.

Chapter 19: *Descriptive Normative Beliefs as Predictor of Smoking and Alcohol Consumption Among Young Adolescents*; by Oľga Orosová, Ondrej Kalina, Beata Gajdošová, & Jozef Benka. The aims of this study were to explore (i) the effect of the Unplugged program and gender over time on adolescents’ descriptive normative beliefs about smoking (DNBS) and alcohol consumption (DNBAC), and (ii) the effect of the Unplugged program and descriptive normative beliefs on smoking (S) and alcohol consumption (AC) before (T1), immediately (T2), and one year after program implementation (T3). Method: A cluster randomized control trial using a Solomon four-group design was carried out (1420 adolescents in total, the mean age = 13.5 years, SD = 0.59; 47.5% girls). To increase the effect of Unplugged, booster-sessions called nPrevention were carried out (EG+) after T2. Results: DNBS and DNBAC increased over time and were positively associated with smoking and alcohol consumption. The results showed (i) that descriptive normative beliefs about alcohol consumption increased in all groups, but this increase was more pronounced only in control group and experimental group, and (ii) a decline of descriptive normative beliefs about alcohol consumption in girls in experimental group with nPrevention. Conclusion: The implementation of Unplugged with booster sessions and without pretesting could be an important factor for prevention of alcohol consumption.

Chapter 20: *Facilitators and Barriers in the Use of Digital Tools for Adolescents and Young Adults with Disabilities or Troubles, an Exploratory Study*; by Florent Halgand, Dorothée Trotier, Guillaume Souesme, Sophie Pivry, & Célia Maintenant. Digitalization changes in many ways how we connect to other people and how we live in society. Information and communication technology (ICT) carry a risk of marginalization, especially for people with disabilities or troubles. Also, ICT can mediate the relationship to other people and extend social ties. The study aimed to identify the psychological barriers and facilitators to the use of ICT by adolescents and young adults with disabilities or troubles. Participants were asked about their use of ICT and how they feel when they use it. Three major themes emerged: Representation of ICT, Perception of available resources and Individual and environmental component. For participants, using ICT makes their everyday life easier and provides moments of pleasure. For some, ICT are seen as a means of overcoming disabilities. Social support is a key facilitator to reduce the difficulties of ICT. The main difficulties were risk and lack of knowledge. This study shows that for adolescents and young adults with disabilities or troubles, ICT are important for their sociability and autonomy. It is therefore necessary to support them and facilitate their learning of ICT to encourage their use, so that they feel confident and secure.

Chapter 21: *Teachers, Parents, and Mental Health Professionals Collaborate: Promoting Children's Wellbeing and School Readiness*; by Eileen Manoukian & Mary Barbara Trube. This qualitative longitudinal study focused on pedagogical and curricular practices of teachers during children's preschool through kindergarten formative years during and following the COVID-19 pandemic. The purpose was to explore how teachers supported students in developing school readiness skills in all domains of learning (cognitive, language, physical, social, emotional) over four years during and following the outbreak of COVID-19. Data were collected via semi-structured audio-recorded interviews from 10 teachers in three sessions from 2020 to 2023. Coding was used to reveal patterns, categories and emerging themes. Findings revealed that teachers: (1) modified their pedagogical practices and implemented new curricula to meet students' needs; (2) were faced with challenges in response to COVID-19 outbreak, isolation, and reestablishment periods; (3) expanded roles as they advocated and collaborated with other professionals to increase students' resilience and wellbeing; (4) created communities of practice for peer mentoring and coaching supports to expand their repertoire; (5) strengthened relationships with other teachers and students' parents through parent education, collaboration, and co-teaching. Research implications include adaptations of practices to promote school readiness. Recommendations include further research on communities of practice and collaborative practices between teachers and mental health professionals that further the wellbeing of students and their families.

Section 5, entitled “Environmental Psychology”, gives a glance at the relationship between humans and the external world. This topic includes natural environments, social settings, built environments, learning environments, and informational environments and so on.

Chapter 22: *An Exploration of Eco-Anxiety and Environmental Engagement in Malta*; by Claire Bonello & Mary-Anne Lauri. The ecological crisis has triggered emotional, cognitive, and behavioral reactions. One such response, eco-anxiety, arises from concerns about environmental degradation, and can drive individuals to take action or otherwise. This study explored eco-anxiety and environmental engagement among a Maltese sample using an explanatory sequential mixed methods design, drawing on Appraisal Theory and the Campbell Paradigm of Attitudes. The 13-item Hogg Eco-Anxiety Scale assessed eco-anxiety levels in 243 Maltese adults via an online questionnaire, which also investigated pro-environmental intentions, behaviours, and climate change news exposure. Findings revealed positive correlations between eco-anxiety and both pro-environmental intentions and behaviours, though the latter was less pronounced. Eco-anxiety significantly correlated with climate change news exposure. In the second phase, four qualitative focus groups provided deeper insights into Maltese individuals' appraisals of the ecological crisis. Participants' negative emotions related to ecological degradation stemmed from feeling ineffective in addressing the crisis despite their intentions. They identified barriers, such as inconvenience, cost, and time, which outweighed their positive attitudes towards pro-environmental actions. The study highlights the need to reframe the ecological crisis to promote practical eco-anxiety and environmental engagement, with implications for environmental psychology, conservation and media reporting.

Chapter 23: *Utilizing the IPIP6 Consumer Personality Scale to Analyze Green Consumer Behaviour in an Emerging Economy Context*; by Heleen Dreyer, Daleen van der Merwe, & Nadine Sonnenberg. Daily habits and various antecedents play crucial roles in green consumer behaviour (GCB). Personality traits are significant for environmental engagement since they manifest in habitual green activities and infrequent high-cost decisions. Personality traits could be key in determining GCB. We correlated the relationship of consumer personalities with GCB as daily green habits in an emerging economy context. Our online survey using convenience sampling (N = 478) among South African respondents (≥ 18 years) was based on the International Personality Item Pool six factors (Mini-IPIP6) scale and daily green habits. The six personality dimensions are honesty-humility (H-H), agreeableness (A), extraversion (E), conscientiousness (C), neuroticism (N) and openness to experience (O). Descriptive statistics, exploratory and confirmatory factor analysis, and correlations were performed. Respondents generally showed personality traits conducive to GCB (mA = 4.02; mO = 3.83; mC = 3.78; mH-H = 3.65). Correlations ($p < .05$) were revealed between “C” and “conservation habits” ($r = .261$) and “O” and “wasteful habits” ($r = -.221$). “H-H”

correlated with “personal effort habits” ($r = .230$) and “wasteful habits” ($r = -.252$). Respondents testing higher on C, H-H, and O may perform more habitual GCB, thus revealing the utility of personality dimensions in understanding consumers’ GCB.

Section 6, entitled “Health Psychology”, focuses on how biological, social and psychological factors can influence health.

Chapter 24: *Japanese Translation and Validation of the Short Grit Scale (Grit-S)*; by Katsunori Sumi. Grit has recently attracted the attention of researchers and practitioners. However, studies have reported inconsistent findings regarding its dimensionality and association with success outcomes. This study examined the reliability and construct validity of a new Japanese translation of the Short Grit Scale (Grit-S-J), a brief self-report measure of grit, in a sample of 276 Japanese college students (88 women, 188 men; mean age = 20.81 years, SD = 0.89). Exploratory and confirmatory factor analyses supported the two-factor structure comprising perseverance of effort and consistency of interests. The total Grit-S-J and its two subscales showed adequate internal consistency and 4-week test–retest reliability. Construct validity was supported by expected correlations with scores for personality traits (self-control, Big-Five personality traits, and vitality), hedonic and eudaimonic well-being, and mental health (psychological stress, depression, and anxiety). Meanwhile, discriminant validity of the Grit-S-J was suggested by partial correlations between scores on the Grit-S-J, well-being measures, and mental health measures, after controlling for scores for either self-control or conscientiousness. Overall, the findings preliminarily support the usefulness of the Grit-S-J in grit research in the Japanese population.

Section 7, entitled “Legal Psychology”, focuses on issues that arise within the legal system and the law.

Chapter 25: *Risk Appraisal and Legal Principles - Unveiling Disciplinary Gaps*; by Martina Feldhammer-Kahr, Nina Kaiser, Ida Leibetseder, Markus Sommer, & Martin E. Arendasy. This chapter strives to enhance the understanding of the challenges of risk assessment in a legal context while building bridges between the disciplines. Forensic psychology aims, upon other things, to assess recidivism risk. The Austrian jurisprudence also focuses on aspects of behavioral prognosis: the verdict should aim at preventing recidivism. Thus, judges must follow provisions that emphasize (current) factors related to the individual offender. This requires the interplay of different scientific perspectives and a strong interdisciplinary practice. Therefore, psychological risk appraisal guides are used to provide valid indicators for recidivism risks. However, the lack of substantive discussion on expert opinions in court, combined with the high frequency of courts adopting them verbatim in verdicts, bears risks in this rather multidisciplinary than interdisciplinary practice. A closer look at the German versions of the VRAG-R

Foreword

(Rettenberger, Hertz, & Eher , 2017) and the LSI-R (Dahle, Harwardt, & Schneider-Njepel, 2012), reveals that some aspects and their unquestioned application require critical legal reflection. Furthermore, the HCR-20V3 (Müller-Isberner, Schmidbauer, & Born, 2014) reveals weaknesses in the practical risk assessment, potentially leading to similar problems, if misapplied. This chapter focuses on these problem areas: (1) quality of expert opinions, (2) individuality and topicality, (3) legal reality.

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Section 1
Clinical Psychology

Chapter # 1

OPEN-ENDED SUPPORTIVE THERAPY

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ABSTRACT

In this chapter, I examine the essential role of supportive interventions in treating patients who lack the ego strength for traditional psychodynamic or cognitive therapies. These interventions help individuals navigate life-altering events such as bereavement, relational conflict, medical diagnoses, trauma, or social and work-related stress. After outlining the core principles of supportive therapy, I present two case studies utilizing the Open-Ended Supportive Therapy approach (Hinshelwood, 2013). One case demonstrates the successful application of this method, while the other highlights its misuse, emphasizing the critical importance of adhering to the therapeutic fundamentals for effective outcomes.

Keywords: supportive therapy, therapy, counselling, psychodynamic

1. OPEN-ENDED SUPPORTIVE THERAPY

In this chapter, I will review the fundamental characteristics that make supportive interventions a crucial tool for helping patients who lack the ego strength required for traditional psychodynamic therapy and cognitive therapies. Support that assists the patient to cope with life-changing events, usually linked to bereavement, relational conflict, medical diagnosis of a loved one or themselves, readjusting to life after a traumatic event, or work/study/social-related conflict. After reviewing the fundamentals, I will provide two examples of Open-Ended Supportive Therapy being implemented using a single case study method (Hinshelwood, 2013), one applied successfully and the second one applied incorrectly, as a reference to the importance of fundamentals.

2. FUNDAMENTAL CHARACTERISTICS OF OPEN-ENDED SUPPORTIVE THERAPY (OEST)

Supportive therapy has long been a cornerstone of psychotherapeutic practice, with researchers such as Markowitz (2022), Novalis, Rojcewicz, and Peele (1993), and Winston, Rosenthal, and Roberts (2020) emphasizing its crucial role in promoting mental well-being. Building on these foundations, Open-Ended Supportive Therapy (OEST) focuses on developing a strong therapeutic alliance and adopting a flexible approach, with the central aim being the development of a strong therapeutic alliance, that addresses patient's needs while preventing early termination of therapy.

Supportive therapy is particularly beneficial for patients who may not engage with more interpretive psychodynamic methods or directive cognitive approaches. A practical and more gentle alternative to traditional therapy, it has been shown to improve emotional regulation and foster resilience in individuals under severe stress (Markowitz & Milrod, 2014). Research has also demonstrated that supportive psychotherapy can be just as effective as more structured dynamic therapies for treating interpersonal problems and mild

to moderate depression, yielding significant improvements in both mood and interpersonal functioning (Crits-Christoph, Connolly Gibbons, Narducci, Schamberger, & Gallop, 1999).

The versatility of supportive psychotherapy makes it an effective supportive treatment for a wide range of psychiatric conditions, including mood and anxiety disorders, schizophrenia, personality disorders, eating disorders, body dysmorphic disorder, and substance use disorders (Van Den Beldt, Ruble, Welton, & Crocker, 2021). Its aim will not be to reduce the symptoms of these conditions, but rather to create a supportive space for people living with them. This had been historically the approach of supportive interventions, to strengthen patients' coping mechanisms, enhance adaptive skills, and improve overall functioning. As Hellerstein, Pinsker, and Rosenthal (1994), Novalis et al. (1993), and Pinsker (1997) have noted, its core purpose is to help patients manage symptoms, improve their functioning, and enhance their quality of life, not to treat the symptoms or to find the unconscious source of them.

Open-Ended Supportive Therapy (OEST) is a psychodynamically informed approach that blends elements of traditional psychoanalysis, such as understanding the patient's internal world and using free association, with supportive techniques aimed at fostering emotional stability and therapeutic engagement. Unlike time-limited therapies, OEST allows patients to work at their own pace, without the pressure of predefined session limits, ensuring that the therapy is tailored to individual needs.

At the core of OEST is the therapeutic alliance, which research consistently identifies as a critical factor in achieving successful therapeutic outcomes (Horvath & Symonds, 1991). This alliance is particularly crucial for retaining patients who might otherwise prematurely terminate therapy due to feelings of being misunderstood, uncared for, or unimportant. These are often a projection of their own neglected experiences into the therapeutic process. Swift and Greenberg (2012) emphasize that building this connection early is fundamental for maintaining patient engagement and preventing early dropout.

Individuals who lack the ego strength needed for deep interpretive work may find problem-focused therapies, such as Cognitive Behavioral Therapy (CBT), inadequate for addressing their emotional needs. Their difficulty tolerating the complexity of relating to the therapist and the therapeutic task can lead to conflict in the process, potentially causing them to drop out of treatment instead of finding support. Research by Hamilton, Winger, and Roose (2009) found that 24% of patients drop out of training therapy within the first six months, with even higher dropout rates (67%) among those with borderline personality disorder (Cooper, Hamilton, Gangure, & Roose, 2004; Horner & Diamond, 1996). In these cases, patients already struggling with ego capacities are further burdened by current life stressors, which exacerbates their difficulty in engaging with therapy and makes them more vulnerable for early termination.

For example, narcissistic individuals may struggle in therapy due to the fear of being overwhelmed by the therapist, leading to relational patterns characterized by envy, love, or dependency as is commonly seen in narcissistic patient (Britton, 2018). Such individuals often feel they do not need anyone else (Rosenfeld, 1987), creating a "perfect storm" of life stressors and the perceived threat posed by therapy when the therapist comes emotionally closer, triggering feelings of dependency. Other patients, as described by Glasser (1986) under the name of "Core Complex", normally manage intimate relationships in an avoidant way, manoeuvring around feelings of claustrophobic sensation in the close emotional states fostered by therapy and feeling lonely or abandoned when they distance themselves. Similarly, Rosenfeld (1987) described a subgroup of narcissistic patients with "thin-skinned" personalities, a concept echoed by Britton (2018), who referred to those lacking a "triangular space," and Alexandra Lemma (2009), who described these patients as

relating to others through a "one-way mirror" mother. All of them describe a patient with an overly sensitive condition, that would easily feel criticized by interpretations, envious or phobic to intimacy. With such circumstances and with an external stressor in their life, is where the therapeutic alliance is not aimed at the discovery of the unconscious, but rather at the protection and preserved of the treatment. This way support is not about treating or improving in their condition, but to find a supportive relationship during difficult times.

OEST's flexibility is crucial in addressing the needs of these complex patients. By creating an adaptable therapeutic environment, OEST minimizes the risk of premature termination, and utilises psychoanalytic understanding, to address the complexities of the relationship. Is a complex valance, where the therapist encourages emotional availability, validation and a supportive framework that prioritizes patient engagement, while simultaneously avoiding collusion with pathological narratives, such as victimization. Studies by McCrady, Epstein, Cook, Jensen, and Ladd (2011) and Lambert and Barley (2001) emphasize the importance of maintaining flexible therapeutic boundaries to ensure the therapy process remains intact. Although there might be a flexibility, a boundary in the therapeutic contract is essential and should remain for the length of the process.

A key feature of OEST is the psychodynamically informed formulation of the patient's internal world and relationships with the therapist. This psychoanalytic understanding guides the selection of appropriate interventions, enabling the therapist to balance support with therapeutic neutrality. Supporting the patient does not equate to agreeing with their pathology, but rather offering a space where the patient feels heard, cared for, and understood.

The open-ended nature of OEST also provides patients the freedom to explore their feelings and experiences without the constraints of a fixed timeline. In contrast to more structured, goal-oriented therapies focused on symptom resolution, OEST allows for deeper exploration of the patient's emotional and psychological processes, facilitating more comprehensive healing. Not having an end date, fosters a sense of safety that avoids the anxieties linked to separation and abandonment, accompanied to endings, until it is the correct time and the patient is ready to end the process, not before.

3. THE STEPS OF OEST

1. Setting and Alliance: Establish a persistent, reliable, and predictable therapeutic alliance. Agreeing on a setting that covers the practical areas of the therapeutic work.

2. Understanding and Expression: Create a space where the patient feels understood and can express emotions freely. Ideally, the patient can use the therapist and the therapeutic space in a unique, personal way, not governed by the superego.

3. Avoiding Repetition: Use interventions not to explore the unconscious but to prevent actions that could lead to early termination, by repeating early patterns of experiences.

4. A good ending: An ending that comes from mutual agreement, that is talked about in length, it is not an acting and that leaves the door for the patient to make contact again if needed.

4. ASSESSMENT AND SUITABILITY

The assessment process for Open-Ended Supportive Therapy (OEST) involves exploring three critical areas:

Patient Suitability: The assessment should explore the reason for consultation, family and developmental history, mental health background, risk, and previous therapy experiences. If a patient has experience or is experiencing a difficult time, and is looking for someone to believe them, to listen to them, but they are not looking to explore the reason why they are in such predicament and they are not looking for solution based on coping strategies or other CBT techniques. OEST, becomes a suitable alternative, that will be better suited.

Patients with severe personality disorders, mood disorders, psychosis, suicidal ideation, or substance misuse, may require specialized interventions, but OEST can be suitable with multidisciplinary support (as seen in the following section).

Trauma assessment to distinguishing between those who suffered from PTSD and those currently experiencing active symptoms is important, as they might require specialised trauma therapy. Patients with anxiety crises may be better suited for therapies like Cognitive Behavioural Therapy (CBT) or crisis intervention.

Finally, motivation must be assessed; patients referred by others without intrinsic motivation may not benefit from therapy, though ambivalent patients can still begin treatment. Consistent studies by Lester Luborsky (Luborsky, 1984, Luborsky, Barber, & Crits-Christoph, 1990) and Otto Kernberg (1984, 2019), have established that a patient without motivation to recover or to use the therapeutic process, will not benefit from it.

External Support (Multidisciplinary Approach): A multidisciplinary team can make OEST a more viable option for patients with complex needs, if there is sufficient support to address the specific needs the patient, and address potential risk, then the work is possible. In order to assess this, a clear and transparent exercise needs to be done, where the risk and support needs of the patient are reviewed and covered before the process can start, for example:

A patient, in her early thirties, arrives for consultation, she has been recently diagnosed with a bipolar disorder, and has experienced severe manic episodes, becoming impulsive and struggling to keep her job and social commitments. These periods can include anger and possible violence, followed by depressive episodes lasting a few weeks, where she becomes suicidal. She is tired of what she calls 'classic therapy' and wants someone to listen as she talks about her experience without trying to cure her or direct the talk back to her episodes and medication. She wants some consistency in having someone be there for her as she deals with the recent life changing diagnosis.

She has a multidisciplinary team, including a psychiatrist and a home treatment team that can send a psychiatric nurse to her house when needed. The therapist sees her in a hospital setting, ensuring she has the specialized support required to manage her symptoms safely. She will be suitable for OEST, although without these teams, it would not be safe to work with her in a private setting.

Therapist Competency: Therapists must ensure they have the necessary competencies and adequate support to handle complex cases. They need to be prepared for the worst-case scenarios based on a patient's mental health history. A safe holding environment is one where the therapist can provide support beyond just referring the patient back to their General Practitioner in a crisis. If a therapist feels unsafe starting treatment, they should reflect on why that may be and consider having an extended assessment period to ensure they are prepared for the case. If the therapist is out of their comfort zone, they will struggle

to offer support, particularly when they are anxious or unsettled by the patient's presentation.

Practitioners must be prepared to handle the unique challenges that come with OEST. This includes being aware of their own limitations, having a solid understanding of the patient's condition, and ensuring that appropriate support systems are in place. By doing so, practitioners can create a truly safe and supportive environment that fosters healing and growth. Therefore, is expected that if the patient has a particular diagnosis, the therapist is well trained in such specialty and has the required experience.

5. THE SETTING

The setting in psychotherapy involves two main components: the material framework and the psychic framework. The material framework includes the contract, the number of sessions per week, their duration, location, payment policies, holiday interruptions, and the therapist's capacity to uphold the agreement. The psychic framework encompasses the therapist's availability, neutrality, abstinence, listening, evenly suspended attention, curiosity, and overall analytical approach, consistently applied session after session.

The setting can be seen as an ongoing continuation of the therapeutic agreement. The therapist willingness to maintain clear boundaries throughout the treatment, ensuring that time, place, and roles are kept stable. With more challenging patients, who may show difficult emotions in therapy, it is crucial to establish clear boundaries that go beyond the therapeutic agreement and need to be consistently reinforced as the patient tests them. This includes setting specific conditions for the therapeutic setting, such as fixed times and places for sessions, limits on behaviour, like prohibiting destructive actions, and ensuring no physical contact between patient and therapist. These boundaries help manage intense emotional outbursts and maintain a safe therapeutic environment (Kernberg, 2003).

Donald Winnicott (1955) theorizes that the setting is intricately linked to trust in early relationships, encompassing how the patient was cared for by their parents and whether they experienced reliability, adaptation, and consistency. Many patients exhibit unpredictable patterns in their earlier relationships, highlighting the importance of the therapist's role as being more reliable than individuals in their ordinary lives (Caldwell & Joyce, 2011).

A vivid illustration of this concept emerged when a supervisee of mine commenced work with a patient in a supportive setting. After my supervisee reassured the patient that she was offering a safe space for open conversation, the patient responded with anger: "When I was 12, my drug-addicted mother took me to a drug house so the dealers could have their way with me, because she had no money left to pay them. If my own mother, who was supposed to love me the most, did this to me, what makes you think I will trust you?"

This poignant anecdote underscores how trust is deeply rooted in past experiences and extends beyond mere therapist assurances. The patient's narrative highlights the profound impact of previous life experiences on trust-building within the therapeutic process.

From this perspective, the setting plays a crucial role in therapeutic practice. Offering a reliable setting allows the patient to regress to a state of dependency and provides the opportunity to re-live the difficulties they are facing in their relationships (Abram & Hinshelwood, 2018). As stated by Jahn Abram (1996), this process enables the integration of experiences, facilitating movement forward.

A secure base involves continuous closeness, accessibility, and intimate understanding, akin to parental and spousal love. In addition to these characteristics, a secure process is responsive, reliable, consistent, exhibits "mind-mindedness," (Holmes, 2016), and has the capability to mend disruptions in emotional connection or the capacity to manoeuvre through the complex emotions the patients bring, without falling out.

One way to understand the setting is through Winnicott's (1965a) concept of the facilitating environment, which fosters the development of the capacity to be alone and comfortable with oneself. It emphasizes the importance of being attuned to the patients' needs, creating a safe space free of judgment, that promotes the autonomy of the patient and allows for the exploration of thoughts and emotions, regardless of their perceived negativity.

Ensuring a sense of safety, clarity, consistency, affordability, and reliability are crucial, in a pragmatic way. This can be achieved through a clear contract with the patient, outlining session schedules, missed session policies, fees, and the duration of therapy. For example, I set the setting by saying the following:

"I can offer to work together in an open-ended way, meaning we don't have an end date, and we can determine when to stop based on your needs and we can talk about it as we go. I take breaks for two weeks during Christmas and Easter and a month in the summer. I also don't work on bank holidays. If you miss a session, there is a charge. If you know in advance that you can't attend, let me know, and we can try to find a different time. Sessions will be held on the same day and at the same time, and I charge X amount. I will send you the invoice at the end of each month."

After presenting the contract, it's important to ask if the patient agrees and address any questions or concerns, they may have. It's common for patients to ask about the duration of therapy, to which it's honest to respond that it can vary and may take months or even years. From the therapist's perspective, it's crucial to ensure comfort with the arrangement, including the time commitment, fees, and readiness for a potentially lengthy therapeutic process. It is the responsibility of the therapist, to ensure the contract agreed is followed by both parties, and to reinforced it in a firm but caring way, when the patient attempts to move it, putting at risk the consistency and predictability of the treatment.

Consider your patient having a difficult day mid-week: Do they know when they will see you next? Can they trust that you will listen to them and that they will be able to share whatever they want? Essentially, can they trust you and the therapeutic process to be there for them?

Now, contrast this scenario with someone who works without a set date, where the times are moved, and sessions may or may not happen, each week. Or imagine a situation where the therapist has already informed the patient that therapy will conclude in 15 sessions. In such cases, how secure is the space provided?

6. ATTENTIVE LISTENING AND NONVERBAL CUES

Attentive listening entails actively engaging with the patient's moment-to-moment experiences and being attuned to subtle shifts in their states of mind. These shifts are often communicated indirectly through metaphorical language or nonverbal cues such as posture and tone. By closely attending to the patient's narrative, including their words, tone, body language, and the emotional impact on the therapist, a deeper understanding of their internal world and relational dynamics can be gained, thereby informing the therapeutic process (Lemma, Target, & Fonagy, 2011).

A clear example of this occurred when a patient insisted that they were fine, despite the room feeling sombre. During a session, the patient recounted their day as normal, while the therapist sensed underlying sadness in their demeanour. Sensing this discrepancy, the therapist gently probed, suggesting that the patient might be avoiding discussing something significant. Eventually, the patient confessed, "What is the point of keep crying? I keep saying how bad I feel, and what is the point of all these tears, I just want to move on." This revelation demonstrated the patient's attempt to maintain composure and suppress their emotions, despite their evident distress. The key takeaway here is that effective listening goes beyond the patient's words alone, it encompasses the totality of their experience.

While words are not insignificant, they often only scratch the surface of our experiences. In everyday conversation, words serve as vessels to convey our thoughts and emotions. However, when we struggle to articulate our innermost feelings, the search for the right words becomes more than mere semantics, it becomes a quest to capture the essence of our experiences. In finding the precise language to articulate our experiences, we dive deeper into the richness of our emotions and thoughts, experiencing authenticity and self-awareness. This phenomenon, described by Winnicott (1965b) as "going-on-being," fosters deeper self-reflection and self-examination.

In the case described the patient's resistance to feeling emotional pain hindered their ability to express themselves authentically. Instead of using language to describe their experience, words became a shield against acknowledging their pain, serving as a façade of emotional detachment. In OEST, we would not challenge the patient's defensiveness, or explore the reason behind it, instead we would use the formulation to understand how they are working and how this might affect the relationship. In the case above, it might affect the relationship if the therapist pushes on their defences and scares the patient away.

7. FREE ASSOCIATION AND OTHER APPROACHES

Holmes (2016) explores how most therapists today adopt an integrative approach, for instance, even in NHS settings with a psychoanalytic or psychodynamic frameworks, questionnaires such as Core-10 are commonly used to measure patients' progress and emotional well-being. This utilization of a CBT approach is a clear merger of different approaches.

Similarly, many different therapeutic approaches prioritize the therapeutic relationship, drawing from psychodynamic principles. However, when employing supportive interventions, it's crucial not to mix approaches indiscriminately, as this can undermine the effectiveness of the chosen modality. For example, if a patient is struggling with emotional pain and the therapist finds it challenging to tolerate their suffering, resorting to a strategy-based approach is not advisable. This underscores the importance of understanding the role of free association and its benefits and offering the correct intervention from the beginning. The therapist might suggest a referral to other professional and further assessment, without changing their way of working, but finding way to cover their needs.

Free association serves as a vital tool for exploration within supportive therapy. Patients may initially present with a specific reason for consultation, but through the process of free association, new themes and insights emerge. For instance, a patient sought therapy due to the death of his sister years ago, but in subsequent sessions, his discussions about his mother became recurrent. By simply observing and mentioning this pattern, it became evident that he was also grieving the loss of his mother, who had fallen into a severe depression and never recovered after his sister's death. Using free association, the

patient redirected the therapeutic focus on a different aspect they haven't appreciated before. This creates a particular atmosphere where the patient is being listened to in a way that reflects what matters to them, and not the particular agenda that an approach can have.

This is way, in this modality, we refrain from selecting specific topics for exploration or guiding the session. Instead, we allow the natural flow of the patient's associations to guide us. Our active role lies not in steering the conversation but in ensuring the patient feels safe to explore their thoughts and emotions freely.

8. EMOTIONAL AVAILABLE

Being emotionally available in therapy means being receptive to the patient's experience. In therapy, emotional availability is crucial for the therapist to provide a supportive environment for the patient. It involves being open to listening to the patient's experiences and being emotionally prepared to engage with them. This requires the therapist being in a stable emotional state, ready to empathize and support the patient without being overwhelmed by one's own emotions.

To illustrate the importance of emotional availability, consider the following exercise based on a real case: A patient discovers their partner is having an affair. In this scenario, the patient may have numerous family members, friends, and coworkers in their life. However, upon closer examination, many of these individuals may not be able to offer the consistent emotional support the patient needs. For instance, the children may not be an option due to their involvement in the situation, and the partner is the cause of the problem. In-laws and parents may be too emotionally involved, unable to provide effective support, as they are struggling handling their emotions. Siblings may also have their own emotional struggles or may overwhelm the patient with their reactions.

Even among friends and coworkers, finding someone who can truly listen without trying to solve the problem, undermined the seriousness of it, somehow turn the conversations to talk about themselves or them becoming overly emotional, can be challenging. If the patient has good friend, we also need to consider that constantly talking about their problems, for many months, might change the dynamic of the friendship in a negative way. A safe space, where the patient doesn't need to worry for any of these elements and have someone who can focus on their emotions, can make a strong difference in their life.

9. EXPLORATORY NATURE OF THERAPY

A key characteristic of psychodynamic practices, that is linked to its efficiency, is the exploratory nature of it. As Jonathan Shedler's 2010 article, *The Efficacy of Psychodynamic Psychotherapy*, suggests, psychodynamic therapy is effective and often produces benefits comparable to, or exceeding, other evidence-based therapies like cognitive-behavioural therapy (CBT). The reason behind this, as explored by Shedler, is the focus on deeper, underlying psychological issues, that leads to lasting improvements, even after treatment ends.

Carrere (2008) proposes that therapy is essentially an exploratory journey, focusing on researching into the depths of the patient's unconscious dynamics. By fostering a safe environment, patients feel empowered to share even negative feelings towards the therapy, overcoming barriers such as deeply ingrained beliefs, criticism, sexual or sadistic fantasies, sense of guilt and blame, among many other emotions. In supportive interventions, this is

not always useful, as it can bring more distress to the individual. Therefore, exploration is not the aim, and although is important for the patient to overcome their problems, it should not come at the expense of their feeling of comfort and trust. For example, avoiding the negative transference, becomes a fundamental approach of supportive therapy. In contrast, traditional psychodynamic therapy, negative transference is foster so when is expressed in the room, the therapeutic couple can think about it and explore it.

Psychoanalytic theory and thinking can be highly valuable tools for understanding patients and their underlying unconscious dynamics. However, if psychoanalytic theory is overused or applied rigidly as the sole framework for interpreting patients, it can become a significant obstacle in the therapeutic process. As Steiner (1993) stated, feeling understood is more important than understanding, and in some cases, we prioritize our theoretical pursue of understanding to simply being present in the room.

The process of understanding oneself and being understood within therapy is not solely about reaching a conclusion, rather, it holds significance due to the trust cultivated through this process (Allison & Fonagy, 2016). As Bion (1965) noted, patients' emotional experiences can be transformed through interaction with the therapist and the therapeutic environment. An optimal supportive process becomes a method that can have a level of exploration, through inquiry rather than interpretation. Many other interventions, usually referred to as "noninterpretative interventions," such as clarification, mirroring, and various other responses aimed at helping the patient think about themselves and their feelings (Hollinger, 1999), and can be more fruitful.

Here is where the flexibility to the traditional practices and techniques is really important. Ablon and Jones (1998) and Castonguay, Goldfried, Wiser, Raue, and Hayes (1996) conducted an outcome study comparing Cognitive Behavioral Therapy (CBT) and brief psychodynamic therapy. They found that therapists' adherence to psychodynamic methods correlated with better treatment outcomes, suggesting that a positive therapeutic alliance and the ability of therapy to address previously avoided emotions were key factors in achieving positive outcomes. Interestingly, the focus on cognitive distortions, a core aspect of CBT, was associated with poorer treatment outcomes.

The key point for me is how crucial it is to focus on the relationship and the patient over any intellectual aspect. Connecting with the patient is more important than any technique or theoretical rationale. Feeney and Van Vleet (2010) suggest that for a successful therapeutic relationship, it is crucial to be available, non-intrusive, and encouraging. These are the key functions of supportive roles, superseding any strategy or potential formulation. As Winnicott (1955) explained, psychoanalytic technique needs to adapt from traditional interpretation to prioritize the importance of the setting, which is crucial in supportive interventions.

It's also important to recognize the role of validation as a therapeutic intervention in supportive therapy. In psychodynamic psychotherapy, therapists typically maintain a neutral stance, refraining from validating or reassuring the patient to avoid colluding with their defensive narratives. However, in supportive therapy, validation becomes a key tool for building trust and helping the patient feel heard. Something as simple as acknowledging the patient's emotions—saying, "What you're going through sounds difficult," or, "It seems like it has been a painful experience for you"—can go a long way in making the patient feel their emotions are justified and that the therapist genuinely cares.

That said, it's essential to strike a balance between validation and avoiding collusion with the patient's defensive narratives. For example, while you might validate the patient's emotional experience, it would be problematic to say, "It sounds really painful the way your mother treated you." We don't know how the mother actually behaved, and, as we

understand from psychodynamic theory, patients often project their own unpleasant aspects onto maternal or authority figures. If the therapist blindly validates such narratives, the patient may externalize blame and avoid confronting their own shortcomings, casting others as a villain in the process.

The goal is to validate the patient's right to feel a certain way without reinforcing a distorted or defensive interpretation of events. By navigating this delicate balance, therapists can provide the support necessary to foster emotional growth without inadvertently encouraging maladaptive coping mechanisms, such as victimization or externalizing blame.

In essence, while the therapist may have the capacity to identify internal object relations and interpret them, the goal is to use these tools to support the therapeutic alliance rather than for analysis. The therapist avoids focusing on minor details or interpretative possibilities that may lead to patient paranoia or feeling misunderstood. Instead, the therapy is about allowing the patient to use the space for their needs, with less intervention being more effective.

10. CLINICAL CASE

10.1. Case Study 1: A Mother Navigating Her Child's Mental Health Diagnosis

The patient was a mother of a young child suspected of having a serious mental health condition that could not be diagnosed yet. Initially, she was uncertain about seeking help, and it was unclear whether she needed support for herself, her child, or was navigating denial about the situation. When she first contacted me, her ambivalence about therapy and inconsistency in seeking help made it challenging to initiate treatment. She was not ready to commit to a meaningful process and felt unsure whether she needed ongoing support.

After a year, the patient returned, emotionally transformed. She was heartbroken, isolated, and angry, primarily because her husband denied there was any problem with their child. She felt alone and struggled to accept her child's condition, while comparing her situation with that of other children's progress, which intensified her feelings of isolation.

I offered Open-Ended Supportive Therapy (OEST) to provide a safe, consistent space where the patient could explore her emotions freely. The aim was to create a sense of future stability, allowing her to confront complex feelings without feeling pressured to defend against painful thoughts. We clearly established break dates and fees, ensuring that appointments would be predictable. For the patient, having this structure was the first step in building trust and allowing her to engage emotionally.

As the therapy progressed, sessions were filled with sadness, crying, and anger. The focus was on providing a space for the patient to express her feelings without trying to "solve" her problems. Her child's condition required acceptance, not negotiation, and I avoided stepping into the role of a healer, knowing that other people in her life were already trying to help in that way.

Over time, the patient became more introspective, moving from emotional release to deeper reflections about how her life would change. This transition opened the door to exploring unconscious emotions, such as guilt and resentment toward her husband, which were expressions of her profound grief over her child's condition. By allowing her to express these emotions freely, we contained the conflict within the therapeutic process, providing an outlet for her ambivalence.

Throughout therapy, I avoided imposing interpretations or directing the narrative. It was important not to dictate what the patient should talk about or explain her feelings through theoretical frameworks. Instead, I offered emotional support by suggesting possibilities, without intruding on her experience. After 18 months, we ended therapy when it became clear that there was no longer a specific need to continue. Addressing her fear of losing the therapeutic space allowed her to feel vulnerable, ultimately helping her come to terms with ending therapy.

This case highlighted the advantages of OEST's open-ended approach, where the absence of fixed timelines enabled the patient to set her own pace in exploring emotions. The primary challenge lay in maintaining therapeutic neutrality while providing emotional availability, especially for patients needing time to trust the process. The flexibility of OEST allowed the patient to move from a place of grief to one of introspection and acceptance without the pressure of resolution.

10.2. Case Study 2: A Failed Application of Time-Limited Therapy

In this case, the patient had recently gone through a difficult breakup. Her long-term partner had left her suddenly, causing significant emotional distress. At her workplace, she had become visibly upset, prompting her manager to arrange for 11 free therapy sessions through the company I was working for at the time.

The primary goal of therapy was to provide the patient with a space to process her grief and emotional distress. However, this time-limited framework posed a challenge from the beginning. While such frameworks can be effective when applied thoughtfully, in this case, it felt like a rigid arrangement designed to fit within corporate guidelines rather than addressing the patient's specific needs.

Feeling pressured to deliver insights quickly, I shifted the focus of our session to her family dynamics, noticing parallels between her submissive role in her relationship and her dynamics with her sister. While the patient agreed with my observations, her reaction showed annoyance rather than thoughtful reflection. Instead of providing her with a supportive space to process her grief, I had inadvertently imposed an agenda that wasn't aligned with her immediate emotional needs.

The time-limited nature of the therapy left little room for the patient to explore her grief at her own pace. After just two sessions, she emailed me to say she wouldn't be returning, feeling that I wasn't what she was looking for in a therapist. Reflecting on this case, I realized that I had allowed my discomfort with the time constraints to interfere with the therapeutic process. Instead of offering the emotional support she needed, I focused on trying to provide something meaningful within the limited number of sessions.

This case illustrates the disadvantage of time-limited therapy when applied without careful consideration of the patient's needs. The rigid framework led me to prioritize offering insights over creating a supportive space for the patient's emotions. In contrast to the open-ended therapy described in the first case, this time-limited approach resulted in premature termination, with the patient feeling that her needs had not been met.

In both cases, the key difference lay in the flexibility of the therapeutic approach. The first patient benefited from OEST's adaptability, which allowed her to engage emotionally at her own pace. In contrast, the time-limited nature of the second case, imposed constraints that hindered the therapeutic process, ultimately leading to a failure in providing adequate support.

11. CONCLUSION

The heart of effective therapy lies not just in the application of techniques or adherence to theoretical models, but in the relationship itself, the profound connection between therapist and patient. While theories and methodologies offer invaluable frameworks for understanding and guiding therapeutic work, they are mere tools in the hands of the therapist. The real healing emerges from the trust, empathy, and safety cultivated within the therapeutic relationship. In order to provide supportive therapy effectively, it is important to re-direct, the technique element from exploratory or problem solving into a supportive role.

The principles discussed highlight the critical need for a therapeutic environment that is safe, empathetic, and supportive, where patients feel free to express their innermost thoughts and emotions. Therapy is both an art and a science, requiring therapists to maintain a delicate balance of empathy, clinical skill, and humility. By embracing these core principles, therapists can foster meaningful connections that provide patients with the necessary support to navigate difficult times. Ultimately, the cornerstone of a successful therapeutic process lies in the therapist's consistency, reliability, and emotional presence, ensuring that the patient feels truly seen and understood when they need it most.

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Chapter # 2

ARRIVING AT A SURVEY FOR CO-LIVING: Quality of life in aging

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ABSTRACT

Increasingly people look at co-living to cut costs and fight loneliness. For aging populations, the idea is to live well and be serene throughout retirement. In our research, we uncovered characteristics for the creation of a survey for co-living. For this study, we investigated retired independent women in a government subsidized co-living building in Paris to establish desirable criteria to adapt the formula in Canada. At present, there are no such arrangements that have lasted. Retirement homes often do not meet the needs of more independent people. Studies show that people living together while also keeping independent enjoy longer healthier lives. In our qualitative approach, the first step was to have members of the co-living model make regular journal entries to identify desirable traits and attitudes. The journals were analyzed along with data found in the public domain on the group. The data analysis initially resulted in 33 distinct items. After grouping these items, the questionnaire was streamlined, reducing the number of questions from 167 to 78. Following that, we searched established well-being surveys to tease out corresponding questions to the items we had uncovered. We then created a questionnaire. The themes were explored and discussed considering our findings and their relevance. We present the different steps involved and the discussions that were held. Suggestions for further steps will be made.

Keywords: themes for well-being, question items, seniors co-living.

1. INTRODUCTION

Living with others as a formula for a more sustainable way of life is garnering increasing interest (Myers, 2024). Many projects of a more cooperative nature have been reviewed in the document entitled Europe ICE-11 describing many successful formulas that show a renewed interest in co-housing and commitment by several actors including architects. This included creating more user-friendly spaces. Many of these European projects are inter-generational, however, in some cases, the young people had left the co-housing arrangement. Of almost 500 projects investigated (Europe Review, 2012), very few are dedicated to aging populations, only two of them were expanded upon, one being the Babayagas House in Paris, the object of the present study, which was highlighted and received much praise.

With aging, people are faced with increasing challenges (Bambeni, 2022). The idea is to live well and be serene throughout retirement. As our societies are increasingly concerned with sustainable living, we see that seniors are often overlooked. Yet there is going to be an increase in these populations. Groups of seniors in North America, just like the groups in Europe are also getting together to create co-living spaces. Few have lasted or included people with more moderate incomes (Myers, 2024).

In Canada, new attempts are being made but financial constraints add to the burden. In addition, retirement homes are costly, usually over \$3,000 per month and often do not meet

the needs of more independent people, often seniors find themselves even more isolated and vulnerable.

Living alone in aging has also become fraught with issues. The idea of each person having a separate small apartment yet working together as a collective supporting one another as in the Babayagas House has much appeal. These co-living renters see to their governance, remain active and develop friendships. Based on what was uncovered in their context, we developed a survey to administer in Canada, first devising it, then reviewing it and submitting it to prospective target populations for annotations to provide the best possible fit.

2. BACKGROUND

In several studies, it was shown that aging people are faced with many challenges (Li, Goh, Jhanjhi, & Balakrishnan, 2021) and we investigated these in this study to alleviate some of the issues they are confronted with. Among the major hurdles are loneliness, the need for social support and help with adaptation to a changing environment and emotional well-being which is believed to be increased through co-living arrangements (Brandt, Liu, Heim, & Heinz, 2022).

Loneliness is a common psycho-social challenge among elderly individuals, especially those living alone or in institutionalized settings (Donovan & Blazer, 2020). Research indicates that loneliness can exacerbate mental health issues such as depression and anxiety. It also has a direct impact on physical health, leading to higher rates of morbidity and mortality (Mushtaq, Shoib, Shah, & Mushtaq, 2014). The UCLA Loneliness Scale is a widely used tool that measures feelings of social isolation, which is crucial in assessing the emotional well-being of elderly people in shared housing environments (Hughes, Waite, Hawkey, & Cacioppo, 2004).

Everyone needs social support with older people requiring even more of it as for instance women outliving their partners, and, also, possibly friends and other family members. In addition, as elderly populations face rapid changes in technology and lifestyle norms, they require more support to adapt effectively (Mace, Mattos, & Vranceanu, 2022). Research shows that providing structured community support, including technology education and access to social services, helps seniors maintain autonomy and improves their quality of life. Social connections also play a vital role in adaptation (Ghența, Matei, Mladen-Macovei, & Stănescu, 2022). The SF-36 Health Survey includes measures on social functioning and mental health, which can be integrated into tools assessing elderly adaptation (Lins & Carvalho, 2016).

Emotional well-being is of crucial importance as studies (Brandt et al., 2022; Dhanabhakym & Sarah, 2023) have shown that opportunities for social engagement in a supportive atmosphere, decrease the risk for social isolation, while autonomy, emotional intelligence and collaboration are highlighted as critical for maintaining a balanced co-living environment. According to Dhanabhakym and Sarah (2023) and Myers (2024), creating subscales for emotional well-being could include elements of positive relationships, positive emotions and self-acceptance.

In addition to identifying various factors from the analysis of data on the participants, this study aimed at providing a questionnaire to ensure more reliable characteristics for people to be able to live together in the long run in Canada. The Babayagas House in Montreuil has received many accolades and was identified as a good source for our research.

To carry this out, we first investigated retired independent women living in this government-subsidized rental co-living building in Paris, to establish desirable criteria to adapt the formula in Canada. At present, there are no such arrangements that have lasted, despite some examples of friends living together with co-living as a choice for independent retired women.

The method used is qualitative in nature (Creswell & Poth, 2018; Lincoln & Guba, 1985; Patton, 1990, 2015).

After researching the literature on elderly people's characteristics, we searched the literature for information on appropriate formats for the most relevant questionnaires that could be models for the creation of the inventory for our study (Kirkwood & Cooper, 2014; Robitschek, 1990; Watson & Clark, 1988).

3. METHOD

3.1. Literature Review

First, there needed to be a thorough literature review on well-being in housing facilities, particularly those catering to retired educated women. We looked for studies, articles, and research papers that discuss the factors influencing well-being in this demographic. We also focused on existing questionnaires or surveys used in previous studies related to autonomy, community well-being, and housing facilities for similar populations.

The following methods were explored to search for existing inventories and questionnaires:

- i. Online databases: academic databases such as PubMed, PsycINFO, Google Scholar and ResearchGate were accessed to search for relevant studies and surveys on well-being in housing facilities for retired educated women. Keywords such as "retirement housing," "well-being," "autonomy," and "survey questionnaire" were used to narrow down the search.
- ii. Professional organizations and institutes: websites of professional organizations and institutes dedicated to gerontology, housing studies, and women's health were explored. These organizations often publish research reports, guidelines, and resources related to well-being assessment tools and surveys.
- iii. Collaboration with researchers: a few Zoom meetings concerning the research project took place, where valuable insights and recommendations were shared among the participants with the Principal Investigator in attendance.
- iv. Other literature reviews: literature reviews in the field of well-being and housing studies were examined. These reviews summarized existing research findings and referenced relevant surveys used in previous studies.

3.2. Identification of Relevant Questionnaires

We searched for well-known inventories and questionnaires that cover aspects related to residents' experiences and needs in housing facilities (Harlacher, 2016). Some key areas focused on included:

- i. Autonomy: Questions related to independence, decision-making, and control over one's life.
- ii. Community well-being: Questions related to social connections, support networks, and opportunities for engagement within the housing facility and the surrounding community.
- iii. Living conditions: Questions about the physical environment, safety, comfort, and accessibility of amenities within the housing facility.
- iv. Support: Questions about the availability and effectiveness of support services such as healthcare, caregiving, and assistance with daily tasks.
- v. Opportunities for engagement: Questions about participation in social activities, recreational programs, volunteering, and community events.

3.3. Review of Existing Questionnaires

Some of the inventories and questionnaires listed below were explored:

- i. WHOQOL-BREF (World Health Organization Quality of Life - Brief Version): This questionnaire covers various domains of well-being, including physical health, psychological well-being, social relationships, and the environment.
- ii. SF-36 Health Survey: This was originally designed to assess general health status. However, it also includes questions related to physical functioning, social functioning, and mental health, which are relevant to autonomy and well-being.
- iii. UCLA Loneliness Scale: This scale measures feelings of loneliness and social isolation, which are important aspects of community well-being.
- iv. Housing Satisfaction Survey: Existing surveys specifically designed to assess satisfaction with housing conditions, amenities, and community aspects were explored.

3.4. Steps Taken First: Adaptation and Customization of Questions

- i. After relevant questionnaires were identified, we carefully reviewed the items and selected those that best aligned with the specific focus of the study on autonomy and community well-being in housing facilities for retired educated women.
- ii. The questions were adapted as needed to ensure they were relevant and appropriate for the target population and research objectives. Factors such as language clarity, cultural sensitivity, and the unique needs of retired educated women were considered.

3.5. Next Steps Taken: Annotation by Target Population

Before finalizing the questionnaire, we submitted the questionnaire to five retirement housing facilities for annotation by guests. This helped identify any issues with question wording, response options, and overall survey structure that needed to be addressed.

3.6. Final Steps Taken: Finalizing the Questionnaire

Any necessary revisions were made to the questionnaire. We had to ensure that the final version was clear, concise, and effectively captured the relevant aspects of autonomy and community well-being in the target population. An expert in gerontology and research methodology was consulted to ensure that the questionnaire meets the expected standards. We teased out corresponding questions to the items we had uncovered from existing inventories and grouped them into themes. This enabled us to avoid field testing the questions and in addition, we already were ensured that these items had worked in widely used well established questionnaires. Repetitions were eliminated, as well, and themes were regrouped to reduce the number of questions. We reduced the questions to the lowest possible number while still staying true to our objective.

3.7. Parallel Activity

While working on identifying relevant questionnaires, in the meantime the idea was to have members of the identified co-living model make regular journal entries to be able to uncover desirable traits and attitudes through their regular routines. We retrieved information from five journals with mostly daily entries over several months. Other documents were also analyzed to provide for triangulation, such as interviews by journalists as well as other magazine and newspaper articles, and lists of features were created, including the list of responsibilities from the House Charter each member was expected to sign and commit to.

Overall, we aimed to uncover the characteristics for the creation of a survey to identify seniors who would best qualify for co-living arrangements.

The participants were tenants in the Babayagas House in Montreuil. The journals were analyzed along with data found in the public domain on the group as mentioned just above. Identified categories were grouped into themes.

Using all the available information we had arrived at we then created a questionnaire with a 5-point Likert scale presented under a format with radio buttons. The final full-length questionnaire includes 33 theme sections containing the topics mentioned above with various numbers of questions under each section going for example from one to 17 for autonomy. The autonomy section is the most important one and it is further subdivided into four sections.

4. FINDINGS

The themes were explored and discussed based on our findings and their relevance.

4.1. Themes Uncovered

We gleaned specific information that could facilitate the situational context such as presented below. With each identified topic we associated a question or a series of questions to uncover characteristics that were deemed desirable in the selection of future participative co-housing partners.

As a result, the initial tentative inventory includes 24 items with 167 questions. These items resulting from the data analysis include accountability, autonomy, collaboration, emotional intelligence, engagement, fairness, feminism, forgiveness, good listener, gratitude, honesty, kindness, love of learning, modesty, openness, persistence, pragmatic politeness, positive emotions, positive relationships, positive thinking, satisfaction, self-acceptance, sense of humour and sociability.

These items above appeared to be of great relevance in the hope of circumventing half-truths as identified among co-housing dwellers. From the above, the items referring to qualities, were coded as identified in journal entries, then placed in categories before grouping them into themes, and matched to relevant questions in the existing inventories. There were entries in the journals of conversations about general items as well, that were added to the questionnaire as they have relevance. We further developed questions related more specifically to general items gleaned from the Babayagas House Charter and information available in the public domain, as resulting from interviews. The difference between these items and the qualities uncovered as mentioned above is the fact that they are not connected to well-being and therefore simple questions we created would deem to be acceptable without further research. For example, items corresponding to whether a common space was desirable, how involved tenants would want to be in workshops and the like. Such items are practical. More specifically, there was a concern regarding the ideal number of people to share housing, considering that there are 25 units in the Babayagas House. In the data we uncovered that one tenant indicated 11 as the desirable number for such a co-living unit, it shows that this co-living member was thinking of people at the Babayagas House who share enough affinities. Another opinion on this topic, also expressed by a tenant appeared in the data, "more than 12 but fewer than 22". This also seems to refer to that person's experience. Indeed 22 units are dedicated to the women but three are occupied for equity reasons by a young family, a handicapped person and men. This co-living member is not happy about the additional dwellers in the building who are not part of the Babayagas group, not sharing responsibilities. The other tenants did not express any concerns over the number of units in the Babayagas House.

The questionnaire items mostly based on the House Charter also have to do with more practical questions and these too seemed to constitute bones of contention.

In terms of issues, first, there appeared to be conflicts due to very diverging backgrounds. The criteria for access to the government subsidized unit, were low income in aging due to a variety of factors at present, with no bearing on previous socio-economic status nor background. So, the previous socio-economic status appears to have an impact on the behaviors and the differences take away from cohesion. Hence, we thought that getting a

general background on prospective co-housing residents might be useful, especially because a lack of commitment to the community was identified in several cases.

Another concern was raised about men not being allowed to stay as residents with the women. According to the living arrangements for the Babayagas women specifically, men cannot live in the Babayagas house, they cannot move in, only visit for short stays. The women also often invite guests during their monthly dinners. The Babayagas women are often criticized because of their feminism which is however one of the basic principles of their living arrangements corresponding to a sort of 'sisterhood'.

Self-space management as an entry seemed to be important as they all have their own space varying from very small studios to more spacious ones with only three models available. Each, however, has a balcony which also allows cultivation. Plants on balconies included mostly flowers according to our findings, so it seemed appropriate to question notions on space management. After these findings, sections were added namely cooperative living, social gathering, interest in activism, activism opportunities, participation in decision-making, common activity and knowledge sharing, commitment to refuse prejudice and discrimination, openness to city surroundings, feminism and gender equality, religion diversity and non-discrimination, promoting first aid and knowledge, visionary, and adherence to rules.

We also developed a shorter version of the inventory. For this abridged version of the questionnaire, all 33 sections were maintained, and any questions that appeared somewhat superfluous were eliminated, trimming down the questions to 74 by removing, good listener, modesty, sense of humour and sociability and questions covering similar contents.

4.2. Division into Practical Sections

In deciding on the division of sections for the questionnaire concerning the more practical aspects, we carefully considered the overarching themes that we aimed to measure within the specific context of autonomy and community well-being in housing facilities for retired-educated women. After some deliberations between the Principal Investigator and the Research Assistants, this part of the questionnaire was structured into several key sections to effectively capture the multifaceted aspects of well-being pertinent to this demographic (Diem, 2002).

These sections included:

i. **Autonomy:** This section encompasses questions relating to independence, decision-making, and the degree of control individuals have over their lives within the housing facility environment. By addressing autonomy, the idea was to shed light on the residents' sense of empowerment and self-determination. This subscale measures the level of independence seniors experience in their living environment. Questions focus on decision-making capacity, control over daily routines, and personal space management. The reason for inclusion is that autonomy is vital for the elderly to maintain a sense of self-determination, which is closely linked to emotional well-being (Bölenius, Lämås, & Edvardsson, 2023). Studies show that elderly individuals who feel empowered to make decisions in their daily lives exhibit lower levels of stress and depression (Jeon & Dunkle, 2009).

ii. **Community well-being:** Here, questions were included about social connections, support networks, and opportunities for engagement within both the housing facility and the broader community. This section aims to assess the strength of social bonds among residents and their sense of belonging and connectedness. This subscale assesses social connections, engagement in communal activities, and support networks within the living environment. The reason for inclusion is that social integration is directly correlated with improved mental health and reduced feelings of loneliness (Wickramaratne et al., 2022). Seniors living in

communal settings that encourage social bonding tend to experience enhanced life satisfaction (Park & Kang, 2023).

iii. Living conditions: This section delves into the physical environment, safety measures, comfort levels, and accessibility of amenities within the housing facility. Examining living conditions helps to understand how the built environment contributes to residents' overall well-being and quality of life. The questions related to that were drawn from the existing context as desirable, given it is highly praised internationally, and relevant items were added to the questionnaire.

iv. Support Services: In this section, questions concerning the availability and effectiveness of support services were incorporated, including healthcare, caregiving, and assistance with daily tasks. Understanding the adequacy of support services is crucial for ensuring that residents' needs are met and enhancing their overall well-being. This measures the availability and adequacy of healthcare, caregiving, and assistance with daily tasks. The reason for inclusion is that seniors face physical and cognitive declines and reliable access to support services becomes critical for their overall well-being (MacCourt, 2008). This subscale ensures that the physical and mental health needs of residents are met efficiently.

Each section was meticulously crafted to address specific facets of well-being while maintaining coherence and relevance to the research objectives. Organizing the questionnaire in this structured manner, was aimed at obtaining comprehensive insights into the autonomy and community well-being of retired educated women residing in housing facilities, thereby informing interventions and policies tailored to their unique needs.

This section of questions will be very useful for the overall planning of such housing facilities in the future although not directly aimed at self-administration by the target population, but rather useful for organizers.

4.3. Elimination of Questions for Reliability and Validity

To refine the questionnaire, a methodical journey was pursued to ensure that the final instrument was concise, focused, and directly aligned with our research objectives. This involved a series of deliberate steps aimed at streamlining the questionnaire while retaining its relevance and effectiveness (Vomberg & Klarman, 2021). First, a meticulous review of each question took place, considering its significance to our research goals and the specific population of retired educated women in housing facilities. Questions that did not directly contribute to addressing our research aims or did not apply to our target demographic were identified as candidates for elimination. Next, the questionnaire was scrutinized for any redundancy or overlap among the questions. Duplicates or similar inquiries that measured the same construct using different wording were flagged for removal. This process ensured that we maintained clarity and avoided unnecessary repetition, thereby enhancing the questionnaire's efficiency. Furthermore, we consulted a measurement expert to conduct a thorough evaluation of the psychometric properties of each question, including reliability and validity. Questions demonstrating poor psychometric properties or failing to align with established measurement standards were considered for elimination to uphold the questionnaire's robustness and integrity. Additionally, we sought input from stakeholders, including retired educated women living in housing facilities, fellow researchers, and an expert in the field of gerontology. Their perspectives and insights helped identify questions that were less meaningful or relevant to our target population, guiding our decisions about which questions to retain and which ones to discard.

5. DISCUSSION AND CONCLUSION

In the following paragraph we shed light on the importance of having identified relevant items for the questionnaire. This is followed by a summary, broader discussion and conclusion.

Through co-living as experienced within the setting of the Babayagas House and with the question items devised, as regards loneliness, although it was described by Donovan and Blazer (2020) to cause serious mental problems, as observed in elderly people by these researchers, loneliness can be curbed and hence exacerbated mental health issues can be avoided. In addition, with the average age of Babayagas women being 75, early mortality caused by loneliness and poor health can also be eliminated, corresponding to what Mushtaq et al. (2014) uncovered.

In our study, we also uncovered how in the co-living arrangement people benefit from social support and help to adapt to the changing world. They help one another with technology and organize workshops to keep abreast of changes and innovations as well as lifestyle adaptations such as new gardening techniques. This supports the results uncovered in the needs identified by Mace et al. (2022). This provides elderly people with the capacity to maintain a certain autonomy and a better quality of life, a need Ghenta et al. (2022) identified in their study.

Our inventory also includes questions related to the above. Other items are included as well concerning health, which is in line with Lins and Carvalho's (2016) recommendation to measure elderly adaptation, namely social functioning and mental health.

As already identified by Dhanabhakym and Sarah (2023), and also uncovered in participants' journal entries (Myers, 2024), in the creation of subscales as we developed our questionnaire, we included various elements as recommended, namely on positive relations, positive emotions and self-acceptance.

The importance of these items was moreover corroborated by the elderly women of the Babayagas House in Paris, as having positive outcomes (Myers, 2024).

In summary, we set out to investigate an internationally recognized successful co-living situation, namely the Babayagas House in Paris for independent retired women, because of the increasing need for such arrangements in our society as well as many unsuccessful attempts across countries and various situations. More women outlive their partner and find themselves alone with more limited financial and people resources. This was a timely study. There are retired people worldwide trying to set up such co-living arrangements in many different forms.

The idea was to identify characteristics to permit harmonious co-living arrangements for retired independent women, to alleviate the impact of the dire circumstances in which some of them find themselves, and this by using a selection questionnaire. We managed to arrive at a very interesting all-encompassing list, plus a shorter version of the questionnaire for more practical reasons, allowing for self-identification. Thus, we recommend for further research adopting a more extended all-encompassing version of a questionnaire for administrator's use during an interview and elaborate a shorter version for self-administration. This is in line with the conception of other inventories, for which there also is a shorter version. Investigating possible questionnaire formats, we examined existing questionnaires and adaptations of scales, for instance how Carver's (1997) Brief COPE inventory was adapted in its layout, and the use of strategies from the COPE inventory (Carver, Scheier, & Weintraub, 1989) with five scales as well as other coping scale adaptations.

After submitting the questionnaire to present residents in Canadian retirement homes we were advised that it was too lengthy. As a result, we trimmed it down further and we now have two versions, the longer version for administrators to interview prospective cohousing

members and possibly more alert seniors able to take the survey on their own, and a shorter questionnaire, easy to be self-administered and scaled down for the aging, with only 78 questions to make it more user-friendly compared to the initial 167 questions.

In addition, in the Canadian context, the retirement home residents were hesitant about the questions related to activism and advocacy, which is one of the important features that helps create a community in the French housing project.

By following this systematic process, we successfully refined the questionnaire, ensuring that it remained focused, relevant, and aligned with our research objectives. The resulting instrument was poised to provide valuable insights into the autonomy and community well-being of retired educated women in housing facilities, empowering us to make informed decisions and drive positive change in this important area of study. We strongly recommend that further research adopt the steps taken, initially gathering data on the population targeted by the questionnaire and teasing out specific background information so that cultural contexts and other such relevant items are taken into consideration.

Regarding the context of participative co-living in aging, in most cases, communication played out according to Luhmann's (1995) thinking that negotiations oscillate between agreement and opposition. According to the researcher, the process moves on with constant changes between asymmetry and remaking symmetrical (p.125). Luhmann's (1995) theory about systems complexity points to the unavoidable reciprocal adaptation of organisms to each other, which makes our questionnaires about co-living even more relevant. This appears to be so in the case of the groups of women coming together. There are however some members in the Babayagas house who do not partake and hence lack contact in a participative way in the cohousing model. Hence, offering a questionnaire for the selection of prospective members could provide a welcomed solution. For further research on such communities, one should keep in mind the fluctuating ways people adjust to one another. Perhaps allowing for some dissonance among subgroups is necessary, and questions about approaches to problem solving would be key. It is important to be able to get all members of the community together to fight loneliness.

Overall, the co-housing collective can be likened to a community of practice (Lave & Wenger, 1991; Wenger, 1998), with people coming together, finding common ground (Olson, 2003).

The backgrounds of the women are very diverse because although they lived in France for a long time their cultures of origin are not necessarily French, and it was interesting to glean information on their attitude toward participation and see how it played out. According to researchers, it is possible to reach common ground because knowledge and cultural aspects allow for reflective co-orientation (Luhmann, 1995; Olson, 2003). Therefore, by living together sharing activities and interacting regularly the group members can achieve the desirable outcome. Independence for this group did not mean a lack of collaboration and cooperation. Thus, it could mean that people who are typically loners may not fit within such a group. However further research is needed to identify what such persons could contribute.

Luhmann (1995) also mentions the notion of attempts at aligning paths and many of the co-housing members put effort into doing so and found joy in the realization that they developed friendships. However, these feelings are also somewhat mixed as the fact that some of the women do not contribute to the maintenance of the garden, but enjoy reaping its fruit, is frustrating those who put effort into gardening. Hence questioning willingness to participate and propensity for sharing seems relevant for such a survey.

As far as the notions of cooperation, or competition are concerned, regarding the common spaces like in their garden as mentioned above, cooperation left much to be desired. Overall, however, there was an obvious coming together of minds (Olson, 2003). Perhaps, instead of having spontaneous cooperation stem from a group, people could be asked to volunteer their specific skills and then from there, affinity groupings could be formed.

Regular meetings of the group enabled them to reach conclusions together and make the best decisions as regards group interests. These decisions were not always well received and having like-minded co-housing partners would alleviate some difficulties related to consensual decision making which is a feature in the Babayagas House Charter. Hence the idea of an inventory questionnaire in order to find commonalities as mentioned above could be necessary, as well as finding out people's willingness to contribute, in a given area of their choice.

The participants were very supportive in exchanging knowledge and learning from one another. This was one of the most successful aspects among co-housing members, they really appeared to care deeply about the wellbeing of their fellow co-inhabitants. They helped each other with special i-phone features, gave advice and answered questions others had, based on their personal life experiences, sharing openly. They conducted workshops, encouraged critical reviews of films followed by discussions, providing a stimulating intellectual climate. They invited journalists and students to lunch. This was cited in the magazine Elle (2023). This reflected leadership ability in some of the co-living members. Further research could include investigating the role and or, need of leaders in such groups.

To expand on the use of the questionnaire, it appears that adaptation to diverse backgrounds of aging populations would be welcomed, if not using the same questionnaire where relevant.

As for the use of the questionnaire findings, perhaps it could also mean that different groups of people with similar types of affinities could also constitute a co-living group displaying some of the features in a similar way. Perhaps tallying the categories of responses and then grouping together people who gave similar answers would allow for people with more affinities to be placed together, as they would be more like minded. Therefore, the questionnaires could be used in different ways, which adds to their usefulness.

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Chapter # 3

THRIVING AFTER TRAUMA: UNCOVERING PATHWAYS TO POSTTRAUMATIC GROWTH IN COVID-19 SURVIVORS

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ABSTRACT

COVID-19 former patients have endured physical and psychological stress during infection, hospitalization, and recovery. Research indicates that some discharged patients experience Post-Traumatic Growth (PTG) following adversity. This research aims to explore former patients' experiences within the post-acute period, in terms of positive long-term post-COVID effects and the role of coping resources in the recovery period. Semi-structured interviews were conducted from November 2022 to April 2023, involving 21 participants (57% female), mean age 64, residing in Romania, previously hospitalized for severe COVID-19. Thematic analysis identified four major themes: (1) Coping strategies - reframing the experience positively, break the recovery path into manageable actions, self-care, support seeking, and acceptance; (2) Inner Strengths - optimism, actively living life, determination, independence, and experience with hardship previously; (3) Changed Life Perspective - increased compassion, helping others, and valuing close relationships; (4) Gratitude - the awareness of personal wellbeing's value prompted gratitude and hope. Some participants described making concerted efforts to appreciate each new day, others increased prosocial and altruistic behaviors, while others conveyed gratitude. The findings underscore the factors that contributed to participants' PTG and provide unique insights into the pathways from medical adversity to enduring positive changes across cognitive, emotional, behavioral, and relational domains.

Keywords: post-traumatic growth, COVID-19 survivors, positive changes, hospitalization, pandemic.

1. INTRODUCTION

The COVID-19 pandemic has led to high mortality rates and concerning long-term health risks worldwide (World Health Organization, 2024). The pandemic presented challenges in terms of uncertain health conditions, unreliable and confusing information, feelings of helplessness and fear, difficulties in coping, and a strong desire to return to normality (Alkhamees, Alrashed, Alzunaydi, Almohimeed, & Aljohani, 2020; Raihan, 2021; Suciú & Baban, 2024; Veazie et al., 2022). Former COVID-19 patients have endured physical and psychological stress during infection, hospitalization, and recovery (Del Rio, Collins, & Malani, 2020; Higgins, Sohaei, Diamandis, & Prassas, 2021; Pan et al., 2021).

Despite all this, some discharged COVID-19 patients managed to break through and achieve post-traumatic growth (PTG), showing a tendency to recover from the negative experience (Hyun et al., 2021). The concept of PTG has gained increasing attention in recent years, particularly in the context of traumatic life events and adversities. PTG refers to the positive psychological changes that can occur because of an individual's struggle with highly challenging circumstances. It encompasses various domains, such as a greater appreciation for life, deeper personal relationships, heightened perception of personal

strength, identification of new possibilities, and spiritual or existential growth (Tedeschi & Calhoun, 2004; Jayawickreme & Blackie, 2014).

The study of PTG in the context of the COVID-19 pandemic is particularly important given the widespread and enduring impact of the virus. Although studies have explored psychiatric outcomes among COVID-19 survivors (Raihan, 2021; Veazie et al., 2022), few have examined PTG specifically, while using quantitative measures (Na, Tsai, Southwick & Pietrzak, 2021). In one study using a sample of 140 participants, self-esteem, post-traumatic stress disorder, coping style tendency, and social support were the main correlates identified (Yan et al., 2021). Other studies indicate that some discharged patients exhibit growth (Qie & Onn, 2023; Hyun et al., 2021), demonstrating the possibility to thrive despite adversity, still, limited knowledge exists regarding the PTG experience after acute illness.

While quantitative data highlights the effects of COVID-19, qualitative methodologies are essential for a comprehensive exploration of survivors' experiences. This research will provide unique insights into positive change processes after trauma among COVID-19 survivors, while identifying potential targets for promoting PTG in patient populations facing significant health-related trauma. Understanding positive psychological outcomes post-hospitalization can guide recovery-oriented interventions for survivors.

The aim of the present research is to explore former severe COVID-19 patients' experiences in the post-acute period, in terms of positive long-term effects, the role of personal traits and coping resources during recovery. Recognizing these potential influencers can guide more effective psychological intervention strategies following public health disasters.

2. DESIGN AND METHOD

2.1. Study Design

To address the research aims we conducted a qualitative study using semi-structured one-on-one telephone interview. We included participant who had been (a) hospitalized for severe COVID-19, and who were (b) adults (+18 years).

Participants were recruited via social media, specifically through posts on Instagram and Facebook, as well as through snowball sampling and physician referrals. Snowball sampling involved requesting each participant to recommend others who might be interested in the study. Additionally, collaborating physicians contacted former patients and, with their consent, referred them to us as potential participants. Instagram and Facebook were selected due to their broad and diverse user bases, which align with the demographics relevant to this study. A purposive sample of former Romanian COVID-19 patients (N = 21) was recruited. To minimize risk of bias, we included participants from different regions and hospitals.

2.2. Data Collection & Analysis

A semi-structured interview guide was used to explore participants' perspectives on the COVID-19 experience, covering the period before, during, and after the illness. The interview guide encompassed open-ended questions that explored illness experience, perceptions of the COVID-19 illness, difficulties, coping strategies, personal features, and positive changes. Following each interview, participants were invited to share additional reflections through a final open-ended question. Some of the main questions were:

What were your experiences with COVID-19 illness?

What were your thoughts and feelings in the period after hospital discharge?

Has anything changed for you and your life after you survived severe COVID-19?

If yes, what?

What have you learned from this experience?

What helps you in coping with the long-term consequences of the disease?

Interviews were conducted from November 2022 to April 2023 with an average duration of 40 minutes. Interviews were audio recorded and transcribed verbatim.

We used an inductive approach for the thematic analysis (Braun & Clarke, 2022). Our data analysis team included a senior researcher, which guided our decision to perform the analysis without qualitative software. Following our analysis strategy, we extracted and analyzed information from interview transcripts pertinent to the research aims. We focused on excerpts that revealed (a) participants' experiences during the acute phase of their COVID-19 illness, (b) their perceptions and understandings of the illness over time, (c) the challenges and coping strategies they employed throughout their recovery journey, (d) any positive psychological changes or growth they experienced as a result of their ordeal, and (e) the role of personal traits, resources, and support systems in facilitating their recovery and growth. These excerpts were compiled into a comprehensive document, which then underwent an in-depth coding process conducted by our research team.

Oral informed consent was obtained prior to all interviews, numbers were assigned to participants to protect confidentiality, and presented all results anonymously.

3. RESULTS

Interviews were conducted with 21 participants, with a mean age of 64, all residing in Romania (see Table 1). The medium stay in hospital was 17 days, with 24% of participants having been hospitalized in an Intensive Care Unit. At the time of the interviews, all were discharged.

Table 1.
Characteristics of study participants.

Category	N	Mean (SD) or %
Gender (%)		
Male	9	42.9
Female	12	57.1
Other	0	0
Age		
Mean age	21	64.48 (SD=12.85)
Marital Status (%)		
Single	2	9.6
Married/ living with partner	13	61.9
Divorced	1	4.7
Widow	5	23.8
Education (%)		
Less than Highschool	5	23.8
Highschool	10	47.7
Higher Education	6	28.5

Four main themes were identified from the qualitative analysis: (1) Coping strategies; (2) Inner Strengths; (3) Changed Life Perspective; (4) Gratitude. The main themes are described below, accompanied by illustrative quotes.

3.1. Coping Strategies

The participants used a range of coping strategies to deal with the short, medium, and long-term effects of COVID-19, and they managed the various challenges of recovering from this potentially life-threatening illness, post-COVID challenges and further grow from it.

Appraisal-focused coping strategies were evident for some of the participants. Some used logical analysis when faced with the symptoms onset and then when it worsened, breaking the recovery process into smaller, more manageable gradual actions to rebuild functioning, such as walking to the window, and over time walking longer distances outside. Some participants sought to reframe the experience in a positive light, focusing on being grateful for still breathing and surviving rather than lingering fatigue or weakness, and using the experience to further cope with difficulties. As some participants stated:

"Nobody's life is perfect. You can make it good, or you can make it bad. It depends on you whether you make it good or make it bad. It's up to what you do."(P.20)

"Many times, when I have tougher days at work or in general, I think about my experience with Covid, and I tell myself - Look, it could have been worse, and that gives me the energy to keep going."(P.4)

Many participants engaged in problem-focused strategies like seeking information from doctors or other former patients, about COVID-19 symptoms and recovery actions. Self-care activities like improving diet, exercising within limits, and seeking medical care for persisting symptoms were also utilized. Participants identified alternative rewards to provide a sense of satisfaction despite ongoing limitations. Some focused on achievable tasks like getting dressed or washing a few dishes and emphasized the importance of not dwelling on limitations but finding modified ways to keep living life through adapted activities. Building knowledge, taking practical incremental steps, self-care, and finding other achievable activities helped participants in making tangible improvements during the difficult and often slow recovery process. As one participant described:

"What helped me was to go see the doctor. It's good to stay at home for two or three days, and take some cold medicine, but after that, if you see that it's still the same or getting worse, you need to seek out for medical advice otherwise you won't get better." (P.21)

"I have at work a lot of colleagues with whom I have lunch during the break, we go out for name day celebrations, we go out on other days, we attend events together. Somehow, I managed to form a group that gets me out of my numbness. Even though I'm no longer with my ex-girlfriend, whom I broke up after illness, I had them to go out, walks, talks. I'm trying to enjoy my friends and these moments more. And sports. It helps me a lot." (P.6)

Participants also used emotion-focused coping strategies such as maintaining hope that they would eventually fully recover, or talking to family members, friends, or other survivors about difficult feelings such as fear or sadness. Support and connection from family were emphasized, whether in the form of daily phone calls, having meals brought, or help with chores after discharge. As one participant described:

"I believe that family is an important factor to have by your side in challenging situations, communication within the family has helped me primarily, everyone being attentive, including siblings."(P.3)

3.2. Inner Strengths

Participants revealed a range of inner strengths and personal resources enabling them to confront the challenges posed by COVID-19 in a constructive manner. Optimism was frequently mentioned, as many described themselves as naturally optimistic people who believed they would recover even during difficult points. This positive attitude motivated health behaviours during illness and recovery, provided motivation to keep fighting. As some participants described:

"I am quite spirited, yet also quite well-behaved, and obedient when I'm unwell. I do as I'm told and follow what I believe is right. I've always fought in life, not only with the virus."(P.20)

"The character makes the difference, I think it's your own state of being, your character as a person who helps you to overcome or not."(P.3)

"I am the most optimistic person you will ever see."(P.4)

A heightened sense of actively living life was evident for some of the participants. Constant busyness reflected an aversion to idleness and a preference for purposeful existence. They perceived the illness as something requiring work to actively regain normalcy.

"I am used to be physically active daily. After 15 days in hospital, I couldn't wait to go out and do some activity, so I did all that was in my power just to get well and go home." (P.4)

Some demonstrated profound trust in their ability to handle unexpected challenges. Characterized by perseverance, conscientiousness, and determination, they insisted on completing tasks despite difficulties, working diligently to accomplish goals of getting a little bit better daily, focusing on themselves, leaving in those moments the existence of the loved ones on a second place. Some individuals also described drawing strength from their past life experiences surviving adversity, from wars to serious surgeries, revealing a high level of confidence. Self-reliance and independence were important for some participants in caring for themselves. As one participant describes:

"I believe that the old life experiences have helped me. I've been through a lot of life-and-death experiences. If you have hope, you take them as life offers them to you. Dangers? I've been close to them, so I'm not scared of death. I've always had hope that I'll get better, that I won't die. So, I've treated all life experiences in the same way."(P.12)

Overall, optimism, actively living life, determination, independence, and experience with hardship helped many participants endure this difficult illness.

3.3. Changed Life Perspective

For many participants, confronting the possibility of mortality during severe COVID-19 sparked a reconsideration of one's way of looking at the relationships, with a sense of moral purpose and motivation to extend altruism, empathy, and greater compassion, a greater sense of care and helping behaviours, and a sense of closeness with others. While struggling with adversity, their ability to understand and shoulder the burden of others became amplified. This moral growth was often translated into action. As some participants stated:

"I have learned that people need more attention. And if there was something I could do to make it better, I must make it. I started to think that we can die so easily, and it's important for something to remain after us."(P.20)

"We have a 40-years old lady upstairs on the first floor, she has no one, and she broke her ankle. We brought her food cooked from our home, and shopping, without asking her any money, for weeks. This experience made me try to become somewhat better." (P.17)

The same confrontation proved transformative also for some of the closest survivors' relationships. The fragility of existence urged several participants towards solidifying bonds with loved ones and disengaging from other ones. As one participant described:

"Following this experience, I understood how vulnerable we can be in the face of things we do not know and, in general, how vulnerable we can be. I've learned to appreciate life more, cherish my loved ones, and cultivate greater tolerance. I've always been the type to lend a helping hand, and that hasn't changed, but I've become more discerning about the people I choose to help. I now navigate my life with a more pragmatic approach and with the focus on the loved ones." (P.3)

"What I have learned is: Live today as if it were your last, live in the moment. This experience changed me. Definitely. I am a different person. I think differently because if you are not sought out in difficult times, then you truly start to form ideas about life. Family is the priority, that's it, and health. When you are young, you don't understand what health and other things mean, you don't give it importance, but as you get older, you start to believe that you really must live each day one at a time. The first thing I did was select the people who surrounded me before, and I made a sort of selection. The ones who called me, the ones who asked about me, and the ones who didn't." (P.1)

3.4. Gratitude

The COVID-19 experience markedly heightened awareness of personal wellbeing's value and prompted gratitude and hope for many survivors. Their awareness of personal health following illness, led to greater gratitude and appreciation for life and health. A tendency to try to greet each morning with a conscious effort to be more present and thankful, appreciate each day, and appreciate the health status was noticed. As one participant described:

"In tough times, you truly form some ideas about life. Priority is family, because that's it, and health. About life, it's really like we often read - Live today as if it were the last, seize the moment. At a young age, you don't give it much thought, but as you grow older, you start to appreciate and believe that days should be lived like that, one by one." (P.1)

Survivors' ongoing health appreciation and commitment was evident through continuously adapting to post-illness limitations and preventative attitudes. They emphasized regular check-ups and preventive measures. As one survivor stated, they had never taken their health so seriously, diligently seeing doctors and caring for their wellbeing. As one participant described:

"I was engaging in health check-ups even before, but now going through what I went through, if something doesn't feel right, I take action immediately to seek a doctor." (P.21)

A renewed sense of faith surfaced in the narratives of some participants. As they attributed meaning to their experiences, survivors conveyed gratitude to God for their health, for overcoming the illness, for their loved ones, or for the doctor healing them. Faith and prayer fostered trust, provided encouragement, and instilled a positive belief in favourable outcomes.

4. DISCUSSION AND CONCLUSION

The COVID-19 pandemic, with its profound impact on physical and mental health, represented a significant traumatic event for many individuals, particularly those who were hospitalized with severe cases. The COVID-19 illness experience represented a highly stressful and traumatic event for survivors. Coping with physical, mental, and emotional effects also caused significant difficulties. Thematic analysis has shown the role of coping

strategies and inner strengths, while highlighting the positive changes that emerged from the experience.

One notable contribution of this study is the identification of specific coping strategies and inner strengths that facilitated PTG among COVID-19 survivors. The use of diverse coping strategies, along with inner strengths like optimism, actively living life, strengths from past experiences, allowed participants to adjust to the trauma of COVID-19. Inner resources such as determination and independence, or trust in their personal ability to handle difficulties facilitated perseverance in health-related behaviours and played a crucial role in fostering a constructive approach to coping with the trauma. Appraisal, problem, and emotion-focused coping aided practical improvement and emotional processing. These coping strategies and personal strengths enabled survivors to confront the trauma in a constructive manner. The findings are consistent with the broader literature on PTG, which suggests that individuals who experience traumatic events can often experience positive psychological growth (Tedeschi & Calhoun, 2004) and that following a stressor, adaptive coping strategies and inner strengths contribute to PTG (Qie & Onn, 2023; Yan et al., 2021). Some of the participants in this study demonstrated remarkable capacity for growth, despite the challenges they faced.

Moreover, the study highlights the profound changes in life perspective that many participants experienced because of their confrontation with mortality. Following the illness, the confrontation with mortality sparked deep introspection for many participants. This existential pondering led to changed perspectives, including increased compassion, altruism, prosocial behaviours, and valuing of relationships. Priorities were realigned with the new insights, specifically more on the loved ones, helping others, and purposeful living. Gratitude and faith were also heightened, with participants thanking and appreciating health, life, doctors and medicines, and everyday moments more after trauma. These shifts: relating to others with increased compassion and gratitude, establishing new priorities, and appreciating life more deeply, coupled with increased awareness of life's fragility and the desire to lead a more purposeful existence, exemplify the core tenets of PTG. These findings align with previous research that has identified shifts in priorities, appreciation for life, and enhanced interpersonal relationships as key outcomes of PTG (Tedeschi & Calhoun; Yan et al., 2021). Other research found that religiosity was predictive for PTG in a nurse sample in Hong-Kong (Yeung et al., 2022) and values and committed actions to be related with PTG (Landi et al., 2022).

4.1. Future Directions

This research contributes to a better understanding of the experience of COVID-19, its positive effects, and strategies for adjusting with the new life and health status while thriving after trauma. It provides valuable insights into the PTG experiences of severe COVID-19 survivors, highlighting that despite COVID-19's challenges, positive change is possible through coping, inner strengths, and intentionally forging new perspectives while moving forward. The findings underscore the human capacity for resilience and growth in the face of adversity and offer guidance for healthcare professionals and policymakers in developing interventions to support holistic recovery and facilitate PTG among individuals impacted by public health crises or other traumatic events. Supporting survivors in processing trauma, leveraging strengths, and cultivating gratitude, compassion, and purpose may facilitate thriving. Furthermore, the study contributes to the growing body of literature on PTG and expands our understanding of the psychological consequences of the COVID-19 pandemic.

The findings of this study have practical implications for healthcare professionals, policymakers, and support organizations working with individuals affected by the COVID-19 pandemic or other traumatic events. By recognizing the potential for PTG and the factors that facilitate it, healthcare providers can adopt a more holistic approach to patient care, addressing not only physical recovery but also psychological and emotional well-being. Incorporating evidence-based strategies for promoting coping mechanisms, strengthening personal resources, and cultivating personal resources can be integrated into post-hospitalization rehabilitation programs and support services.

Furthermore, the insights gained from this research can inform the development of psychosocial interventions and support groups specifically designed to foster PTG among individuals impacted by traumatic health events or public health crises. Such interventions could focus on techniques for cognitive reframing, emotion regulation, and meaning making, as well as promoting factors like optimism, determination, and social support networks. By empowering individuals to find positive meaning and growth in the aftermath of adversity, these interventions can contribute to improved mental health outcomes and overall well-being.

In addition to practical applications, this study contributes to the broader academic discourse on PTG and the psychological impact of traumatic events. The themes identified in this study—Coping Strategies, Inner Strengths, Changed Life Perspective, and Gratitude—suggest potential sub-dimensions of growth that could uniquely complement existing measures of post-traumatic growth (PTG), such as the Post-Traumatic Growth Inventory (PTGI). The PTGI captures broad dimensions of growth, including relationships with others, new possibilities, personal strength, spiritual change, and appreciation of life. While our themes align with elements of these dimensions, they also reflect unique aspects of growth emerging from the COVID-19 pandemic context, underscoring the multifaceted nature of growth following health crises. Future research could operationalize these themes as measurable sub-dimensions, enhancing the PTG scale's relevance in health-related trauma contexts.

Future research could explore the long-term trajectories of PTG among COVID-19 survivors, as well as potential cultural and socioeconomic factors that influence the manifestation and facilitation of PTG. Longitudinal studies and cross-cultural comparisons could further enrich the understanding of this phenomenon and inform tailored interventions for diverse populations.

4.2. Limitations

Some of the limitations of the study came from the nature of the study. Conducting interviews at a single time point after the COVID-19 experience could have led to imperfect recollection of decision-making processes and associated factors during the recovery journey. It is worth noting also that the participants in this study were all from Romania, and cultural factors may have influenced their experiences and perceptions of PTG. Future research could explore potential cultural differences in the manifestation and facilitation of PTG, as well as the role of societal and community support systems in promoting positive psychological growth following traumatic events. Finally, while telephone interviews facilitated increased participation, they may have precluded the observation of nonverbal cues that could have been captured through in-person interactions. Conversely, this remote approach might have reduced the pressure for socially desirable responses.

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Chapter # 4

ANXIETY, SOCIAL DESIRABILITY, COPING STRATEGIES AND DEFENSIVE STYLES OF COPING IN HYPERSEXUAL MEN BEFORE AND AFTER THERAPY: PRELIMINARY RESULTS

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ABSTRACT

Hypersexuality include intense focus on sexual fantasies, urges or behaviors that an individual cannot control. It was proved that people suffering compulsive sexual behaviors experience high levels of distress and anxiety, and report difficulties in personal and professional areas of their life. In order to verify whether the levels of anxiety, social desirability and preferred coping styles of hypersexual persons change after the therapeutic process the preliminary empirical study was conducted. In the presented project participated 8 volunteer hypersexual men who underwent six months long CBT-based group psychotherapy. In order to measure the levels of anxiety, social desirability, and coping styles Trait Anxiety Scale, Social Desirability Questionnaire and Mini-COPE were used. The results obtained in the study proved that respondents presented high levels of anxiety. The levels of maladaptive styles of coping presented by hypersexual men before the therapy were higher in comparison to the levels of these strategies after the therapy. The results obtained in the study might serve as a starting point for planning future research, since they are only preliminary, and collected in a small sample of volunteers.

Keywords: hypersexuality, anxiety, social desirability, coping with stress, repression, group therapy intervention.

1. INTRODUCTION

Hypersexuality corresponds with limited control over sexual impulses, and difficulties with coping with stress. It is probable that hypersexual persons engage themselves in unhealthy ways of coping with difficulties. Since hypersexuality is correlated with other problems such as elevated levels of negative emotionality, therefore it also might correspond with defensive styles of coping (i.e. proneness to repression or sensitization). Additionally, it is interesting whether preferred coping strategies or repression-sensitization proneness can be modified with therapeutic interventions.

In the following sections basic information on the concept of hypersexuality, coping with stress, defensive styles of coping, and psychotherapeutic interventions for hypersexual patients are given. Next the preliminary data based on the research conducted in the small group of volunteer hypersexual patients who participated in the six months long CBT-based group therapy program aimed at reduction of hypersexual behaviors is presented. The results gathered from the respondents before and after the psychological treatment are compared and discussed. It should be underlined that the data presented in the article is only preliminary, and further research in the above-mentioned area is needed.

1.1. Introduction to the Concept of Hypersexuality

Hypersexuality (compulsive sexual behavior or hypersexual behavior) is defined as overwhelming, uncontrollable, intense and repetitive sexual activities difficult to postpone or cease even when it is needed. In order to recognize hypersexuality certain criteria must be met, i.e. the problem has to be observed for at least six months, during which time an individual experiences high levels of distress, and/or reports experiencing significant impairments in the area of their personal, family, social, and/or educational life due to the excessive forms of sexual behaviors (Montgomery-Graham, 2017). Hypersexual behavior is accompanied with excessive autoerotic behaviors, often accompanied by problematic pornography consumption and promiscuity (Kafka, 2010; Markovic, 2019). The prevalence of compulsive sexual behavior is approximately between 1% and 10% (Grubbs et al., 2020).

Hypersexuality is correlated with general psychosocial problems (Koos et al., 2021), difficulties in relationships and problems with fulfillment of different types of personal obligations (Reid, Garos, & Fong, 2012). It correlates with high levels of neuroticism, hostility, and low levels of satisfaction with life (Böthe et al., 2018; Dhuffar, Pontes, & Griffiths, 2015; Kowalewska, Gola, Kraus, & Lew-Starowicz, 2020; Rettenberger, Klein, & Briken, 2016; Studer, Marmet, Wicki, & Gmel, 2019). It is connected with high levels of loneliness, and feelings of shame and guilt (Jennings, Lyng, Gleason, Finotelli, & Coleman, 2021). It often co-occurs with depression, eating disorders, substance abuse or other mental problems (Ballester-Arnal, Castro-Calvo, Gimenez-Garcia, Gil-Julia, & Gil-Llario, 2020). It is also associated with violence and sexual abuse (Jepsen, & Brzank, 2022).

1.2. Strategies of Coping with Stress

Coping with stress is defined as a constantly changing self-regulatory process aimed at reduction of emotional tension. It occurs in reaction to the difficult or threatening situations that are subjectively perceived as exhausting and overwhelming (Lazarus, & Folkman, 1984). Coping with stress is understood as a self-defensive mechanism that constantly and dynamically changes due to an individual's activity.

Strategies of coping with stress are usually divided into three main categories of task-oriented coping, emotion-oriented coping and avoidance-oriented coping (Endler, & Parker, 1990). Task-oriented strategies aim at modification of the situation or individual's activity in order to change the stressful experience. Emotion-oriented strategies involve catastrophization or unrealistic optimism that aim to regulate an individual's emotional tension, while avoidance-oriented coping aims at diverting attention from stressful events. Additionally in the literature helplessness orientation is mentioned in which an individual, among others, engages themselves in substance abuse, or self-criticism (e.g. Mikulincer, 1989). It was proved that all of the above-mentioned coping strategies may be either adaptive or maladaptive dependable on the situation i.e. whether the stressful event is controllable or uncontrollable (Smith, Saklofske, Keefer, & Tremblay, 2016).

1.3. The Concept of Defensive Styles of Coping

Repression or sensitization defined as defensive styles of coping are the protective mechanisms introduced by an individual in any type of situations subjectively perceived as demanding or threatening for the self (Weinberger, Schwartz, & Davidson, 1979). Repression leads to the avoidance of unpleasant and/or threatening stimuli, while sensitization aims at approaching threatening stimuli (Myers, 2010; Myers, & Derakshan, 2004).

The individual's repression or sensitization proneness is estimated with self-descriptive measures of trait anxiety and social desirability. In order to identify repressors and sensitizers (i.e. persons with an inclination to repression or sensitization) the median split of the results obtained in the measures of trait anxiety and social desirability are calculated and then combined, resulting in formation of four independent groups: repressors, truly low-anxious, truly high-anxious, and sensitizers (e.g. Kleszczewska-Albińska, 2024).

1.4. Psychotherapeutic Methods used in Treatment of Hypersexual Patients

The diagnosis of hypersexuality is introduced in the International statistical classification of diseases and related health problems (WHO, 2020) in the impulse control chapter and it is called compulsive sexual behavior disorder (Code: 6C72) (WHO, 2020). There are no clear recommendations concerning evidence-based psychological support and psychotherapeutic interventions for hypersexual patients. Most professionals introduce some form of cognitive-behavioral therapy in which, among others, patients learn how to regulate their urges (e.g. Bőthe, Baumgartner, Schaub, Demetrovics, & Orosz, 2021; Hallberg et al., 2020), identify their values (e.g. Levin, Heninger, Pierce, & Twohig, 2017), restructure their thinking (e.g. Hardy, Ruchty, Hull, & Hyde, 2010), stimulate their motivation for change (e.g. Hallberg et al., 2019) or train their skills of problem-solving, conflict management, time management or coping (e.g. Hallberg, Kaldo, Arver, Dhejne, & Öberg, 2017; Wan, Finlayson, & Rowles, 2000). While working with hypersexual patients some specialists apply art therapy (Wilson, & Fischer, 2018), experiential therapy (Klontz, Garos, & Klontz, 2005) or 12-steps approach (Efrati, & Gola, 2018).

There is some evidence that receiving any form of treatment helps to reduce symptoms of compulsive sexual behavior disorder. Especially effective are the treatment methods in which cognitive-behavioral modules are present (Antons et al., 2022). At the same time the specificity of treatment effects described in the studies is dubious. In some cases studies lack rigorous, systematic methodological approaches. Additionally, application of different methodological approaches presents in different studies make it extremely difficult to compare the effectiveness of treatment methods obtained in different programs. At that moment strong conclusions considering the effectiveness of specific treatment methods in hypersexual patients cannot be drawn. Further research and the development of treatment programs devoted specifically for hypersexual patients is needed (Elrafei, & Jamali, 2022).

1.5. A Foundation for Current Research

As it was stated above, hypersexuality, among others, is connected with emotional difficulties (Dhuffar, Pontes, & Griffiths, 2015), and maladaptive coping strategies (Cristoi, & Delcea, 2022). Due to therapeutic interventions there were observed some changes in symptoms severity (e.g. Holas, Draps, Kowalewska, Lewczuk, & Gola, 2020), typical behaviors (e.g. frequency of engagement in sexual activities) (e.g. Bőthe et al., 2021), levels of obsessive sexual thoughts (Hardy, Ruchty, Hull, & Hyde, 2010), self-regulation (Efrati, & Gola, 2018), levels of psychological distress (Hallberg et al., 2019) or anxiety (Klontz, Garos, & Klontz, 2005) of hypersexual patients. Therefore, it is interesting to verify whether short-term group therapy can modify the levels of anxiety, social desirability, and coping strategies including defensive styles of coping observed in hypersexual patients.

The main aim of the study described in the article was to verify the levels of anxiety, social desirability and preferred coping styles of hypersexual persons before and after six months of intensive CBT-based short-term group therapy program. It was also checked whether respondents have a tendency to use defensive styles of coping (i.e. whether there are repressors or sensitizers among hypersexual patients) and whether their preferences in that matter change after the therapy.

2. METHOD

2.1. Participants

In the study described in the article participated 8 volunteer hypersexual patients who completed the six months long CBT-based therapeutic program aimed at reduction of their hypersexual behaviors. The group included men aged 18-47 ($M=32.63$; $SD=10.25$). Four of these men were single, whereas the other four were involved in romantic relationships. Prior to the current psychotherapy, all of the respondents participated in some form of group therapies for addictions and Sexaholics Anonymous for a varied time of 1-25 years ($M=6.31$; $SD=7.98$). In order to maintain the anonymity of patients who took part in the study no additional qualitative sociodemographic details will be given in the description.

All of the men were diagnosed based on the criteria of compulsive sexual behavior disorder (WHO, 2020). It means they presented persistent problems with controlling intense, repetitive sexual impulses and urges that resulted in repetitive sexual behaviors. They neglected other important areas of life due to the central focus they gave to sexual activity. They also made unsuccessful attempts to reduce or stop the sexual activity. They experienced adverse consequences in that matter or reported deriving little or no satisfaction from sexual activity. The problem they suffered caused significant distress or impairments in important areas of their life. All the symptoms reported by individuals were present for at least six months. All diagnoses were given based on individual interviews by qualified clinical psychologist working at a counseling center for hypersexual persons.

2.2. Procedure

The study reported in the article is part of a bigger research program on emotion regulation, coping with stress and defensive coping. There were two modules of the project in which hypersexual patients took part – one devoted to the comparison of general functioning of hypersexual patients and general population, and the other concentrated on the changes observed in hypersexual patients who underwent six months long CBT-based group therapy. The therapeutic program offered to the patients was based on the method described by Hallber and colleagues (2019) except it lasted 24 weeks instead of 7 weeks. It consisted of all the modules offered by Hallber and colleagues (2019), i.e.: basic psychoeducation of CBT and hypersexual disorder, psychoeducation of surplus and deficits of behaviors, basic behavioral/functional analysis, stimulation of motivation, urge surfing techniques, identification of values, behavioral activation, advanced functional analysis, psychoeducation on the influence of dysfunctional thoughts and beliefs, process of challenging dysfunctional thoughts and beliefs, design and implementation of behavioral experiments, cognitive restructuring, problem-solving techniques, interpersonal behavioral activation through assertiveness skill, conflict management, identification and engagement of interpersonal goals, implementation of the individual maintenance program. In the presented article only the part of research aimed at describing the functioning of volunteer patients who participated in the therapy program is described.

All of the respondents of the study described in the article were approached by psychology student trained in data collection individually during their visits to the counseling center. They were informed about the ongoing psychological study aimed at describing the general functioning and coping with stress typical for different groups of people. Next, men who expressed their interest in learning more about the project were given details about the aim and procedure of the research. After giving an informed consent, respondents who volunteered to participate in the study were given sets of questionnaires that included Mini-COPE, Trait Anxiety Inventory and Social Desirability Questionnaire, and were asked to fill them in, and to return them to the person collecting the data. The same men were approached by the experimenter again, after they finished their six months long therapy course. In order to maintain anonymity of respondents during the data collection process they were asked to generate individual codes that they used both during the first and the second data collection. It was decided to invite males only to participate in the study, since the statistics prove that the hypersexual behaviors are present in approximately 3% of men and 1% of women (Kürbitz, & Briken, 2021; Slavin et al., 2020). The study was conducted in compliance with ethical principles.

2.3. Materials

Three standardized psychological tests were used in the study. In order to assess styles of coping with stress Mini-COPE in Polish adaptation authored by Juczyński and Ogińska-Bulik (2009) was used. Polish adaptation of State Trait Anxiety Inventory (Wrześniewski, Sosnowski, Jaworowska, & Fecenec, 2011) was used for assessing the levels of trait anxiety. Social Desirability Questionnaire (Drwal, & Wilczyńska, 1980) was applied for measuring the levels of social desirability. Two latter tests were also used in order to identify defensive styles of coping.

The Mini-COPE questionnaire assesses 14 different coping strategies, which include: active coping, planning, positive reframing, acceptance, humor, religion, searching for emotional support, searching for instrumental support, self-distraction, denial, venting, substance use, behavioral disengagement, and self-blame (Carver, 1997). The tool consists of 28 statements with a 4-point Likert scale. The reliability of most of the scales in the conducted study was satisfactory, ranging from $\alpha=.46$ to $\alpha=.89$.

Polish adaptation of State Trait Anxiety Inventory (STAI) was used as an instrument indicating the levels of anxiety. The questionnaire includes 20 questions assessing anxiety understood as a temporary state, and 20 other questions for estimation of a relatively stable trait. Answers in the questionnaire are assessed with a 4-point Likert scale. In the described study only the scale for trait anxiety was used, and it reached a satisfactory reliability of Cronbach's alpha $\alpha=.84$.

The Social Desirability Questionnaire (KAS) was used for an assessment of the level of social desirability understood as an indicator of an individual's defensiveness level. The questionnaire consists of 29 questions with a true/false response sequence. It includes items that are socially desirable but rather uncommon in society (e.g. "I am never late for my work"), and other features that are quite frequent in the society, but 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 $\alpha=.77$.

3. RESULTS

Before conducting the analyses the normality of the distribution of analyzed variables was verified with the Shapiro-Wilk test combined with an analysis of indexes for skewness and kurtosis. Gathered results met the criteria for normal distribution (e.g. Field, 2018; George & Mallery, 2019; Hasiloglu & Hasiloglu-Ciftciler, 2023) therefore in order to analyze the differences in the mean levels of anxiety, social desirability, and preferences for coping strategies before and after the therapy course it was decided to use parametric tests (Field, 2018).

3.1. Preliminary Data Organization

Four independent groups varied in their tendency for defensive coping were formed. For that reason medians for the STAI ($Me=47$) and KAS ($Me=13$) questionnaires were calculated, and based on the median split groups that differ in the levels of anxiety and social desirability were identified. Detailed information concerning classification of respondents in the presented study is given in Table 1.

Table 1.
Groups identified according to their tendency for defensive style of coping.

Group	Number of hypersexual people before the therapy	Number of hypersexual people after the therapy
low-anxious (↓STAI ↓KAS)	1	2
high-anxious (↑STAI ↓KAS)	4	4
repressors (↓STAI ↑KAS)	3	2
sensitizers (↑STAI ↑KAS)	0	0

According to the data given in Table 1. it might be noted that half of the respondents were identified as truly high-anxious persons. It means that they experience a high level of anxiety that they adequately recognize, since they are characterized by low levels of social desirability. Before the therapy three of the respondents were identified as repressors, which means they underestimated their levels of anxious arousal. After the therapy the level of social desirability of one of the respondents dropped, and at the same time his anxiety level stayed low, so he was identified as a truly low-anxious person during the second measurement. It was also possible to identify truly low-anxious individual in the analysed group. There were no sensitizers among the respondents, which means that none of the members of the research group overestimated their anxiousness.

3.2. Anxiety, Social Desirability and Styles of Coping in Hypersexual Men Before and After the Therapy

In order to verify whether there are any differences in the analyzed variables before and after six months of therapy aimed at reduction of hypersexual behaviors repeated measures t-test were conducted. The results obtained in the study are presented in Table 2.

Anxiety, Social Desirability, Coping Strategies and Defensive Styles of Coping in Hypersexual Men Before and After Therapy: Preliminary Results

Table 2.
The differences between the levels of anxiety, social desirability and styles of coping with stress before and after the six months of therapy.

	before		after		<i>t</i>	<i>p</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
STAI	51.25	7.83	49.38	8.09	.96	.184	.03
KAS	12.13	6.66	11.88	6.31	.28	.392	.01
active coping	3.38	1.69	3.63	1.19	.61	.282	-.02
planning	3.5	1.77	3.75	.89	.61	.282	-.02
positive reframing	3.13	1.89	3.13	1.96	0	.500	0
acceptance	3.13	1.36	3.74	1.19	1	.175	-.04
humor	1.88	.64	1.5	.53	2.05	.040	.07
religion	2.5	1.93	2	2.2	1.53	.085	.05
emotional support	3.38	1.3	2.75	1.67	3.42	.006	.01
instrumental support	3.25	1.16	2.63	.74	1.67	.070	.06
self-distraction	3.13	1.46	2.5	1.07	1.36	.108	.05
denial	1.63	1.3	1	1.41	1.67	.070	.05
venting	3.13	.83	3.25	.71	.31	.381	-.01
substance use	.25	.71	.25	.71	0	.500	0
behavioral disengagement	2.38	1.85	1.5	1.6	2.2	.032	.08
self-blame	.5	1.77	3.5	1.41	0	.500	0

According to the data presented in the table there are three statistically significant differences in the coping styles before and after the therapy. The mean level of coping styles with humor, emotional support and behavioral disengagement decreased significantly after the six months of therapy. There was also a statistical tendency for the decrease in the levels of instrumental support, denial, and religion after six months of therapy. Other results weren't statistically significant.

Additional analyses for generalized preferences for coping strategies, divided into active strategies (i.e. active coping, planning, positive reframing), avoidant coping (i.e. self-distraction, denial, venting) and searching for support (i.e. emotional support, instrumental support) before and after therapy were conducted with repeated measures t-tests. Obtained results are presented in Table 3.

Table 3.
The differences between the levels of preferred generalized coping strategies before and after the six months of therapy.

	before		after		<i>t</i>	<i>p</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
active coping	10	4.81	10.5	3.46	.53	.307	-.02
avoidant coping	7.88	3.60	6.75	1.16	1.29	.120	.05
searching for support	6.63	2.33	5.38	1.92	1.84	<.001	.18

According to the data presented in Table 3. only one result was statistically significant proving the mean level of searching for support decreased after the therapy. No differences in the mean levels of active coping and avoidant coping before and after the therapy were found.

4. DISCUSSION

There were no respondents identified as sensitizers, whereas most of the persons who took part in the study were identified as high-anxious individuals. This result stays in congruence with previous studies showing that hypersexual patients present high levels of negative emotionality, neuroticism (Engel et al., 2023), and anxiety (Coleman, 1992; Scanavino et al., 2018). It is therefore possible that hypersexual respondents participating in the study described above do not use defensive coping strategies. Probably the excessive sexual behaviors present in that group serve a regulative function similar to defensive coping styles. This hypothesis should be empirically verified in future studies.

What is interesting is that one of the respondents who was identified as a repressor during the first measurement after the therapy declared a low level of social desirability, which means that during the therapy process his level of social desirability decreased. This result is very interesting and should be investigated more carefully in a larger group of patients during next studies. It is important especially since previous studies have shown that the social desirability level is positively correlated with high indicators of hypersexual behaviors (Bóthe et al., 2019; Lampalzer, Tozdan, von Franqué, & Briken, 2021). Possibly during the therapeutic process hypersexual patients learn to accept themselves and in effect they do not need to present themselves in a socially desirable manner, but this hypothesis needs further empirical verification.

Studies published up to date prove that hypersexuality corresponds with maladaptive coping strategies, such as withdrawal or self-blaming (Elrafei, & Jamali, 2022; Reid, Harper, & Anderson, 2009), which only partially corresponds to the results obtained in the presented study. It was observed that after the therapy the tendency for maladaptive strategies such as behavioral disengagement and humor as well as searching for emotional support decreased significantly. It is possible that mostly due to the psychoeducation and cognitive restructuring methods patients started to apply more diversified coping strategies that are more adequate to specific situations they are dealing with, but this hypothesis should be verified in future studies.

Surprisingly patients declared to use coping strategies aimed at searching for any type of support less often after the therapy in comparison to the time before the therapy. It is possible that this is an adaptive effect of being engaged in therapeutic processes in which patients learn how to effectively cope with different types of problems (Lampalzer et al., 2021), but this hypothesis also needs an empirical verification in future research.

It should be underlined that the data presented in the article is preliminary and therefore the findings should be interpreted with caution. There were only eight volunteer patients participating in this study, so it is not possible to generalize obtained results. Also the time frame for the study was relatively short – data was collected right before the therapy started and six months later, right after the therapeutic program was completed, so there is no information on the long-term effects of the therapy. In other words, the study described above can serve as an interesting starting point for future research, but there is a need for careful consideration when drawing conclusions from presented research.

5. FUTURE RESEARCH DIRECTIONS

In the future studies it should be verified whether there are any correlations between social desirability and proneness to hypersexual behaviors. Is it possible that high levels of social desirability corresponding to high levels of anxiety serve as a protective factor from hypersexuality development?

Also it is important to analyze in depth the relationships between hypersexuality and styles of coping. Is it possible to identify adaptive coping strategies that are especially helpful for hypersexual patients? Is seeking for social support an adaptive or maladaptive behavior for hypersexual individuals? What is the short-term and long-term effectiveness of psychotherapeutic interventions offered to this group of patients?

Another important factor that should be addressed carefully in the future studies is the motivation of hypersexual patients for seeking professional help. How different types of motivation distinguish coping strategies preferred by individuals and how it affects the overall effect of the treatment process? Is the level of individual motivation to therapy influenced by social desirability level? Is there any correspondence between defensive styles of coping, motivation to therapy, and its effectiveness in a group of hypersexual patients?

It is crucial to collect data from large groups of patients attending different types of therapy and support groups. It is important to collect and analyze data from hypersexual patients with diverse social, economic, and emotional backgrounds. It is desirable to plan a longitudinal research in which the data will be collected before the therapeutic process, several times during the therapy (e.g. after completion of each module of therapy) and several times after full completion of therapy (e.g. right after, one month later, six months later, one year later).

6. CONCLUSIONS

The study described in the article included preliminary results of eight hypersexual patients who underwent a six months long group CBT-based therapeutic process that aimed at reduction of the intensity of hypersexual behaviors. In the study the levels of anxiety, social desirability, preferred styles of coping and defensive styles of coping were assessed. Based on the gathered results it was proved that hypersexual patients presented high levels of anxiety, and a tendency to use maladaptive coping strategies. Their engagement in maladaptive coping decreased after implementation of a group therapy. Although it is unclear how long this effect lasts, since the effectiveness of the therapeutic process was measured only right after the completion of therapeutic treatment. The significance of defensive styles of coping for hypersexual patients is also unclear at the moment. Further research is still needed.

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Chapter # 5

ELKINS HYPNOTIZABILITY SCALE: ADAPTATION OF THE FRENCH VERSION

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ABSTRACT

This study aims to adapt the Elkins Hypnotizability Scale (EHS, Elkins, Johnson, Johnson, & Sliwinski, 2015) to a French sample and to determine its psychometric properties. The EHS was conceived in order to assess individuals' responsiveness towards suggestions guiding hypnotic experiments, ranging from motor responses to imagery and hypnotic amnesia. We also investigated the role of social desirability, attitudes and beliefs towards hypnosis, and vividness of visual imagery on individuals' hypnotizability level. Usually, these factor effects are considered in the light of hypnotizability (see Bret, Deledalle, Capafons, & Robin, 2024; Koep, Biggs, Rhodes, & Elkins, 2020). Preliminary results revealed that the French version of EHS showed a good internal consistency. The gender effect on EHS scores was not significant. A significant, moderate and positive correlation between the EHS and the attitudes/beliefs towards hypnosis suggest that attitudes/beliefs might predict efficiently the responsiveness to hypnotic suggestions. A moderate and a positive correlation was found between the EHS and the vividness of visual images, no significant correlation was found between the social desirability and the EHS scale, confirming its relevance. These findings tend to show that the French adaptation of the EHS may be an available brief assessment of hypnotic suggestibility, useful for researchers and clinical practitioners.

Keywords: attitudes, beliefs, hypnosis, hypnotizability, suggestibility.

1. INTRODUCTION

According to Elkins et al. (2015) hypnosis is defined as “A state of consciousness involving focused attention and reduced peripheral awareness characterized by an enhanced capacity for response to suggestion” (p. 382). The hypnotic experiment also called “hypnotic trance” comprises three ingredients: (1) absorption in the hypnotic experiment; (2) dissociation, that is, the individual focusing on its internal and subjective sensations, emotions, images and thoughts while inhibiting the external stimuli from the environment. (3) Suggestibility, reflecting the inclination to accept and execute the hypnotic suggestions (Kekecs, Nagy, & Varga, 2014; Robin, 2013). Gueguen, Barry, Hassler, and Falissard (2015) have reported proofs of the hypnosis efficiency as therapeutic for the reduction of pain, anxiety and stress in medical settings (Montgomery et al., 2007). Montgomery, Schnur, and David's meta-analysis (2011) emphasized the importance of the suggestions' contents and the hypnotic suggestibility called “hypnotizability”. The therapeutic treatment's efficiency is strongly linked to the individuals' hypnotizability level (Kirsch, 1991; Lynn, Laurence, & Kirsch, 2015). Hypnotizability is defined as the inclination of individuals to respond to hypnotic suggestions and has raised important debates between the different theoretical currents of hypnosis (Barnier, Dienes, & Mitchell, 2008; for a review see Robin, 2013).

Elkins et al. (2015) defined the hypnotizability as “an individual’s ability to experience suggested alterations in physiology, sensations, emotions, thoughts, or behaviour during hypnosis” (p. 383). Currently, there are more than 25 hypnotizability scales (Gay, 2007); nevertheless, none of them was translated and validated in a French version.

Usually, the most currently used scales are the Stanford Hypnotic Susceptibility Scale, Form C (Weitzenhoffer & Hilgard, 1962), and the Harvard Group Scale of Hypnotic Susceptibility, Form A (Shor & Orne, 1962). Nevertheless, more recently, the Elkins Hypnotizability Scale (EHS, Elkins et al., 2015) has been developed for wider use in assessing hypnotic suggestibility to address a lack of use of these scales in clinical and experimental settings (less than 10%). Indeed, the lack of resort to the hypnotizability scales hinges on some inconveniences, such as a too long testing time, the occurrence of controversial suggestions such as age regression or the sensitivity of the measurement. In contrast, the EHS is described as pleasant for participants (Yek & Elkins, 2021), quick to administer, providing reliable and valid results (Elkins, 2014; Elkins et al., 2015; Kekecs, Bowers, Johnson, Kendrick, & Elkins, 2016; Kekecs et al., 2021; Koep et al., 2020; Kvitchasty, Vereshchagina, Kovaleva, Elkins, & Padilla, 2022).

The EHS consists of a quick presentation of the scale, followed by a hypnotic induction of internal focus and relaxation. Then, a series of 12 hypnotic suggestions are orally presented to the participant/patient, one by one. They range from simple motor suggestions to suggestions involving a deeper state of hypnosis such as visual hallucination, and at the end, a post-hypnotic amnesia suggestion. Preliminary analyses showed that the EHS has good internal consistency (.85), test-retest reliability (.93). Moreover, convergent validity with the Stanford Hypnotic Susceptibility Scale, Form C (.82, see Elkins, 2014) was confirmed with samples of college and university students (see Kekecs et al., 2016; Kekecs et al., 2021). The analysis of the principal components revealed a four-factor structure that accounted for 65.37% of the variance. The first factor is **direct motor levitation/imagery**; the second one is **visual/perceptual**; the third one is **olfactory/perceptual**; the fourth one is **Motor Challenge** (the presentation of this scale is more detailed in the material section, see below). Nevertheless, this factorial structure requires confirmatory analyses and subsequent cross-validation in order to be confirmed (see Elkins et al., 2015; Zimmerman, Snyder, & Elkins, 2023).

As the EHS is considered as the new gold standard for assessing hypnotizability, it is useful for French natives to have this valid and reliable scale to assess individuals’ hypnotizability both in clinical and research settings. Currently, French clinicians and researchers do not have a valid tool to measure the inclination of individuals to hypnotic suggestions, which calls into question the studies based on hypnosis. Therefore, the present study aims to adapt the EHS and to test its reliability and validity for a French sample.

Moreover, it is widely admitted that the outcomes of successful treatments using hypnosis as a therapeutic adjunction are linked to positive attitudes towards hypnosis (Mendoza, Capafons, & Jensen, 2017). Negative and unrealistic beliefs may interfere with the patient’s adherence to the treatment and cooperation with the practitioner. Although attitudes and beliefs have been recognized as main determinants in how patients respond to hypnosis, research on this topic is scant. Nevertheless, a few studies have demonstrated that positive attitudes/beliefs about hypnosis are associated with higher levels of hypnotic suggestibility (Lynn & Green, 2011). The Valencia Scale of Attitudes and Belief Toward Hypnosis, Client version (VSABTH-C, Capafons, Suárez-Rodríguez, Molina-del-Peral, & Mendoza, 2018) has gained interest among researchers as a predictor tool of hypnotic responses. A series of international samples and studies has confirmed a consistent and stable eight-factor structure in the USA, Romania, Portugal, Mexico, Spain and French (see Bret

et al., 2024). The VSABTH-C comprises eight factors. Each factor corresponds to the scale measures of attitudes and beliefs towards hypnosis: (1) *Fear* corresponds to the belief that hypnosis is dangerous; (2) *Memory* is the belief according to which hypnotic trance is a truth serum that allows precise memories to be recovered; (3) *Help* is the belief according to which hypnosis is an effective technique in addition to psychological and medical therapies; (4) *Control* is the belief according to which people under hypnosis remain aware of their actions and are able to resist suggestions if they wish to; (5) *Collaboration* is the belief according to which participants must cooperate closely with the hypnotist in order for the therapeutic intervention to be effective; (6) *Interest* is the belief according to which participants desire to be hypnotized and desire to be easily hypnotized; (7) *Magical* is the belief according to which hypnotic suggestions solve an individual's problems effortlessly; (8) *Marginal* is the belief according to which hypnotized people are not gullible and ignorant and that hypnosis is not a scientific approach (see Bret et al., 2024). Adequate attitudes associated with hypnosis correspond to higher scores for the factors of *help*, *control*, *collaboration*, and *interest*. Inadequate attitudes towards hypnosis correspond to higher scores on items for the *fear*, *memory*, *magical*, and *marginal* factors (see Molina-Peral, Suárez- Rodríguez, Capafons, & Mendoza, 2020). Therefore, we expected positive correlation between scores resulting from the French version of VSABTH-C (Bret et al., 2024) and the French version of the EHS. Positive attitudes/beliefs towards hypnosis might be high and positively correlated with moderate and high level of hypnotizability, and therefore with the ease with which the individuals carry out the hypnotic suggestions. This relationship is crucial to determine the effect of hypnotic therapy on the treatment.

Kirsch and Braffman (2001) considered that variations of hypnotizability level were correlated with the ability to engage in an imaginative experiment. A widely expanded idea is that high hypnotizable people have high imagery abilities. However, some authors have shown that imaging ability does not consistently correlate with hypnotic suggestibility while imagining process seems to be crucial for encoding the hypnotic suggestions (Laurence, Beaulieu-Prévost, & du Chéné, 2008; Terhune & Cardeña, 2010). Grebot and Paty (2005) found a significant relation between mental imagery and hypnotic suggestibility. Therefore, we thought useful to test correlation between hypnotizability and visual imagery abilities by using the Vividness of Visual Imagery Questionnaire (VVIQ, Marks, 1973), as this relationship has never been explored with the EHS. The VVIQ is the most common questionnaire used in order to estimate the vividness of visual images like, for instance, those spontaneously generated when we are telling a memory. Our assumption was that high and moderate levels of hypnotizability would correlate positively with vividness of visual images, suggesting that imagery abilities may be a predictor of hypnotizability.

Spanos (1991) pointed out that hypnotizability level variations hinge on their beliefs and attitudes towards hypnosis and also the individuals' compliance by giving the impression of being a "good" hypnotic participant/patient (whether it is consciously or not). Compliance to hypnotic suggestions might result from the social desirability that consists in presenting oneself in a favorable light to one's interlocutors. In this view, the responses to hypnotic suggestions would be likely governed by a personality trait, such as social desirability. Notably, it also turns out that EHS scores might be biased because some participants' responses are imbued with strong social desirability.

Taking into consideration all of the above, the present study aims to analyze: (1) the internal consistency of EHS in a French version; (2) the variation across beliefs/attitudes towards hypnosis, visual imagery abilities, and social desirability since no study has presented these comparisons so far, which would contribute to the knowledge of factors that modulate responses to hypnotic suggestibility. The effects of these factors

(beliefs/attitudes towards hypnosis, vividness of visual imagery, social desirability) are usually considered in the light of hypnotizability, i.e., the ease with which the individual behaves towards a hypnotic suggestion, such as hand levitation. Nevertheless, the relationship between these factors and Elkins hypnotizability scale has not been studied yet. It therefore seemed useful to examine these personality factors independently of each other. Therefore, the study's second purpose was to contribute to a better knowledge of determinants in the hypnotic responses.

2. METHOD

2.1. Participants

Forty-two volunteers, aged from 18 to 45 years old ($M = 26.70$; $SD = 6.21$), were recruited on social networks. They were native French speakers and they never had previous experience with hypnosis. Women ($n = 22$; $M = 25.00$; $SD = 4.95$); men ($n = 20$; $M = 28.60$; $SD = 6.98$). Participants filled a free and informed consent form for participation in the study.

2.2. Measures

Two scales and two questionnaires were presented to the participants.

The French version of the Elkins Hypnotizability Scale (EHS, Elkins et al., 2015) was used to measure hypnosis suggestibility. First, the EHS was translated into French by one of the authors, specialist in hypnosis, with a PhD in psychology, and who is a native French speaker with a good level of English language. Then, the French version of the EHS was validated by the English translators' office of Nantes University. As in the original English version, the French version of EHS began with a short introduction followed with a classical hypnotic induction of attentional absorption and relaxation, then followed by a series of 12 hypnotic suggestions guiding hypnotic experiments. Suggestions were ranging from motor responses (5 suggestions) to imagery (6 suggestions) and hypnotic amnesia (1 suggestion). Suggestions were administered in tune with the complexity of the hypnotic procedure. Responses to each suggestion were scored from 0 to 12, according to the extent of response the participant gave to the hypnotic suggestion, indicating the participant's level of hypnotic responsiveness. The scale takes approximatively 30 minutes to administer.

The Valencia Scale of Attitudes and Beliefs Toward Hypnosis - Client Version (VSABTH-C, Capafons, Cabañas, Espejo, & Cardeña, 2004; 2018; Bret et al., 2024) was adapted and validated in a French version of a 37-item self-report measurement. Each item is measured on a 6-point scale ranging from: 1 (completely disagree) to 6 (completely agree). The model obtained with the online French version provides a satisfactory fit to all the participants' data in comparison with other previous studies and confirms validity, reliability and invariance across time and gender.

The Vividness of Visual Imagery Questionnaire (VVIQ, Marks, 1973) adapted in the French version has 16 items administered twice, the first time with eyes open, the second time with eyes closed. Each item refers to a situation for which the participant has to estimate the vividness of a visual image. High scores reflect high vividness of images on the rating scale with 1-point for "no image at all, you only know that you are thinking of the object" and 5-points for "perfectly clear and vivid like a normal vision". The French version has not been validated yet (see Santarpia et al., 2008).

The Social Desirability (DS 36) scale is assessed on two dimensions: self-illusion and impression management (Tournois et al., 2000). Self-illusion (also called self-deception) refers to conscious or automatic positive self-esteem. Impression management (or hetero-deception) is a deliberate strategy used to give others a favorable self-image. Social

desirability is defined as the tendency to distort self-descriptions in order to show oneself in a favorable light, i.e., a tendency to give an exaggerated self-profile. The DS36 comprises 36 assertions with 18 items assessing self-illusion (*I am always optimistic*) ($\alpha = 0.86$) and 18 items assessing impression management (*I am always polite*) ($\alpha = 0.82$). The low correlation between the two factors ($\alpha = .24$) testifies to their quasi-independence.

2.3. Procedure

Participants filled the informed consent, then they answered to the demographic questionnaire and to a few questions about their knowledge and potential experience of hypnosis. Thereafter, each participant was individually administered the EHS or the VSABTH-C in a counterbalanced order. The EHS was administered individually by research assistants specifically trained in hypnotic induction and psychological assessment procedures. After performing both scales, they filled the DS36 and then the VVIQ questionnaires. All participants were debriefed after the experiment. The experimentation took approximatively one hour and half for each participant. The ethical principles of the Declaration of Helsinki were respected throughout the research process.

3. RESULTS

3.1. Reliability Analyses

Cronbach's alpha was used to measure the reliability of the French version of the EHS. Descriptive analysis was conducted on each item of the EHS. Means, standard deviations and percentage of pass are displayed in Table 1. The average EHS score for females and males were respectively, $M = 5.41$ ($SD = 3.03$); $M = 5.20$ ($SD = 3.07$). There was no significant difference between females and males, $t(40) = 0.222$, $p = .826$. Overall, Cronbach's alpha indicated a good reliability between items ($\alpha = .826$). Table 2 shows the inter-item correlations of the EHS. Most of the EHS items correlated significantly. Nevertheless, correlation is almost non-existent for EHS 12 (posthypnotic amnesia), achieved by only 2.38% of the participants. Three other suggestions were accomplished by a small rate of participants (less than 40%): the EHS 5 (elbow lift), EHS 9 (distinct rose smell), and EHS 10 (vague visual hallucination). These hypnotic suggestions had also the lowest scores in the Elkins' study (whose rates were higher than our study rates). However, Elkins' study comprised a larger sample than ours ($N = 252$, see Elkins et al., 2015).

Table 1.
Mean scores and Standard Deviations for each EHS item.

Item	Female		Male		Total
	M	SD	M	SD	% Pass
EHS 1	0.75	0.44	0.95	0.21	0.86
EHS 2	0.50	0.51	0.54	0.51	0.52
EHS 3	0.65	0.48	0.63	0.49	0.64
EHS 4	0.45	0.51	0.36	0.49	0.40
EHS 5	0.10	0.30	0.22	0.42	0.17
EHS 6	0.85	0.36	0.90	0.29	0.88
EHS 7	0.50	0.51	0.45	0.51	0.48
EHS 8	0.45	0.51	0.36	0.49	0.40
EHS 9	0.20	0.41	0.13	0.35	0.17
EHS 10	0.20	0.41	0.22	0.42	0.21
EHS 11	0.50	0.51	0.59	0.50	0.55
EHS 12	0.05	0.22	0.00	0.00	0.02
Total	5.20	3.07	5.41	3.03	0.53

Table 2.
Correlation matrix between 12 items of EHS.

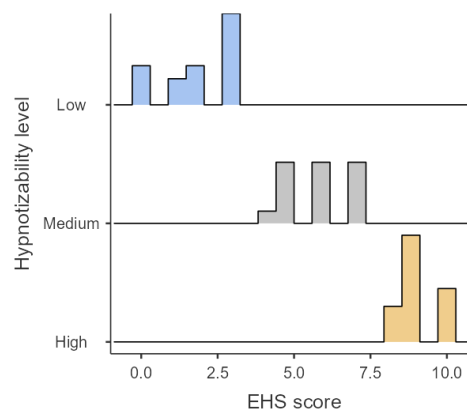
	EHS 1	EHS 2	EHS 3	EHS 4	EHS 5	EHS 6	EHS 7	EHS 8	EHS 9	EHS 10	EHS 11
EHS 2	0.428**	—									
EHS 3	0.548***	0.483**	—								
EHS 4	0.337*	0.592***	0.615***	—							
EHS 5	0.183	0.298	0.333*	0.542***	—						
EHS 6	0.480**	0.386*	0.340*	0.303	0.164	—					
EHS 7	0.389*	0.432**	0.412**	0.379*	0.085	0.350*	—				
EHS 8	0.198	0.301	0.412**	0.506***	0.282	0.303	0.185	—			
EHS 9	0.183	0.043	0.333*	0.152	0.143	0.164	0.341*	0.542***	—		
EHS 10	0.213	0.382*	0.389*	0.397**	0.389*	0.192	0.083	0.397**	0.234	—	
EHS 11	0.176	0.379*	0.221	0.165	0.021	0.257	0.196	0.360*	0.021	0.358*	—
EHS 12	0.064	0.149	0.116	0.189	-0.070	0.057	0.164	0.189	-0.070	-0.082	0.142

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

3.2. Comparisons between VSABTH-C and EHS Scores

The major result highlights moderate and positive Spearman correlation between the total EHS scores and the total VSABTH-C scores ($r = .445$, 95%CI[.670 ; .182], $p = .003$), especially scores for positive attitude/belief towards hypnosis ($r = .483$, 95%CI [.680 ; .199], $p = .001$); correlations were significant for two positive dimensions: Interest ($r = .427$, 95%CI[.663 ; .169], $p = .005$) and Control ($r = .481$, 95%CI[.681 ; .201], $p = .001$). Correlations for the six other dimensions were not significant. Three sub-groups of participants were formed according to their low, medium and high mean scores on EHS (see Figure 1): (1) the participants with a low level of hypnotizability ($n = 15$; $M = 1.93$; $SD = 1.22$) having obtained a score between 0 and 3 inclusive; (2) the participants moderately hypnotizable ($n = 16$; $M = 5.88$; $SD = 0.96$) having obtained a score between 4 and 7 inclusive; (3) the participants highly hypnotizable ($n = 11$; $M = 9.09$; $SD = 0.70$) having obtained a score between 8 and 12 inclusive.

Figure 1.
Distribution of EHS scores for each level of hypnotizability (low, medium, high).



The repeated measures ANOVA revealed a significant interaction effect between Attitudes towards hypnosis x EHS levels, $F(2, 39) = 3.53$, $p = .039$, $\eta^2_p = .153$. The *post-hoc Bonferroni* comparisons confirmed no difference between the three levels of hypnotizability as regards negative attitudes towards hypnosis. In contrast, whereas participants with low and medium level of hypnotizability were not influenced by the attitudes towards hypnosis, it appeared that individuals with high level of hypnotizability have more positive attitudes towards hypnosis than ones with low level ($t(39) = 4.248$, $p = .002$). These results point out to the fact that the level of hypnotic suggestibility may be affected by positive attitudes and beliefs towards hypnosis.

The order of administration of both scales (EHS vs. VSABTH-C) was examined in order to evidence a likely effect of experiencing hypnosis during the hypnotizability measurement on the VSABTH-C scores. The Mann-Whitney test revealed that participants who experienced hypnosis first showed higher scores for two positive factors of VSABTH-C: “help” ($U(40) = 139$, $p = .02$, $rb = .37$) and “control” ($U(40) = 154.50$, $p = .05$, $rb = .30$). On the contrary, participants who completed the VSABTH-C before experiencing hypnotic suggestions showed higher scores for one negative dimension of the VSABTH-C: “fear” ($U(40) = 139$, $p = .02$, $rb = .37$). These results confirm the relationships between beliefs about hypnosis and hypnotic suggestibility.

3.3. Comparison between VVIQ and EHS Scores

Spearman correlation test revealed positive and moderate correlation between the EHS and VVIQ scale on total scores ($r(40) = .403$, 95%CI[.677 ; .193], $p = .008$). This result might suggest that vivid visual images are involved in the processing of hypnotic suggestions. Nevertheless, vividness of visual images is not a likely predictor of hypnotizability level. Indeed, we did not find differences between VVIQ scores and the levels of hypnotizability (low, medium and high). This result should be considered with caution, VVIQ not being a validated test.

3.4. Comparison between DS36 and EHS Scores

Spearman correlation test did not show significant correlation between DS36 scores and the hetero-deception and the self-illusion sub-scales, respectively ($r = .121$, $p = .444$; $r = .184$, $p = .244$), confirming the relevance of the EHS scale whose hypnotic behaviors were not biased by a personality trait like social desirability.

4. DISCUSSION AND CONCLUSION

As many researchers and practitioners have underlined, before using hypnosis as a therapeutic intervention, it is important to know patients' hypnotic suggestibility, which might influence treatment outcomes, with high or moderate hypnotizability linked to positive outcomes (Bret et al., 2024). Moreover, positive beliefs/attitudes might reinforce hypnotic suggestibility and therapeutic collaboration. Negative and unrealistic beliefs can interfere with cooperation with the hypnotist and adherence to treatment (Capafons et al., 2004; Capafons et al., 2018).

The internal consistency of EHS for the first time in a French version matches with the analyses carried out in previous studies (Elkins, 2014; Elkins et al., 2015; Kekecs et al., 2016; 2021; Koep et al., 2020; Kvitchasty et al., 2022). EHS items showed significant and high correlation value excepted for three items, especially EHS 12 which should be excluded from this scale. Gender-related variations, as in most previous studies, demonstrated invariance. Most of the studies using hypnotizability scales did not find correlation between hypnotic suggestion responsiveness and personality dimensions (Green, 2004; Zhang et al., 2017). The present findings revealed that personality dimension such as social desirability was not associated with the level of hypnotizability, testifying the EHS French version's validity and applicability. Many studies have observed a significant and positive relationship between imagining abilities and hypnotic suggestibility (Glisky & Kihlstrom, 1993; Grebot & Paty, 2005). Our findings support these predictions: while correlations remain moderate in size, they likely support the hypothesis about the relevance of the vivid visual images as an essential cognitive process in the processing of hypnotic suggestions. Nevertheless, our study cannot state that vividness of visual images is a predictor about hypnotizability and a fortiori the positive outcomes of hypnotherapy.

Overall, our results support our predictions regarding the relationship between hypnotizability level and attitudes/beliefs towards hypnosis. The results indicated that participants with positive beliefs towards hypnosis are also more prone to accomplish hypnotic suggestions and hence to reach a high level of hypnotizability. This finding is in line with the response expectancy theory, based on the assumption that the ease with which individuals respond to hypnotic suggestions hinge on expectations of particular behaviors in hypnosis (Kirsch & Lynn, 1998; Lynn & Kirsch, 2006). In return, the success of the hypnotic suggestions reinforce beliefs and motivation to respond in conformity with expectancies.

According Lynn and Kirsch (2006), reinforcing people's positive expectations of hypnosis can only maximize the benefits of treatment. Patients' beliefs affect their responses to hypnotic suggestions. Indeed, findings showed that participants who had experienced hypnosis before answering the VSABTH-C tend to affirm positive belief and attitudes towards hypnosis like "fear". In contrast, people who answered to VSABTH-C before experiencing hypnosis (with no past experiment of hypnosis) had negative belief and attitudes towards hypnosis. These results (even if they are collected with a small sample) confirm the need to take into account the beliefs of participants/patients regarding hypnosis in order to strengthen their involvement in the hypnotic experience, particularly with a view to promoting treatment.

These preliminary data showed that the French adaptation of the EHS is an available brief assessment of hypnotic suggestibility, useful for researchers and clinical practitioners. Current measures were collected among a sample of healthy adults and tend to confirm Elkins et al. (2015) findings collected with outpatient clinical settings. Nevertheless, this study deserves to be pursued, in order notably to explore the factorial structure of the EHS (Zimmerman et al., 2023) with a larger sample size in order to confirm the validity and reliability of the French EHS adaptation. Some authors considered that the power analysis for CFA is based on a minimum threshold for sample size (for example, $N = 100$ or $N = 200$, Kline, 2015), taking into account the complexity of the model by proposing a ratio of number of participants per parameter (Bentler & Chou, 1987). Considering this heuristic, the EHS including 12 items, we expect a sample size comprise between 120 and 240 participants for our further study.

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Chapter # 6

APPLYING AWARENESS INTEGRATION THERAPY AS A TRAUMA-INFORMED CARE MODALITY

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ABSTRACT

Individuals impacted by trauma often struggle to process memories, thoughts, and feelings associated with their experiences, which can affect cognitive, somatic, and emotional domains, leading to disrupted self-awareness and autobiographical memory loss (Schoe, 2003). Trauma survivors may hold intensely negative core beliefs, resulting in doubt, despair, and low self-confidence (Lanius et al., 2015; Frewen et al., 2008, 2020). Even when seeking treatment, they may struggle to understand trauma's pervasive impact or avoid addressing it altogether (Center for Substance Abuse Treatment, 2014). This chapter explores Awareness Integration Theory (AIT) as a trauma-informed intervention model, bridging emotional, cognitive, and somatic disconnects to promote mental equilibrium. AIT applies trauma-informed care principles to support healing while preventing re-traumatization. By fostering self-awareness, neuroplasticity, and integration, AIT enables individuals to acknowledge cognitive and emotional patterns, bypass regression, and construct trauma narratives that integrate their emotional, cognitive, and behavioral experiences. Key components of the AIT model include: (a) creating a detailed trauma narrative, (b) identifying psychological disconnects, and (c) reconstructing the story in an integrated framework. Using evidence-based methodologies, AIT empowers individuals to address trauma's impact, restore self-awareness, and advance healing in alignment with trauma-informed care principles.

Keywords: awareness integration theory, trauma-informed treatment, trauma-informed care, trauma narrative, psychological integration.

1. INTRODUCTION

Clinical research studies strongly believe that individuals who have experienced trauma, especially those associated with early childhood maltreatment, often have a distorted and rudimentary sense of self or fall victim to the formation of a sense of self that does not or did not exist entirely (Lanius et al., 2015). Accordingly, in trauma cases, autobiographical memory-related processes may promote biases towards trauma-related processing among individuals with post-traumatic stress disorder, leading to further distortion of the self while compromising self-awareness and a more precise memory recall (Terpou et al., 2019). Understanding the importance of self-awareness and depth of one's thoughts, emotions, behaviors, and triggers offers valuable insights into how past traumatic experiences influence present reality and are a necessity in creating impactful trauma-informed care. In the aftermath of trauma, significant domains of physical, cognitive, and psychosocial are negatively impacted, and it is essential for healthcare professionals who specialize in trauma care to be informed of the vulnerability of the traumatized individual in all domains of physical, psychological, and somatic, and the in-depth disturbances to the self. Insightful trauma-informed care involves more than treating past traumas; it will also include the recognition and proper response modalities customized to the individual patient's needs. Understanding the importance of self-awareness and depth of one's thoughts, emotions, behaviors, and triggers offers valuable insights into how past traumatic experiences influence present reality. This understanding is the foundation of trauma-informed care, a treatment approach that recognizes the widespread impact of trauma and the potential for re-traumatization and is a necessity in creating impactful trauma-informed care.

Choosing the appropriate treatment modality is essential in expediting the process of recovery from trauma. One treatment venue is to focus on specific traumatic experiences while exploring the gravity of impact and the individual's learned coping mechanism before designing the proper treatment plan. Although not universally defined, trauma-informed care (TIC) is an approach that, while recognizing the impact of trauma on the person, avoids re-traumatizing the individual by not directly discussing the trauma itself. According to the United States Center for Substance Abuse (Center for Substance Abuse Treatment, 2014), Trauma-Informed practices reinforce the importance of acquiring trauma-specific knowledge and skills to meet the specific needs of clients, accepting that individuals are affected by trauma regardless of its acknowledgment. TIC stresses the importance of addressing the client individually rather than applying general treatment approaches.

Similarly, Awareness Integration Theory (AIT), an effective trauma treatment modality, focuses on the individual's needs and strengths rather than the sense of powerlessness that ignites the trauma. AIT treats the client as an individual with unique needs and characteristics who uniquely copes with trauma; therefore, by focusing on areas of life that trauma has impacted and integrating the individual's resiliency, one avoids re-traumatization. It builds on the strengths and resilience of clients in the context of their environments and communities (Zeine, 2016). Awareness Integration Theory (AIT) is an evidence-based psychotherapy and psyche-education approach combining ideas from cognitive, emotional, behavioral, and body-mind theories. AIT promotes self-awareness, increases self-esteem, releases past traumas, reduces symptoms of depression and anxiety, and promotes a positive attitude toward implementing new skills for an effective and fulfilling life. The interventions promote the release, followed by integration through interventions that connect core beliefs, emotions, and the body. AIT enhances present-time mindfulness, clears the past, and envisions and creates a healthy future. Studies indicated a 60-76% decrease in depression, a 50- 60%

decrease in anxiety, a 43% increase in self-esteem, and a 20% increase in self-efficacy after taking part in AIT approach.

AIT has been modeled and implemented in various practicum modalities, including in-person, group settings, seminars, and online workshops. The audience comprises professional coaches, licensed therapists, educators, and healthcare professionals interested in a comprehensive, high-efficacy methodology to enhance their profession. The AIT practicum, offered globally with culturally competent modes, is a comprehensive program that can significantly enhance the professional skills of AIT and has been extensively used in various practical settings such as in-person sessions, group settings, seminars, and online workshops. The AIT trauma-informed care certification training is designed for professional coaches, licensed therapists, and healthcare professionals seeking a comprehensive, high-impact approach to enhance patient/client care skills. The certification training is specifically designed to equip participants with the necessary expertise. It offers two types of training: 1) Individual professional trainee and training the trainer, empowering certified participants to train others in AIT principles.

2. OBJECTIVES

This chapter aims to demonstrate how Awareness Integration Theory (AIT) utilizes a trauma-informed care modality by emulating such principles as integrating a safe space, setting boundaries and empowerment, and a spirit of collaboration. The authors will delve into the evidence-based research that supports the application of AIT as an effective model for helping individuals impacted by traumatic events who suffer from the consequences of complex trauma disorder. Further discussions will entail the construct, antecedent, importance of self-awareness, the somatic impact of trauma, and how an encompassing treatment approach, where the healthcare professional investigates, recognizes, and addresses all areas of deficiencies, is the most effective technique in developing a TIC protocol.

3. METHODS

The methodology used to develop this review/observation chapter was accomplished by using search engines such as PsychINFO, PubMed, Google Scholar, and Web of Science databases to identify relevant articles on topics such as “trauma-informed care,” “TIC philosophy,” “self-awareness and TIC,” “TIC treatment efficacy,” and “holistic approach to TIC.” The authors exercised extreme caution to prevent unintentional bias, duplicity or disuniformity in terminologies, and interference with other contributory factors. This meticulous approach ensures the objectivity and reliability of our review. The initial search for scientific peer review related to research produced 85 similar or relevant articles, which were screened again for inclusion and exclusion criteria. In the final stages of screening, the authors concluded the search by selecting 20 articles that met the criteria for the research objectives of this chapter. Although an in-depth review of a scientific introductory topic, this chapter is NOT a systematic review; as a review methodology, the researchers selected articles with keywords grouped into two main categories: 1) A group of keywords was set to identify articles whose goal of the study was to investigate the efficiency of TIC programs, and 2) The next category was groups of keywords used to describe or highlight the multifactorial and various factors leading to effective TIC treatments.

4. AWARENESS INTEGRATION THEORY EFFECTIVITY

AIT's effectiveness as an online and in-person psychotherapy treatment has been researched numerous times. Historically, AIT has been the subject of numerous research studies conducted on multiple applications of treating mental health disorders such as depression, anxiety, and stress reduction. Personal Growth Institute researched AIT's F2FC therapeutic sessions, showing a decrease in depression by % 76 and anxiety by %60 while increasing self-esteem by %43 and self-efficacy by %20 (Zeine, Jafari, & Forouzes, , 2017a). A study on the American college student population using the Awareness Integration Theory in a hybrid modality showed an overall 68% decrease in depression and a 21.72% decrease in anxiety (Zeine, Jafari, & Haghighatjoo, 2017b). In a workshop setting, the AIT has also been tested on separated or divorced individuals, resulting in a 27.5% improvement in depressive moods, a 37% decrease in feelings of anxiousness and anxiety while showing a 15% increase in self-esteem, and a 13% boost in self-efficacy (Madani & Zeine, 2022). Additional studies utilizing AIT via telehealth resulted in a decrease in anxiety by %50 and an increase in self-esteem by %60, and in another case study, decreased depression by %66, anxiety by %75, and post-traumatic stress disorder (PTSD) symptoms by %66 (Zarbakhsh & Zeine, 2023).

5. AIT AS A TRAUMA-INFORMED CARE CONSTRUCT

A Trauma-Informed approach fully integrates knowledge about trauma into all aspects of life to recognize the signs and symptoms of trauma without the possibility of re-traumatization (Substance Abuse and Mental Health Services Administration (2014). To do so, the following five guiding principles offer the structure of 1) safety, 2) choice, 3) collaboration, 4) trustworthiness, and 5) empowerment (Harris & Fallot, 2001).

The AIT Trauma-Informed Care approach aims to understand the pervasive nature of trauma inflicted on the individual while promoting a healing environment and avoiding re-traumatization. Using AIT, the practitioner provides a physically and emotionally safe environment for establishing trust and boundaries, supporting autonomy and choice, creating collaborative relationships and participation opportunities, and using strengths and an empowerment-focused perspective to promote resilience. These principles of Trauma-Informed Care work to reduce re-traumatization and promote healing (Zeine, 2016).

5.1. AIT - A Practicum Approach

Awareness Integration Therapy, AIT is a multi-modality psychotherapy approach that promotes clarity and positive attitudes by increasing self-awareness, releasing past traumas, unblocking psychological barriers, and envisioning a desired future. AIT encompasses interventions from prior models such as Cognitive Behavioral Therapy (CBT), Emotion Focused Therapy (EFT), Humanistic and Existential psychotherapy, Solution Focused Therapy, Rational Emotive Behavioral Therapy (REBT), Mindfulness, and Trauma-informed approaches. AIT has an advantage over other psychotherapy approaches since it is a comprehensive model. It incorporates cognitive, emotional, physical, and behavioral factors as they develop a trajectory leading to their construction of future fulfillment in life, in addition to helping the client deal with the past and the present.

AIT differs from previous models in that it focuses on dismantling false core ideas a person has allocated to herself or others. The person's identity, previously concentrated on trauma, is shifted. Every area of the client's life is infused with neutral or constructive

functional concepts and attitudes. Instead of just disputing beliefs, AIT dismantles the selected and assigned core beliefs to prevent the trigger from being activated by challenging or replacing them with adaptive surface ideas, emotions, and actions. As a result, the client adopts a healthy persona and enjoys long-term changes (Zeine, 2023).

5.2. The Nine Principles of the Awareness Integration Therapy

In a practicum setting, AIT offers comprehensive training comprised of two curricular learning: An in-depth understanding of the nine foundational principles explaining the grassroots of the theory and b) hands-on learning of the six phases that will help the client through the including a certified trainer who is well-versed in teaching AIT's principals will:

1) Reality is the observer's or perceiver's experience. Every human observes, perceives, and creates reality based on their current state of being beliefs, emotions, and behaviors. Human beings are agents of change and, thus, co-creators of their universe.

2) Every human being has the capacity and potential to gain the skills required for a fulfilling, joyful, functional, and successful life.

3) Physical and psychological development, personal experiences, and imitation of parents, teachers, peers, media, and society all contribute to skills acquisition.

4) The human mind interprets and produces meaning for all external inputs internally, resulting in a subjective reality that may differ from actual occurrences and other people's realities. One builds formulas, beliefs, and personal identities that relate to oneself, others, and the cosmos through the imagined reality.

5) Humans preserve their experiences cognitively, emotionally, and physically. The unintegrated experiences are waiting to be integrated. Negative core beliefs, both the feelings they cause and the location of the body experiencing the emotions at the time of the original incident, reappear in automatic thought patterns regularly. These negative fundamental beliefs foster a survival-oriented attitude. This attitude is prompted by an occurrence and results in an outcome that prevents the individual from obtaining optimal performance.

6) Neutral and positive attitudes, beliefs, and emotions can be experienced as the unintegrated belief-emotion-body state is attended to, released, and integrated into the system. The human organism has a self-organizing and self-management mechanism that keeps the system balanced and maintains a homeostatic condition. If this process is

overburdened, compartmentalization temporarily restores the system to balance. If these compartmentalized states are merged back into the overall system, the system will be in balance in the long run. As a result, when a traumatic memory is accessible and the system is activated, the information is sent to an adaptive resolution and then integrated.

7) Through self-awareness, integration of one's experiences, and the formation of conscious choices about beliefs, emotions, and behaviors, one can choose a positive attitude to develop a new, positive reality and, as a result, achieve the desired results.

8) In a neutral and positive environment, new skills can be learned and practiced, improving life's capacities, experiences, outcomes, and relationships.

9) Conscious intentionality and picturing a desired result, together with excellent planning and timed action plans, increase the likelihood of achieving the intended results in all areas of life (Zarbakhsh & Zeine, 2023).

5.3. Six-Phase Ait Intervention

Phase I - This intervention phase aims to raise client awareness of how their perceptions, mental processes, emotions, and behaviors relate to their external surroundings and how those attitudes affect their day-to-day existence. Among the questions being asked

at this level are: What comes to mind when you think about (someone or a particular life idea)? How do you feel about (people or ideas in a specific area of life)? How do you interact with (individuals or concepts in a specific area of life)? How does your attitude toward (individuals or ideas in a specific area of life) impact your life and the lives of others?

Phase II - Includes three goals as follows: To A) Increase the client's awareness of how they project other people's thoughts and feelings toward them; B) Improve the client's capacity to observe how other people behave toward them and the meanings they attribute to that behavior; and C) Identify how these constructs affect the client's life. The following

queries are included in this phase: What do other people think of you? What do you think people think of you? What activities do you see from others, and what meaning do you attribute to these actions? How do your assumptions affect your life and the lives of others?

Phase III - *Aim* to raise client awareness of their ideas, feelings, and behaviors regarding their identity in each area and how their identity interacts with and reacts to these many areas. The following questions are posed: What are your feelings about yourself in this area? How do you see yourself in this situation? What is your attitude toward yourself? And what about your attitude toward yourself?

Phase IV - Directs the experience of connecting thoughts, formulae, and schemas with emotions and the physical parts that preserve and reflect powerful emotions. This procedure is required when the client discovers a negative core belief about themselves or the world with a strong emotional charge. In this phase, the core belief is linked to the emotion held in the body and the associated memory that initiated the belief, releasing negative core beliefs, hidden intentions, shadows, and emotions locked in the body. This technique also makes one aware of one's ability to be with, tolerate, and manage emotions successfully.

Phase V—The client commits to living a desired life by thinking, feeling, acting on new and selected values, and developing a healthy, workable attitude and identity. As a result of this new commitment, short—and long-term goals and dates will be set, and detailed action plans will be developed to accomplish the desired result. At this point, the therapist will identify which abilities the client has mastered and which still need to be developed.

Phase VI - Attempts to develop a long-term framework that will serve as a feedback loop to ensure the continuation of the action plans and the desired and actualized results. Visual collages, audio recordings, and symbolic rituals are all examples of form (Zarbakhsh & Zeine, 2023). AIT seeks to uncover and integrate the fragmented components of the "Self" caused by upbringing or psychological traumas, heal the past, envision the future, and consciously live in the present time. This complex process involves becoming conscious of negative thoughts and damaging mental and emotional coping mechanisms established in one's fundamental beliefs and replacing them with constructive, functional, and positive conceptions (Zeine, 2021).

The AIT training programs are offered at two levels: a) At the professional level, the participant learns the principles and all the phases in a practicum setting, where they can help individual clients; b) The other level is suited for licensed psychologists, who would receive supervised training in addition to the curricular content training. Upon completing the comprehensive and practicum training, an AIT-certified professional feels confident in assisting their clients in their journey and enhancing their client assistance skills.

6. THE ANTECEDENT OF GENETICS AND SELF-AWARENESS

A high degree of stress brought on by traumatic experiences can lead to the malfunction of the brain reward circuitry. Dopamine neurotransmitters responsible for pleasure, learning, and motivation can run low or be blocked from reaching the intended brain receptors by

stress. Low dopamine secretion in a stressed individual may lead to unhealthy behaviors and post-traumatic stress disorder. Blum and colleagues have linked this poor circulation of dopamine to Reward Deficiency Syndrome (RDS) (Blum et al., 1996; Blum et al., 2000). Dopamine deficiency may also be correlated to hereditary and genetic dispositions.

Conversely, PTSD shares many genetic influences common to other psychiatric disorders. For example, PTSD shares 60% of the same genetic variance as panic and generalized anxiety disorders (Blum et al., 2012). Anxiety and depressive moods interfere with the accuracy and clarity of self-awareness and decrease dopamine secretion. However, Increased dopamine improves the retrieval accuracy of self-judgment (autonoetic, i.e., explicitly self-conscious) metacognition memories (Joensson et al., 2015). To develop a trauma-informed recovery plan, the clinician must be aware of all the intricate parts of trauma-induced factors and the client's inner capacity to fight the inner demons.

7. DISCUSSION

The Awareness Integration Therapy aims to promote awareness and integrate all fragmented elements of the self from the past into the present. The basic approach of AIT entails recognizing clients' negative and irrational core beliefs that have stemmed from a little or big trauma, the cognitive or emotional formulas clients have developed as coping mechanisms, and the identities they have created, maintained, and operated to survive and upgrade them to a workable narrative for the current conditions of the client's life. AIT enables the release of emotional and bodily charges from unintegrated experiences, memories, and negative belief systems. Using AIT, clients are guided through six phases by an organized set of questions in all areas of life relevant to the client's life, such as career, finances, intimate relationships, parents, children, etc. Each phase includes questions and a distinct goal (Zeine, 2016). AIT's trauma-informed care uses the five guiding principles recommended by the Institute on Trauma and Trauma-Informed Care (2015) and a final phase of awareness integration: safety, choice, collaboration, trustworthiness, empowerment, and integration (Blum, 1997).

7.1. Safety

Globally, healthcare professionals unanimously follow the universal 'Precautions Law,' which mandates safety first (avoiding exposure to harmful substances) when treating clients. In trauma-informed care, the same principle is practiced when treating clients with traumatic experiences (Bloom, 1997). AIT trauma-informed care integrates awareness and self-discovery to ensure the client's physical and emotional safety by addressing what has impacted the individual rather than what is wrong with them. Since AIT is a client-centered approach, it allows for the safety of the client from the first session. The therapist and client collaborate through open-ended inquiring questions, investigating information from their subconscious world and delicately bringing it to the surface to be chosen or purged. Explaining the six phases and what the client can expect every session allows trust to be built for the client to enable the process to unfold (Zeine, 2016).

Phase One intends to raise the client's awareness of their perceptions, emotions/feelings, and actions about their external environment and how those constructions affect their life. During this stage of therapy, generalized belief systems, dualities, responsibility, and accountability toward a particular attitude create specific results and impacts in life (Zeine, 2016).

7.2. Choice

Having choices and control over what they can expect through AIT integration of traumatic experiences encourages the client to stay steadfast in their commitment to recovery (Zeine, 2016; Blum, 1997). The AIT technique includes a) creating the trauma narrative script accounting for the sequence of events that led to the traumatic experience, b) empowering the individual by reviewing the story and finding the internal psychological disconnects, c) recreating the narrative in an integrated modality connecting the emotional, cognitive, and behavior domains of self and moving forward. Trauma-informed AIT phase two consists of three functions:

1. Raising awareness of the client's projections of others' opinions and feelings about them.
2. Improving the client's ability to observe others' behavior towards them and the meanings the client attributes to that behavior.
3. Identifying how these constructs impact the client's life.

This phase significantly impacts recognizing how much a client lives in their assumptions about others' intentions and lives based on those assumptions rather than relating to others through direct communication and clarity.

This phase also supports reality-checking false beliefs or assumptions about others or concepts.

7.3. Collaboration

AIT helps clients learn the importance of collaboration, which can result in more choices and help them positively experience their treatment journey (Keesler, Green, & Nochajski, 2017; Zeine, 2016). Additionally, the more choice an individual has and the more control they have over their service experience through a collaborative effort with service providers, the more likely the individual will participate in services and the more influential the services may be. Phase Three strives to increase clients' understanding of their thought processes, feelings, and behaviors concerning their identity as they take on a role in different areas of life. This is the most significant phase since it focuses on the client's understanding of their identity, and these questions, in particular, capture the client's core beliefs about themselves, how they feel and value themselves, which determines their self-esteem, and whether they treat themselves with nurturance or harshly (Zeine, 2016).

7.4. Trustworthiness

Establishing boundaries and consistency can be evident in establishing consistent boundaries and clarifying what is expected regarding tasks¹². The overarching goal of Phase Four, the most complex of the six AIT phases, is to deepen the therapeutic process so that the therapist successfully guides the client toward discovering, acknowledging, and owning the emotional meanings that the individual has often unconsciously assigned to her significant and traumatic past experiences in terms of her thoughts, emotions, and body responses. The therapist assists the client in identifying, fully experiencing, and then clearing the impact of the previous and ongoing assignment of emotional meanings, thereby facilitating the client's liberation from the invisible memory chains that have kept the individual in a chronic state of fear, sadness, anxiety, or other multiple negative emotions that are maladaptive in her current life. Each network of negative fundamental beliefs, related feelings, and body location represents a combination code to a specific memory. For this network to be disassembled, it must be regarded as significant to link to the memory that the client first gave the meaning to the self. The original memory is accessed, connections changed, and

then stored with these new modifications in a neurobiological reconsolidation process. The association of the event with powerlessness and helplessness modifies toward strength and resiliency that is recognized and acknowledged at the time of the event. The concept of "bridging" or closing the gap between the vulnerable state, which has become stuck in time, and the resilient survived one today is also included in Phase Four. This bridging condition is characterized by integrating all aspects of the self into a system that is not segmented or separated (Zeine, 2016).

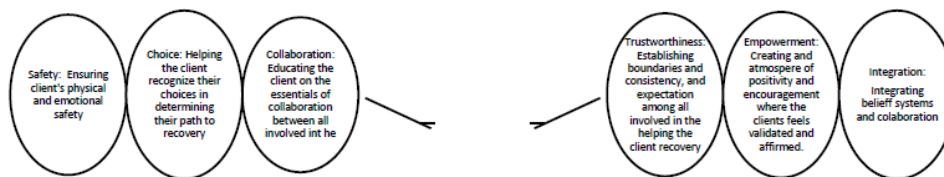
7.5. Empowerment

AIT helps individuals identify and recognize their strengths and build vital interpersonal allies (Blum, 1997). Finally, focusing on an individual's strengths and empowering them to build on them while developing more vital coping skills provides a healthy foundation for individuals to fall back on if and when they stop receiving services. In Phase Five, the therapist investigates the client's selected values concerning areas of life previously discussed. Encouraging clients to think, feel, and act to actualize a chosen value system from their robust and proven skill set will result in a desired attitude and identity. Short and long-term goals are created and scheduled due to this new commitment, and action plans are set to achieve the intended outcome. During this phase, the therapist determines the client's abilities and skills that require improvement. The ability to choose who one wants to be and act creates a powerful identity and a fulfilled life (Zeine, 2016).

7.6. Integration

In Phase Six, the client selects a set of values, situationally suitable emotions, and behaviors from which to operate and live. The client then designs an external symbol or structure as a reminder to reinforce these beliefs and self-programming. Collaborating with friends, family, colleagues, and the community to form sustainable structures around goals ensures attaining a fulfilled life (Zeine, 2016). See Figure 1.

Figure 1.
Incorporating AIT in trauma-informed therapy. Adapted from (Keesler et al., 2017).



8. CONCLUSION

Clients seeking treatment to combat their pain, terror, and loss of past trauma face an uphill battle mainly due to unconscious resistance, such as genetic antecedents, unchecked self-awareness, or lack of integration of the human psyche (mind, body, spirit), can interfere with the individual's recovery efforts. Genetic testing, such as GARS, is vital to exploring the possibilities of dopamine and RDS. To design realistic trauma-informed recovery strategies, a parallel process of recovery combining GARS and AIT seems to be a win-win situation. We can confidently say that the number of individuals with trauma-induced mental illnesses is on the rise. As complicated as such a parallel system may be, it represents a

recovery movement and the drive for trauma-informed care. What needs to be added is a heightened awareness of the interconnected, living nature of our systems and a recognition that significant changes in one part of the corporate “body” can only occur if the whole body also changes.

Accessing the memory and creating healthier schemes (memory narratives) requires integrating mind, body, and spirit. Clients may consciously seek treatment yet be unable to fight the destructive forces of the unconscious mind. On the other hand, the genetic antecedents of dopamine deficiency may be the culprit in the process of treatment, adversely impacting the healing process. The foreknowledge of the roots of trauma-induced mental health crises can help develop recovery strategies based on Awareness Integration Theory, which can be instrumental in providing a safe and empowering space for clients to work through their painful memories and rebuild new cognitive pathways.

Recognizing and responding in the broader scope of care when treating patients with past traumatic experiences is vital for health career professionals trained in trauma-informed care, which will encompass more than meeting the client's need for safety, alliance, compassion, and empathy. Beyond the foundations of trauma-informed principles, a treatment protocol must address all aspects and domains of the impact of trauma, such as the physical, somatic, cognitive, psychosocial, distorted sense of self, belief system, and lack of self-awareness. This chapter offers an in-depth discussion of the rationale for addressing trauma in behavioral health services and reviews trauma-informed intervention and treatment principles. Adhering to the philosophy of TIC, Awareness Integration Therapy (AIT) utilizes principles that holistically encompass the client's treatment and is successfully implemented in various practical formats, including in-person sessions, group settings, seminars, and online workshops. It offers a global reach with culturally competent modes. This comprehensive program is ideal for professional coaches, licensed therapists, educators, and healthcare professionals seeking a high-impact methodology to enhance their skills.

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Section 2
Psychoanalysis and Psychoanalytical
Psychotherapy

Chapter # 7

MORAL MASOCHISM IN SUBSTANCE USE DISORDER: THE PERSPECTIVES OF PSYCHODYNAMIC THERAPISTS

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ABSTRACT

The current study aimed at investigating the manner in which psychodynamic therapists conceptualise and treat moral masochism in patients who use substances. A qualitative methodology was adopted for which five psychodynamic psychotherapists informed by diverse psychodynamic theories and experienced in working with Substance Use Disorder (SUD) were recruited. Five in-depth, semi-structured interviews were conducted with participants and data was analysed using Reflexive Thematic Analysis (RTA). The study yielded several key findings, including the existence of common factors linking moral masochism and substance use-related behaviours, such as the presence of dependency, aggression and a sense of disconnection and emptiness. Themes elicited from the data also included possible motives underlying patients' behaviours, shedding light on how, according to therapists, patients deploy these as coping strategies, defence mechanisms, methods for achieving a temporary sense of control and as attempts to expiate guilt. Essential considerations for therapists treating this patient group were also highlighted, including the relevance of recognising the self-sustaining cycle powering morally masochistic and substance use-related behaviours. Particular transference challenges faced when treating such patients were also considered. The importance of reflexive practice in order to help navigate specific emerging issues of transference and countertransference was also emphasised.

Keywords: substance use disorder, moral masochism, psychodynamic psychotherapists, reflexive thematic analysis.

1. INTRODUCTION

The concept of moral masochism was first conceptualised by Sigmund Freud in his 1924 paper “The Economic Problem of Masochism”, in which he described moral masochists as individuals who experience extreme sensitivity of conscience and moral inhibition that they themselves are not conscious of. Gavin (2010) described how moral masochists, in effect, become confused victims of both their external environment and their own self-sabotaging repetitive behaviour. Within this particular study, this phenomenon was explored in relation to individuals suffering from Substance Use Disorder (SUD), which is defined by the Diagnostic and Statistical Manual of Mental Disorders -DSM 5-TR (American Psychiatric Association, 2022) as “a cluster of cognitive, behavioural and physiological symptoms indicating that an individual continues using a particular substance despite significant substance-related problems” (p. 483).

1.1. Relevance of the Study

This concept of moral masochism is relevant to study in the context of SUD due to the fact that existing literature has often implicitly linked moral masochism to excessive substance use without the nexus being studied in great detail. The goal of studying moral

masochism within the context of SUD is to further clarify dynamics behind these individuals' substance use problems and the relationship that they have with themselves, as observed by the professionals that help them. The rationale behind choosing to investigate this particular research topic from a psychodynamic perspective is due to the fact that moral masochism is a term that was initially coined by the psychoanalytic school of thought, which tends to engage in a more in-depth analysis of the phenomenon. By attempting to add a layer of depth to professionals' understanding of the patient-therapist relationship with these particular patients, this study aims to help therapists treat these patients in a more holistic way, leading to more profound and longer-lasting positive change.

Drug use is proving to be a significant contemporary issue. The UN office of Drugs and Crime (UNODC, 2024) describes how newly emerging synthetic opioids and a record supply and demand of drugs have exacerbated the world drug problem. This has caused drug use to rise to 292 million people in 2022, which shows a 20 per cent increase over 10 years. By investigating drug use and its treatment from a psychodynamic perspective, this chapter aims to generate new creative solutions to this prevalent issue. This aligns it with the aims of the current volume, namely to promote knowledge and apply research to the service of society, thus rendering it appropriate for inclusion within it.

2. BACKGROUND

The following section reviews some of the different views within the existing psychodynamic literature on moral masochism, excessive substance use/addiction and the connections between these two phenomena in order to provide some context for this research.

2.1. The Psychodynamic Conceptualisation and Treatment of Excessive Substance Use

Early psychodynamic conceptualisations of substance use often linked disturbances or fixations in development to addiction (Matusow & Rosenblum, 2013). However, ego psychology took a broader view of the context of patients with addictions, emphasising the role of genetics, co-occurring psychological disorders and the effects of the chemical composition of the consumed substance (Matusow & Rosenblum, 2013). Underdeveloped ego functions, such as judgment, impulse control and reality testing in relation to addiction, are also emphasised by ego psychology (Bellak, Hurvich & Gedeman, as cited in Alvarez-Monjaras, Mayes, Potenza, & Rutherford, 2019).

Object relations theorists and practitioners shifted their focus to the importance of early relationships in relation to substance use. Klein (1946) used an object-relations lens to posit that addicted individuals may view their substance of choice as a concretely good object in the outside world in the absence of good internalised objects inside themselves. Jung (1961), writing from an analytical psychology perspective, referred to alcohol as “spiritus contra spiritum”, describing how a craving for alcohol can be considered to be a misfired equivalent to a spiritual thirst for wholeness. The modern psychoanalytic conceptualisation of substance use still tends to focus on intrapsychic phenomena as well as the context of the individual using the substance as opposed to viewing substance use from a disease model lens (Matusow & Rosenblum, 2013).

Some contributions that psychodynamic theory has made with regard to modern treatments for SUD include an emphasis on acknowledging the presence of defence mechanisms working against the self (Punzi & Lindgren, 2018) and on maintaining a positive therapeutic alliance built on qualities like empathy, mutual respect and kindness (Khantzian,

2012). Psychoanalysis may help substance users understand the deeper, often unconscious motives behind their addictive behaviours, while also aiding more positive relationship models to become internalised (Matusow & Rosenblum, 2013). Finally, it is interesting to note that Carl Jung's insights about alcoholism are central to Alcoholics Anonymous' cornerstones of treatment that essentially revolve around spiritual transformation (Forcehimes, 2004).

2.2. The Psychodynamic Evolution of the Concept of Moral Masochism

Ego psychology goes beyond Freud's (1924) initial conceptualisation of moral masochism, offering a more holistic understanding of how moral masochism functions in an individual's life by adding the dimension of ego adaptive functions and ego defence mechanisms. From this perspective, moral masochism can be seen as a form of compensated masochistic adaptive functioning that attempts to repair a damaged ego but fails easily under stress (Socarides, 1958).

An object-relations perspective also views moral masochism as a defensive strategy rather than a suppressed destructive drive that seeks gratification (Gavin, 2010). From the object-relations perspective, repression of aggression is once again an important consideration, with the motive for this repression being the avoidance of losing one's love object (Gavin, 2010). The parent-child relationship also becomes an important consideration here, which if too negative due to possessiveness, rejection or indifference, may lead to the internalisation of a punishing inner mother (Lebe, 1997).

The analytical or depth psychology perspective notes the difference between masochism and sacrifice, as masochism, unlike sacrifice, is self-chosen pain for its own sake that does not serve a larger goal or purpose (Gordon, 1989) and poses a problem due to its repetitive nature (Kutek, Hinton, & West, 2006). In her speculative thesis reviewed by Stein in 2015, Gordon (1987) hypothesised that masochism is closely related to human beings' archetypal need to worship a deity, something that transcends the personal self. However, masochism is the expression of the shadow aspect of this need as the experience of pain has become the end to itself rather than a means of surrendering egotistical needs to reach self-transcendence (Gordon, 1989).

The psychodynamic literature also considers the effect of moral masochism on the therapeutic relationship. Freud (1924) first observed what he called the "negative therapeutic reaction" or negative transference in his patients suffering from moral masochism. He described how patients attempt to satisfy their unconscious sense of guilt by increasing resistance during therapy and by sabotaging positive therapeutic progress (Freud, 1924). Gavin (2010) emphasised the importance of therapists being aware of any sado-masochistic transference dynamics arising during the therapeutic relationship so that they are able to refrain from automatically reacting to them. This author advocated the importance of taking a curious and exploratory stance towards this particular therapist-patient relationship instead.

2.3. The Relationship between Excessive Substance Use and Moral Masochism

The psychodynamic literature reviewed for this study has revealed several relevant factors connecting the phenomena of moral masochism and excessive substance use. For instance, Gavin (2010) referred to the appearance of early relational trauma, particularly traumatic caregiver-child relationships, in the aetiology of both moral masochism and SUD. This author also stated that excessive substance use tends to be familiar in people who present with masochistic behaviour in clinical practice. Rizzolo (2017) mentioned how patients presenting with moral masochism may engage in addictive behaviour due to disavowed narcissistic needs.

Sigalas (2020) made a direct link between excessive substance use and moral masochism, stating that some individuals who engage in excessive substance use present with a sense of worthlessness and with a need for self-punishment. According to Sigalas (2020), the intrapsychic examination of those who use substances may yield the conclusion that the substance users' compulsive drive towards self-destruction is itself driven by a need for self-punishment. In fact, Freud's notion of the "negative therapeutic reaction", where the patient seems to prefer to hold on to suffering rather than recover, was observed by Sigalas (2020) during his clinical work with substance users. Punzi and Lindgren (2018) also described the self-contempt, primitive defences and self-attacking tendencies evident in their participants who used substances. Ernst Simmel, as cited in Matusow and Rosenblum (2013), linked substance use to masochism by stating that addiction was a form of transmuted aggression against an introjected loved yet hated object. Stein (2015) attributed masochism to the demystification of modern culture and also discussed the manner in which this loss of meaning is often replaced by ideology, celebrity, sex, money and even drugs, an interpretation that may provide a common cause for both excessive drug use and masochism.

3. OBJECTIVES

This study aims to investigate the manner in which psychodynamic psychotherapists conceptualise and treat moral masochism in people suffering from SUD. It aims to shed light on psychodynamic psychotherapists' understanding of the phenomenon and the forms in which they encounter it in their patients who use substances. It also seeks to explore the manner in which they manage it.

The study also endeavours to meet several objectives through this research question. One of these objectives is to compare and contrast the various perspectives of psychodynamic therapists, who subscribe to diverse schools of psychodynamic psychotherapy, on moral masochism. Another objective is the exploration of the particular transference/countertransference-related challenges encountered by psychotherapists within this particular kind of therapeutic relationship. The possible role moral masochism may play in the aetiology and perpetuation of SUD from the perspective of psychodynamic therapists and the implications this may have for treatment is also investigated.

4. METHOD

In this section of the chapter, the rationale behind the chosen research design will be discussed, together with an explanation of recruitment strategies, data collection methods and the process of data analysis.

4.1. Research Design

A qualitative research design was deemed the most suitable option for this study due to its focus on eliciting the experience, meaning and perspectives of participants (Hammarberg, Kirkman, & de Lacey, 2016). This is because the focus of this research study is the psychodynamic therapists' perspectives and the way they are able to make their own conceptualisations through blending theoretical constructs on moral masochism and SUD with the understanding gleaned from their clinical experience.

4.2. Participant Recruitment

Bearing in mind the research question and aims of the research study, the inclusion criteria for participation in this study were:

- Being a psychodynamic psychotherapist or a psychologist in psychotherapy working from a psychodynamic approach.
- Having a strong background in any one school or several schools of psychodynamic theory.
- Being familiar with or having some experience working with SUD.
- Having an ability to understand and explain patients' difficulties from a psychodynamic perspective.

Five psychotherapists or psychologists in psychotherapy with a background in psychodynamic theory and who have worked with patients who suffer from SUD were recruited for this study via convenience sampling. Thus, sampling was conducted in a non-random manner where members who met the inclusion and exclusion criteria for the study were selected according to ease of accessibility and willingness to participate (Etikan, Musa, & Alkassim, 2016). This sampling method was deemed suitable for this study due to the specific population being studied, as professionals who have both a background in psychodynamic therapy and experience treating SUD are not very widely available in Malta. The selected participants included therapists trained in different psychodynamic schools. Two of the participants hailed from an object relations approach, while another was more inclined to take a Jungian/depth psychology approach when working with patients. Lastly, the other two participants preferred to take an integrative psychodynamic approach in their practice. Two of the participants interviewed were male and three were female. The amount of clinical experience working with patients who suffered from substance use disorder ranged from six months to 36 years. As the study was concerned with investigating the perspective and experience of all psychodynamic therapists, the variety of participants and their levels of experience only served to render the data richer, rendering demographics such as sex, gender or age irrelevant to the inclusion or exclusion criteria for this study. As the study is more interested in depth of data and perspectives than breadth, five participants were a sufficient sample to allow for data analysis through reflexive thematic analysis to reap valid results.

4.3. Data Collection

Each participant took part in an in-depth semi-structured interview which lasted between 60-90 minutes. This interview style, with its blend of open- and closed-ended questions, encourages follow up “how” and “why” questions to interviewee answers (Adams, 2015). It offers the opportunity to address both the specificity of the topic of interest and the need to allow sufficient space to explore the participant interpretations and meanings, thus imbuing the study focus with new significance (Galletta, 2013). The interview schedule included questions that were guided by theory and open to lived experience (Galletta, 2013). The structure of the interview consisted of asking participants questions regarding clinical experience and professional background, such as patient groups they work with and the psychodynamic theoretical framework that informs their practice, and regarding more specifically their experience with patients who engage in excessive substance use and behaviours related to moral masochism. Questions about what they think moral masochism means and how they feel it relates to SUD were also asked. During the concluding segment of the interview, participants were asked to talk about how they believe moral masochism affects the therapeutic relationship and on implications for treatment.

4.4. Data Analysis

The method of data analysis chosen for this study was Reflexive Thematic Analysis (RTA) as proposed by Braun and Clarke (2006, 2016, 2021). RTA can be defined as a method of analysis and interpretation of patterns across a qualitative dataset through engagement in

the process of data coding for the purpose of developing themes (Braun & Clarke, 2021). The rationale behind choosing RTA to investigate this particular topic is its usefulness in identifying patterns both within and across data when it comes to different participants' experiences and points of view (Braun & Clarke, 2016). It was therefore deemed suitable for this study since one of the objectives is to compare and contrast participants' different conceptualisations. The RTA process entailed data familiarisation and verbatim transcription of all the data collected, with a noting of any interesting meaningful patterns. This was followed by the collating and labelling or coding of data into meaningful groups. Finally, codes were sorted into potential overarching themes through the use of a thematic map (Braun & Clarke, 2006; Campbell et al., 2021). The final phase of the RTA process consisted of the reviewing of elicited themes and the identification of any coherent patterns at the level of the coded data and the whole data set, appropriately refining codes and themes, collapsing overlapping themes into a single theme and making sure there was enough data present to support each theme (Braun & Clarke, 2006; Campbell et al., 2021). Six main themes were elicited from the data, each subsuming its own unique set of sub-themes. These themes and sub-themes are presented in the table hereunder and will be discussed in further detail in the following section of this chapter.

Table 1.
Table showing the themes and subthemes elicited from the data.

Themes	Subthemes
The ego and the self	Dependency
	Splitting
	An inadequate self
Aggression in and out	Rejection of love
	Punishment towards self and other
	Envy
A sense of disconnection	Dissociation
	Existential emptiness

Themes	Subthemes
Underlying motives	Coping strategy
	Mechanism of defence
	The quest for control
	Guilt and reparation
	The shadow self
	Religion as fuel for moral masochism
Essentials for therapists	Recognising the self-sustaining cycle
	The importance of personal life history and context
	Different transference-related dynamics within the therapeutic relationship
Growth and transcendence	Mourning as growth
	Strengthening the ego
	Religion as a support system

4.5. The Ego and the Self

Throughout several of the interviews conducted, it became increasingly clear that the ego, its mechanisms and its level of strength play a central role in the origin and perpetuation of moral masochism and substance use in individuals. The low level of ego strength and the tendency towards dependence exhibited by these patients was discussed. Participants mentioned how in certain patients, the ego becomes dependent on “*turning against the self*” and/or on its drug of choice “*to maintain its stability*”. This aligns with Gordon’s (1987) and Gavin’s (2010) descriptions of people who engage in moral masochism as compliant, passive, helpless and dependent. Participants who work from an object relations perspective also mentioned how these patients tend to engage in “*excessive and aggressive*” splitting mechanisms. This brings to mind Klein’s (1946) view that during excessive substance use, the substance being used represents good external objects in the absence of good internal objects. Participants mentioned how patients presenting with moral masochism and SUD often feel inadequate and “*not good enough*”, in line with Punzi and Lindgren (2018) and Sigalas’ (2020) reference to the presence of self-contempt and a sense of worthlessness in individuals suffering from excessive substance use.

4.6. Aggression In and Out

The concept of aggression towards the self or others was often mentioned, echoing Freud’s (1924/1961) view that moral masochism results from the turning inwards of destructive instinct. Love is rejected in both moral masochism and in substance use, with one participant mentioning a notable “*twist between Eros and Thanatos, love but painful*” in these patients. Another aspect of the presentation of moral masochism and SUD that was

discussed was punishment towards self and others. This sub-theme corresponds with Sigala's (2020) statement that the seemingly compulsive drive towards self-destruction of the person engaging in substance use may indeed be fuelled by a need for self-punishment. When conceptualising these phenomena from an object relations perspective during interviews, the presence of envy was considered an important aspect, especially when discussing the nature of the therapeutic relationship that can arise with such patients. Participants revealed how sometimes patients attempt to damage the therapeutic relationship out of vindictiveness, bringing to light the therapeutic dynamic mentioned by Klein (1957/1975), who postulates that an envious attack might be carried out by the patient against the analysts when their interpretations provide them with relief.

4.7. A Sense of Disconnection

Participants referred to a sense of disconnection in patients, denoted by descriptions such as *"detachment from reality"*, *"derealisation"* and *"almost like entering a trance state"*. There was an emphasis on the importance of clinically assessing these patients' level of *"control"*, capacity for *"inner reflection"* and ability to *"remain responsible"* during emotionally stressful situations. Existential emptiness was another aspect of disconnection that was discussed as a *"primary common trait"* between substance use and moral masochism by one participant. They stated how this emptiness has to do with *"satisfaction or meaningfulness"*, bringing to mind Stein's (2015) assertion that one way of replacing loss of meaning was to resort to substances.

4.8. Underlying Motives

The possible motivations behind morally masochistic behaviour and substance use discussed during interviews may provide some indication of aetiology, thus informing the approach that needs to be taken in treatment. The use of moral masochism as a long-term maladaptive coping strategy and defence mechanism was discussed, such as the use of turning against the self *"to, consciously or unconsciously, gain pity or privileges"* or to *"escape and sweep pain under the rug"*. Moral masochism and substance use were also explored as attempts for gaining control, resonating with Klein's idea of the morally masochistic individual employing projection and introjection as a way of attempting to control external aggression and frustration (Socarides, 1958). Guilt and its expiation were also discussed as drivers for both SUD and moral masochism, corresponding with Freud's (1924/1961) discussion about how excessive ego and superego conflict may give rise to guilt and masochistic pathology, especially in cases where there is a cultural suppression of instincts. This has implications for the Maltese cultural context where the Catholic religion is often practiced as a means of glorifying turning against the self as a *"virtue"* by certain scrupulous individuals. This is in line with Gordon's (1989) and Stein's (2015) discussions about masochism being possibly linked to the misfired attempt to fulfil the archetypal need to worship and venerate. This archetypal Jungian shadow aspect was mentioned during interviews with therapists taking a Jungian perspective, with roles such as the *"helpless victim"* often being observed during therapeutic encounters with both morally masochistic individuals and sufferers of SUD.

4.9. Essentials for Therapists

Throughout the interviews, several issues were discussed that act as important pointers for therapists who work with and treat moral masochism and SUD. One of these is the importance of recognising the self-sustaining cycle of moral masochism and addiction. This is characterised by maladaptive repetitive patterns of behaviour that often feed off each other,

with addiction leading to self-sabotage and self-sabotage leading to addiction as a way of seeking relief. This highly correlates with what Freud termed the repetition compulsion, a term referring to patients' compulsive, repeated exposure to situations resembling their original trauma (Gavin, 2010). Fear of or the unwillingness to change were also discussed as factors that can keep people stuck in this vicious cycle. The different kinds of transference-related dynamics that arise in the therapeutic relationship and the importance of understanding and addressing them in the treatment of this particular patient group was also discussed. Transference-related issues addressed during interviews include the arousal of anger within the countertransference and the emergence of helper-victim dynamics within the therapeutic relationship, both of which could potentially impede therapeutic progress if not understood and addressed.

4.10. Growth and Transcendence

Throughout the interviews, therapists explained the various ways in which they attempt to help individuals transcend and relinquish SUD and morally masochistic behaviours, informed by their own theoretical background and clinical experience. Helping patients learn how to mourn and deal with loss emerged as a possible path towards growth, as this may help patients learn from experience and change their undesirable patterns of doing and being. Participants also emphasised the importance of assessing these patients' ego strength, and that the extent of explorative depth that can be reached in therapy without harming the patient greatly depends on how "essential turning against the self is for the survival of the ego." Leading patients towards gaining awareness of their own difficulties, helping them have more successes in life and bringing to their awareness any of their unacknowledged personality strengths within the context of a safe, strong and respectful therapeutic relationship were all considered as possible ways of increasing ego strength. The support one may experience through forming part of a religious community and the sense of meaning in life that may arise from practicing some form of spirituality were also both discussed as possible healing avenues. This observation echoes Jung's (1961) conceptualisation of the craving towards a substance being a misfired equivalent to a spiritual thirst for wholeness.

5. IMPLICATIONS FOR PRACTICE

One of the main implications for psychotherapy that emerged from the study is the importance of helping patients presenting with moral masochism and SUD find meaning and connection in their lives. Despite this not being a direct aim of psychodynamic psychotherapy, this implication places further emphasis on the need to address this element in treatment. The importance of helping patients gain ego strength through several interventions, together with helping them gain a more internal, rather than external, locus of control, was emphasised. This is significant as both SUD and moral masochism emerged in this study as two different yet coexisting and interlinked forms of an attempt to gain temporary control. The importance of considering patients' life history, personality, issues of impulsivity, childhood trauma, societal and cultural backgrounds, adverse social conditions (e.g. bullying, social rejection and isolation resulting from neurodivergence) was also emphasised. Another therapeutic implication that emerged from this study is the importance of addressing any guilt patients may be experiencing. This is particularly significant given that in the research findings, guilt emerged as a bridging factor between moral masochism and excessive substance use. Helping patients deal with guilt may help decrease the vicious cycle of aggression against the self and the need to seek relief through substance use. Finally, appropriately addressing any transference-countertransference

dynamics also emerged as an important determinant of the quality of treatment received by these patients. Therapists' commitment to maintaining constant sensitivity and genuine, appropriate curiosity when working with these patients was considered crucial. Additionally, therapists' sufficient awareness of their own personal issues and blind spots, attained through personal therapy, supervision and appropriate reflexivity were considered fundamental. They considered these essential in helping them avoid becoming mired in any undesirable transference-countertransference dyads that would impede therapeutic progress.

6. FUTURE RESEARCH DIRECTIONS

Findings elicited from this study offer some interesting possible directions for future research. These include the possibility of a more specific qualitative exploration of the sense of existential emptiness that, as participants agreed, is found in patients presenting with SUD and moral masochism. Another avenue for future research could be the exploration of patients' actual experience of psychodynamic therapy. Comparisons between what patients believe helped them and what their therapists deem therapeutic would also shed further light on the treatment of moral masochism and excessive substance use.

7. CONCLUSION

The key findings gleaned from this study include a number of common factors linking moral masochism and SUD and a number of overlapping motivations underlying these patients' behaviours. These findings also highlighted important issues that therapists must keep in mind regarding the transference-countertransference relationship with such patients. The rich tapestry of complex, coexisting factors highlighted by these findings may help provide psychodynamic psychotherapists with a deeper understanding and clearer direction when treating substance use sufferers who present with elements of moral masochism.

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KEY TERMS & DEFINITIONS

Archetypes: Ancient images present within individuals that have a biological basis and have their origin in the repeated experiences of humans' early ancestors.

Countertransference: The therapist's feelings towards the patient.

Defence mechanisms: Strategies deployed by the ego to avoid dealing with the anxiety that accompanies sexual and aggressive instincts.

Ego strength: Defined by Karush, Easser, Cooper, and Swerdloff (1964) as one's capacity for successful psychological adaptation.

Moral Masochism: Originally defined by Freud (1924) as a "need for punishment" and as a form of "sadism against the self".

Shadow: Morally objectionable tendencies as well as some constructive and creative qualities within individuals that they have repressed and are often unwilling to face.

Splitting: A term derived from object relations theory which refers to a psychological defence mechanism in which a person, usually an infant or child, subjectively separates contrasting aspects of the self and external objects into "good" and "bad", leading to what Klein (1946) termed the paranoid-schizoid position.

Substance Use Disorder (SUD): Defined by the Diagnostic and Statistical Manual of Mental Disorders-DSM-5-TR (American Psychiatric Association, 2022) as "a cluster of cognitive, behavioural and physiological symptoms indicating that an individual continues using [a particular] substance despite significant substance-related problems" (p. 483).

Therapists: A term used in this specific study to denote psychotherapists or psychologists with a background in, and an understanding of, psychodynamic theory who have worked with patients suffering from SUD.

Transference: Any strong, undesired positive or negative feelings that a patient may develop towards their therapist that often stem from earlier experiences with parents.

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Chapter # 8

DEPRESSIVE SYMPTOMS AND HELP-SEEKING INTENTIONS IN UNIVERSITY STUDENTS DURING THE COVID-19 PANDEMIC

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ABSTRACT

Background: The COVID-19 pandemic significantly impacted university students, a vulnerable group with a low tendency to seek help. Aim: To explore the association between students' depressive symptoms and their help-seeking intentions while controlling for gender, fear of COVID-19, and well-being among Slovak university students during the COVID-19 pandemic. Methods: During November and December of 2021, 258 students ($M = 21.86$, $SD = 2.05$; 77.1 % women) from Slovak universities participated in an online survey. Findings were analyzed using the Mann-Whitney U Test and hierarchical multiple regression. Results: We identified three primary sources of help that included informal help from partner, friends, and parents of university students. Women were more likely to seek help from informal sources. Students with prior formal help-seeking (28.2 %) were more likely to seek help from formal sources, such as mental health professionals. Women and students with higher life satisfaction and fear of COVID-19 exhibited a higher level of help-seeking intentions, while those with more depressive symptoms were less likely to seek help. Conclusion: The results of this study support previous findings related to the willingness of young people, especially to use informal sources of help-seeking.

Keywords: help-seeking intentions, satisfaction with life, depressive symptoms, university students, COVID-19.

1. INTRODUCTION

Young adulthood is a significant life stage marked by identity formation, romantic relationships, career choices, and gaining independence, often coinciding with university years (Yelpaze & Ceyhan, 2020). University students are an important segment of the population, poised to become future intellectuals, political leaders, teachers, and doctors, playing a vital role in driving social changes (Kovács, 2018).

On the other hand, this period can be stressful and challenging for students' mental health and well-being (Baik, Naylor, & Arkoudis, 2015; McKay, O'Bryan, & Kahu, 2021). Students face numerous changes, such as forming new relationships, living apart from family, and acquiring new skills, leading to increased anxiety, depression (Barrable, Papadatou-Pastou, & Tzotzoli, 2018), stress, and suicidal ideation (Beks, Cairns, Smygwyat, Miranda Osorio, & Hill, 2018). They report interpersonal conflicts, self-harm, learning difficulties, and career uncertainties (Krumrei, Newton, & Kim, 2010; Çebi & Demir, 2020). Anxiety and depression often stem from academic pressure and post-graduation concerns (Beiter et al., 2015; Sagar-Ouriaghli, Godfrey, Graham, & Brown,

2020), putting university students at higher risk for poor mental health than the general population (Blanco et al., 2008; Beks et al., 2018). Mental illness is prevalent in adolescents and young adults (Kessler & Walters, 1998), yet this group is among the least likely to seek help (Rickwood, Deane, Wilson, & Ciarrochi, 2005). According to the World Health Organization, mental disorders such as depression and anxiety account for about 14 % of the global disease burden (Seyfi, Poudel, Yasuoka, Otsuka, & Jimba, 2013).

The COVID-19 pandemic forced worldwide changes to social life (Arikkatt & Mohanan, 2021), leading to increased psychological distress, depression, anxiety, and panic behaviors (Giusti et al., 2021). It significantly impacted higher education and the well-being of university students. Social distancing, lockdowns, and online learning disrupted students' lifestyles, academic performance, and mental health, requiring flexibility from both students and teachers (Giusti et al., 2021). Students struggled to maintain attention and faced financial instability due to lost on-campus jobs (Žilinskas, Žulpaitė, Puteikis, & Viliūnienė, 2021). A systematic review and meta-analyses on the prevalence of depressive symptoms among students during the COVID-19 pandemic reported that the rate of depressive symptoms was relatively high and higher compared to pre-pandemic levels in similar populations (Deng et al., 2021; Chang, Ji, Li, Pan, & Su, 2021). Di Consiglio, Merola, Pascucci, Violani, and Couyoumdjian (2021) discovered that university students experienced moderate to severe levels of depressive and anxiety symptomatology during the first wave of the COVID-19 pandemic and during the lockdown, female students reported worse depressive symptoms. Conceição, Rothes and Gusmão (2021) found that depressive and anxiety symptoms among university students significantly increased during the first (June 2020) and second wave (March 2021) of the COVID-19 pandemic. Moreover, some students with increasing depression and anxiety symptomatology did not accept the professional help of psychotherapy (Di Consiglio et al., 2021). Participants with moderate to severe depressive and anxiety symptoms reported significantly lower satisfaction with online teaching than those with milder symptoms (Conceição et al., 2021). The results of the research study of the Behavioral and experimental economic team and the Department of Innovation Approaches in Health of the Ministry of Health of the Slovak Republic (Beet & MZ SR, 2022) demonstrated that there was an elevated level of depression in 80 % of university students with the consequences of paralysis in their performance (school, work), home, and social relations.

Life satisfaction may also be a factor linked to attitudes toward seeking help (Topkaya, 2021). Life satisfaction is a key part of psychological well-being, reflecting how individuals evaluate the overall quality of their lives (Diener, Pressman, Hunter, & Delgadillo-Chase, 2017). Subjective well-being encompasses these evaluations, where people assess whether they view their life and circumstances positively or negatively. These assessments can be thoughtful reflections on their overall life or specific aspects (Diener et al., 2017). While negative mental health factors like depression and anxiety are often studied in relation to help-seeking attitudes, positive factors like life satisfaction are rarely explored (Crowe & Kim, 2020; Topkaya, 2021). More research is needed to understand the link between life satisfaction and help-seeking intentions (Topkaya, 2021).

University students, particularly those living alone, were significantly affected by the COVID-19 lockdown, experiencing greater mental health issues such as fear, stress, and anxiety due to isolation and limited outdoor activities compared to those living with family or friends (Tran-Chi, Ly, Luu-Thi, Huynh, & Nguyen-Thi, 2021). There are a very limited number of studies exploring the association between fear of COVID-19 and help-seeking intentions. The results of a study examining factors predicting help-seeking intentions during the COVID-19 pandemic (Maba, Mulawarman, Anugrah Intan Cahyani, & Indah

Fajrotuz Zahro, 2020) highlight the importance of including fear of COVID-19 among the factors associated with students' help-seeking intentions.

Help-seeking intention and subsequent behavior during difficult times in life is one of the most important problem-solving adaptive behavioral strategies of people, that involves asking for assistance or advice from available help sources, for example, friends, relatives, neighbors, peers, as well as professionals such as teachers, counselors and medical professionals (Fallon & Bowles, 1999). Nevertheless, people are often reluctant to seek help even if they are suffering from severe problems and difficulties such as depressive symptoms (Nagai, 2015). Help-seeking intention and subsequent behavior have been defined as communication with other people in the sense of obtaining help in terms of understanding, advice, information, treatment, and general support in response to a problem or distressing experience (Rickwood et al., 2005). It means that an individual must be aware of the experienced problem, be able to express the need for support, intent to seek help, access sources of help, and have the willingness to explain the problem to overcome the difficulty experienced (Rickwood et al., 2005). Help-seeking intention and behavior can be classified into two categories of sources: 1.) informal source of help-seeking – from family, partner, friends, other relatives, etc., and 2.) formal source of help-seeking – from mental health professionals, youth workers, teachers, etc. (Rickwood et al., 2005; Çebi & Demir, 2020).

Gender is an important predictor of help-seeking intention and behavior among university students, because certain studies have shown that male students are less likely to intend to seek help compared to female students (Sheu & Sedlacek, 2004; Sagar-Ouriaghli et al., 2020). Other studies have shown that female students are significantly more likely to use professional mental health support in comparison to male students (Eisenberg, Golberstein, & Gollust, 2007; Sagar-Ouriaghli et al., 2020). The theoretical review of Kantar and Yalçın (2023) has confirmed that men are more reluctant to seek psychological help than women. According to them, in many studies, traditional masculinity norms are consistently recognized as an obstacle to individuals' decision to seek psychological help (Kantar & Yalçın, 2023). Similarly, Çebi and Demir (2020) confirmed that females possessed more favorable help-seeking attitudes than males. Perceived social support (friends and significant other), prior help-seeking experience, and gender significantly predicted positive attitudes to seek psychological help. Their research found that friends were the most frequently cited sources of information (24.2 %) and sources of help (59 %), followed by family (45.6 %) and professionals (only 5.8 %; Çebi & Demir, 2020). The results of the study of Theurel and Witt (2022) showed, that 63 % of participants at the universities in France reported, that they would not seek any formal or informal help if dealing with an emotional or mental health difficulty. Most students reported a preference for informal help from friends and family compared to help from professionals. Khatib, Alyafei and Shaikh (2023) discovered, that Arab university students across the world had negative attitudes towards formal sources of help-seeking and were reluctant to seek help, despite the presence of psychological distress. In their study, the preference for informal sources of help-seeking, such as family and friends, was expressed and considered more acceptable (Khatib et al., 2023). Finally, the results of research by the Behavioral and experimental economic team and the Department of Innovation Approaches in Health of the Ministry of Health of the Slovak Republic (Beet & MZ SR, 2022) demonstrated, that informal sources of help-seeking such as family and friends (57 %) was preferred source of help-seeking among Slovak university students.

The COVID-19 pandemic, which significantly altered people's lifestyles, has also had a serious impact on college students. The findings highlight the importance of providing services aimed at reducing the risk of anxiety and depression among college students (Chang et al., 2021; Volken et al., 2021), as well as improving the understanding of their intentions to seek help. Based on the presented findings, we aimed to assess the association between students' depressive symptoms and their help-seeking intentions, while controlling for gender, fear of COVID-19, and well-being.

2. OBJECTIVES

The present study aims to explore the association between students' depressive symptoms and their help-seeking intentions while controlling for gender, fear of COVID-19, and well-being among Slovak university students during the COVID-19 pandemic.

3. DESIGN

The study employed a cross-sectional design and involved collecting quantitative data from Slovak universities.

4. METHODS

4.1. Sample and Procedure

A total of 258 students ($M = 21.86$; $SD = 2.05$) from Slovak universities took part in an online survey, which was distributed through various Facebook university campus groups across Slovakia. Participants' ages ranged from 18 to 30 years ($n = 258$, $M = 21.86$; $SD = 2.05$). Of these, 77.1 % were women ($n = 199$, $M = 21.62$; $SD = 1.94$) and 22.9 % were men ($n = 59$, $M = 22.66$; $SD = 2.21$). The sufficient sample size was verified using an online calculator for hierarchical regression (Soper, 2020).

The majority of the university students studied at the universities in the Bratislava region (30 %), then in the Košice region (27.1 %) and in the Prešov region (11.7 %). The rest of the students (31.2 %) studied in other regions of Slovakia. The data collection among university students took place between November and December of 2021. Due to the repeated lockdowns caused by the COVID-19 pandemic at the time of the data collection, we were compelled to shift the entire data collection process to an online platform. Participation in the survey was voluntary and anonymous. Data collection was carried out after obtaining informed consent from each participant. The protocol of this study was reviewed and approved by the Ethics Committee at the Faculty of Arts of Pavol Jozef Šafárik University in Košice.

4.2. Measures

The study utilized the General Help-Seeking Questionnaire (GHSQ; Rickwood et al., 2005), which comprises 14 items. It was employed to evaluate students' intentions to seek help (specifically within the upcoming 4 weeks) when experiencing personal or emotional problems. Two sources of help-seeking intentions were listed here: 1.) informal sources (e.g. partner like significant boyfriend or girlfriend; friend; parent; other relative/family member) and 2.) formal sources (e.g. mental health professional like a school counsellor, psychologist, psychiatrist; phone helpline; family doctor; teacher). One item was seeking

help from someone not listed above, and one item was that a participant would not seek help from anyone. Participants were asked to indicate their level of agreement with the statements on a 7-point scale ranging from 1 (extremely unlikely) to 7 (extremely likely). Each source was treated as a separate scale, and an overall scale including all sources of help was utilized. A supplementary second question was also included within the GHSQ to assess past help-seeking experiences. It was operationalized by asking, whether professional help has been sought in the past for a specific problem and, if help has been sought, how many times it was sought, what specific sources of help were sought, and whether the help obtained was evaluated as worthwhile on a 5-point scale indicating more or less helpfulness (1 – extremely unhelpful; 5 – extremely helpful; $C\alpha = 0.86$).

The depressive symptoms were measured through the construct of depressive dimension identified from a shortened version of the DASS Scale (Lovibond & Lovibond, 1995; Antony, Bieling, Cox, Enns, & Swinson, 1998). This short version includes 7 items from the subscale of the depressive dimension. Respondents were asked to indicate the extent to which the statement applied to them on a 4-point Likert scale ranging from 0 (did not apply to me at all) to 3 (applied to me very much, or most of the time). As it is a shortened version of the original DASS scale we need to multiply the obtained score by 2 to calculate the final score. The higher score for this subscale indicates a higher level of depression ($C\alpha = 0.893$ – university sample).

The well-being of university students was measured through the construct of subjective well-being within the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985; Džuka & Dalbert, 2002). Respondents were asked to indicate the extent to which they agree with the 5 statements (e.g., “In most ways my life is close to my ideal.”) on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The higher score indicates a higher level of well-being ($C\alpha = 0.877$).

The fear of COVID-19 was measured by the Fear of COVID-19 Scale (Ahorsu et al., 2020) consisting of 7 items. Respondents were asked to indicate their level of agreement with the statements on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The higher score indicates a greater fear of COVID-19 ($C\alpha = 0.622$).

4.3. Statistical Analyses

Findings were analyzed using descriptive statistical analysis, the Mann-Whitney U Test, and hierarchical multiple regression, and then were performed in SPSS 25.

5. RESULTS

5.1. Moderately Elevated Level of Depressive Symptoms of University Students during the COVID-19 Pandemic

We identified moderately elevated levels of depressive symptoms which indicated university students during the COVID-19 pandemic ($M = 16.30$; $SD = 11.42$; Normal = 0-9; Mild = 10-13; Moderate = 14-20; Severe = 21-27; Extremely severe = 28+; Table 1). There were no statistically significant differences in gender between women and men.

5.2. Three Primary Sources of Help, which are Likely to be Accessed by Students

We identified three primary sources of help that are likely to be accessed by students when they experience a personal or emotional problem during the COVID-19 pandemic.

These sources include informal help from their partner, friend, and parents (Table 1). The lowest tendency of intentions was to seek help from teachers (Table 1). The results indicated that women had a higher tendency of intentions to seek help from informal sources (partner, parents, other relatives; $M = 19.55$; $SD = 5.32$) than men ($M = 17$; $SD = 6.12$). Students with lifetime formal help-seeking experiences (28.2 %) had a higher tendency of intentions to seek help from formal sources (such as mental health professionals), than students without lifetime help-seeking experiences.

Table 1.
Means and standard deviations of research variables.

	Help-seeking intentions								Satisfac- tion with life	Fear of COVI D-19	Depressi ve symptom s
	Informal sources of help- seeking				Formal sources of help-seeking						
	Partn er	Frien d	Paren t	Anoth er relativ e	Profe- ssional	Phone helplin e	Famil y doctor	Teach er			
Mea n	5.37	5.20	4.94	3.44	3.34	2.07	2.33	1.79	13.49	15.76	16.30
SD	2.30	2.02	2.05	2.12	2.22	1.62	1.83	1.36	4.87	3.79	11.42

5.3. Hierarchical Multiple Regression

Hierarchical multiple regression analysis was conducted with help-seeking intentions as the dependent variable to examine the level of help-seeking intentions and their associated factors. A two-step process was followed. The first step of regression analysis included gender, fear of COVID-19, and satisfaction with life as independent variables. The model explained 7 % of the variance of help-seeking intentions of university students during the COVID-19 pandemic ($F = 6.35$; $p < 0.001$). The regression model revealed associations between gender, satisfaction with life, fear of COVID-19, and help-seeking intentions (Table 2). Female and students with higher levels of satisfaction with life and fear of COVID-19 exhibited a higher level of help-seeking intentions. In the second step, an independent variable, namely depressive symptoms, was added to the model. The model explained 11 % of the variance of help-seeking intentions of university students during the COVID-19 pandemic ($F = 7.50$; $p < 0.001$). In the final model, gender, fear of COVID-19, and depressive symptoms were statistically significant (Table 2). Life satisfaction was not a significant factor (Table 2). Students' help-seeking intentions were positively associated with the fear of COVID-19 and negatively associated with depressive symptoms. Finally, females were more likely to have higher levels of help-seeking intentions than their male counterparts.

Table 2.
Results of hierarchical multiple regression for help-seeking intentions and associated factors.

		B	Beta	t	p	95.0 % Confidence Interval for B	
						Lower Bound	Upper Bound
Step 1	Gender	-4.545	-0.198	-3.179	0.002	-7.36	-1.729
	Fear of COVID-19	0.330	0.131	2.119	0.035	0.023	0.638
	Satisfaction with life	0.244	0.125	2.014	0.045	0.005	0.483
R ²	0.07						
Step 2	Gender	-4.361	-0.190	-3.105	0.002	-7.127	-1.595
	Fear of COVID-19	0.430	0.171	2.753	0.006	0.122	0.738
	Satisfaction with life	0.119	0.061	0.947	0.345	-0.128	0.365
	Depressive symptoms	-0.348	-0.208	-3.198	0.002	-0.563	-0.134
R ²	0.11						

6. DISCUSSION

In this study, we explored the association between students' depressive symptoms and their help-seeking intentions while controlling for gender, fear of COVID-19, and well-being among Slovak university students during the COVID-19 pandemic. We found that university students during the COVID-19 pandemic indicated moderately elevated levels of depressive symptoms. The results of this study support previous findings of other research studies about the increased level of depressive symptoms among university students during the COVID-19 pandemic (Giusti et al., 2021; Di Consiglio et al., 2021; Conceição et al., 2021; Beet & MZ SR, 2022).

We discovered three primary sources of help that are likely to be accessed by students when they experience a personal or emotional problem during the COVID-19 pandemic. These sources include informal help from their partner, friend, and parents. The lowest tendency of intentions was to seek help from teachers. The results of this study support previous findings related to the willingness of young people, especially to use informal sources for help-seeking (Beet & MZ SR, 2022). The results indicated that women had a higher tendency of intentions to seek help from informal sources (partner, parents, other relatives) than men. The study confirmed the results that females possessed more favorable help-seeking attitudes than males (Çebi & Demir, 2020).

Our results also confirmed previous results of research in France by Theurel and Witt (2022), that most students reported a preference for informal help from friends and family compared to help from professionals (Theurel & Witt, 2022). These results are also in accordance with the research of Khatib et al. (2023), where Arab university students across the world had negative attitudes towards formal sources of help-seeking and they preferred informal sources of help-seeking, such as family and friends. Students with lifetime formal help-seeking experiences (28.2 %) had a higher tendency of intentions to seek help from

formal sources (such as mental health professionals), than students without lifetime help-seeking experiences.

In line with the results of a previous study (Topkaya, 2021), life satisfaction was not a significant factor in the final regression model. Our results support the author's interpretation that the association between life satisfaction and help-seeking intentions might be restricted when viewed alongside the other variables examined in the study. Consistent with previous studies, our findings showed that gender, the fear of COVID-19, and depressive symptoms played an important role in students' help-seeking behavior. The results, that students with higher levels of depressive symptoms exhibited a lower level of help-seeking intentions are in accordance with the results of Nagai (2015). These results agree also with the research of Di Consiglio et al. (2021), where some students with increasing depressive symptomatology did not accept the professional help of psychotherapy and did not seek help. However, another study found that, in addition to the fear of COVID-19 being a key factor motivating college students to seek psychological help, depressive symptoms can also be significant predictors of help-seeking behavior (Liang et al., 2020).

7. CONCLUSIONS

The limitations and strengths of this research study must be highlighted. The most significant limitation was using only online questionnaires because of the COVID-19 pandemic. Next, the final model of hierarchical multiple regression explained 11 % of the variance in help-seeking intentions. However, as Ozili (2023) reported, a low R-squared value of at least 0.1 (or 10 %) is acceptable in social science research. The findings of this research study positively contribute to the important investigation of help-seeking intentions and behaviors among university students (Rickwood et al., 2005; Çebi & Demir, 2020). They could also contribute to the implementation of mental health services, counsellors' programs, and university counselling centers, which will focus more on improving help-seeking attitudes, intentions, and behaviors of university students by targeting and eliminating the main barriers to treatment. The COVID-19 pandemic has highlighted the need to improve mental health literacy among university students. Similarly, this study may contribute to mental disorder treatment among university students, especially in cases of depression. Finally, future empirical research on the help-seeking intention and behavior of university students in Slovakia and abroad could be accomplished.

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Section 3

Social Psychology

Chapter # 9

NAVIGATING TECHNOSTRESS: THE ROLE OF PERSONAL AND ORGANIZATIONAL RESOURCES IN REGULATION OF DIGITAL STRAIN AND WELL-BEING

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ABSTRACT

This cross-sectional study aimed to utilize the Job Demands-Resources theory to examine whether inhibitors of technostress within organizations, computer self-efficacy and resilience can reduce employees' perception of digital strain and positively impact job-related well-being. Conversely, it investigated whether technostress creators exacerbate employees' perception of digital strain and negatively affect job-related well-being. The research sample comprised 183 employed individuals utilizing information technologies at work, including 87 men and 96 women aged between 21 and 63 years. Participants completed a series of self-assessment online questionnaires via social media platforms. The results indicated that resilience, support for digital literacy, and provision of technical support were predictors of positive job-related well-being. Conversely, techno-overload, techno-invasion, techno-complexity, and techno-uncertainty predicted negative job-related well-being. Notably, resilience was the sole predictor that attenuated the impact of techno-stressors on positive well-being. Digital strain was associated with techno-overload, techno-invasion, and techno-complexity, with computer self-efficacy being the only significant predictor mitigating the effects of techno-stressors on digital strain. Our findings thus have the potential to contribute to the creation of a better and healthier work environment, and they could be valuable for managers and organizations striving to address the challenges associated with digital transformation and modern technologies in the workplace.

Keywords: techno-stressors, technostress inhibitors, resilience, computer self-efficacy, digital strain, job related well-being.

1. INTRODUCTION

Despite the benefits that information technologies bring to its users, the modern working environment is becoming stressful for employees due to increasing digitalization and fast-changing modern technologies. The Job Demands-Resources (JD-R) model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) provides a framework for understanding how job demands, and job resources influence employees' work engagement (e.g., stress and burnout) and motivation for higher performance. Information and Communication Technologies (ICT) can function as both job demands and job resources. If ICT is considered a job demand, they have the potential to induce technostress and have adverse effects on employees' physical and psychological well-being. If organizations present and communicate ICT as tools to enhance employees' positions, they can also serve as job resources. In this function, ICT supports technical involvement, satisfaction, and performance, as well as improving the integration of work and private life (Pansini, Buonomo, De Vincenzi, Ferrara, & Benevene, 2023). Following the JD-R model, the aim of the study was to verify the assumption that technostress inhibitors in the organization

(technical support, computer literacy support, user involvement in development) acting as job resources, a high level of resilience, and computer self-efficacy (personal resources) reduce the perception of digital strain among employees and positively influence job related well-being, and technostress creators (techno-overload, techno-complexity, techno-invasion, techno-variability, techno-uncertainty) acting as job demands on the other hand increase employees' perception of technological strain and are in a negative relationship with job related well-being.

2. BACKGROUND

2.1. Techno-Stressors and Techno-Inhibitors at Work

Information technology has become a part of most people's daily lives over the past two decades, enabling them to be constantly interconnected. For employees, this implies the need to constantly adapt to changing work needs and demands; however, the increased use of digital technologies in the changing world of work can cause stress, leading to potentially negative reactions from individuals. Research has identified this specific form of stress as technostress (Ayyagari, Grover, & Purvis, 2011; Tarafdar, Tu, Ragu-Nathan, & Ragu-Nathan, 2011). This concept was first introduced by the clinical psychologist Craig Brod "as a modern disease of adaptation caused by an inability to cope with the new computer technologies in a healthy manner" (Brod, 1984, p. 16). Nowadays, technostress is understood as a multidimensional concept where the problem is both technology anxiety as well as the burden caused by information overload (Boonjing & Chanvarasuth, 2017). Researchers have presented five technology-related factors that cause technostress: *techno-overload*, *techno-invasion*, *techno-complexity*, *techno-insecurity*, and *techno-uncertainty* (Ragu-Nathan, Tarafdar, Ragu-Nathan, & Tu, 2008; Tarafdar, Tu, & Ragu-Nathan, 2010). *Techno-overload* refers to situations that force employees to work faster and longer as they simultaneously process different streams of information. This results in increased workload, time pressure, and, most importantly, communication and information overload, where individuals are exposed to more information than they can effectively handle and use. *Techno-invasion* describes an invasive effect on employees' personal lives, blurring the boundaries between work and personal life; as a result, employees feel like they are in a continuous online connection with work. *Techno-complexity* means that staff cannot cope with the complexity of new technology. The technical capabilities and terminology associated with ICT have become more complex; new applications can take months to learn, and manuals can be complicated. The perceived complexity of using ICT to perform work is believed to increase the workload. As the rapid development of ICT drives a revolution in replacing human labor with machines, employees may feel threatened by the loss of their jobs due to new ICT or by their replacement by more experienced job seekers with better ICT skills. This is referred to as *techno-insecurity*. Constant changes in hardware and software, the work situation can become very precarious for some employees and is referred to *techno-uncertainty*. Recent research documented mainly the negative effects of technostress on the work performance, productivity and mental health of employees (Atanasoff & Venable, 2017; Srivastava, Chandra, & Shirish, 2015).

Techno-inhibitors are resources that can reduce technostress and improve employee productivity and performance, and well-being (Charkhabi, 2018; Korunka, Hoonakker, & Carayon, 2008). According to Ragu-Nathan et al. (2008) techno-inhibitors in organizational context include *literacy facilitation*, *technical support provision* and *involvement facilitation*. *Literacy facilitation* is defined as a mechanism for sharing

ICT-related knowledge within an organization through professional training or documentation. *Technical support* provision is linked to specific support for ICT end-users in solving technology-related problems. *Involvement facilitation* is defined as informing the individual about the reasons for introducing new technologies and involving him/her in this process.

2.2. Computer Self-Efficacy, Resilience and Technostress

Self-efficacy is defined as an individual's belief in their ability to achieve goals and manage environments that affect their lives and is a crucial proximal determinant of behavior (Bandura, 1989). Hence, computer self-efficacy refers to individuals' beliefs about their ability to successfully use computers to solve tasks and manage situations (Marakas, Yi, & Johnson, 1998). Individuals with greater confidence in their digital skills tend to experience lower levels of anxiety when using digital technologies. Individuals with strong digital self-efficacy are also more persistent and skilled in using digital technologies. Low self-efficacy, on the other hand, is linked to stress and professional burnout. Individuals with low self-efficacy may feel powerless and hopeless regarding their ability to effectively cope with the challenges and demands of their work. This can lead to stress and reduced performance, even among highly skilled individuals (Heslin & Klehe, 2006). Moreover, according to Yener, Arslan, and Kiliç (2021), technological self-efficacy has a moderating role between technostress and burnout, suggesting that those who believe in their ability to navigate technology can buffer the negative effects of stress related to technological demands. When individuals are confronted with demanding situations that can induce stress, it is crucial for them to have skills that allow them to control their emotional reactions and adapt to increasing pressure. This ability to adapt, also known as "adaptive functioning," can lead to positive outcomes even in negative circumstances. Additionally, computer self-efficacy is presumed to influence an individual's willingness to acquire new ICT skills and can either facilitate or hinder the acquisition of effective skills when interacting with digital systems.

In an increasingly dynamic business environment, the concept of resilience is fundamental to understanding how employees successfully cope with challenges (Hartmann, Weiss, Newman, & Hoegl, 2020). The American Psychological Association (2023) defines resilience as "the process and outcome of successfully adapting to challenging or stressful life experiences, particularly through mental, emotional, and behavioral flexibility and adaptation to external and internal demands." Resilience can be understood as individuals' ability to positively adapt to stressful environments, demonstrate strength, perseverance, and the ability to recover from difficulties (Linnenluecke, 2017). Resilient individuals are generally better able to withstand difficulties and failures (Shin, Taylor, & Seo, 2012), perhaps because they use positive emotions to effectively recover from stressful situations (Baek, Lee, Joo, Lee, & Choi, 2010). Research (Burns & Anstey, 2010) also demonstrated that cognitive constructs such as resilience and self-efficacy are more strongly related to positive affect than negative affect. According to Shin et al. (2012), personal resources such as resilience can help individuals better cope with problems by providing them with energy or protecting them from dysfunctional mental states that induce stressors. It is assumed that resilience, when linked with positive affectivity, has a favorable impact on indicators of mental health (e.g., Hu, Zhang, & Wang, 2015) and plays a crucial role in fostering both job satisfaction and work engagement (Ibrahim, & Hussein, 2024).

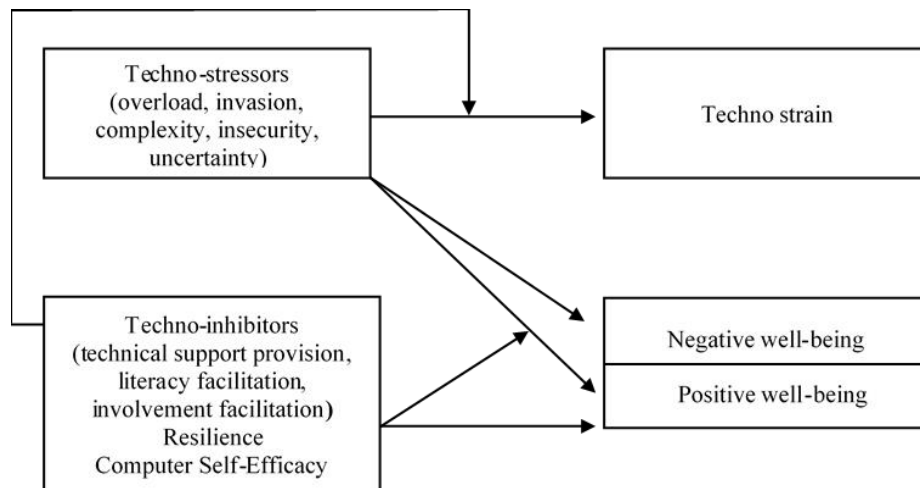
2.3. Positive and Negative Emotions at Work

Positive affect refers to the extent to which individuals experience emotions such as enthusiasm, excitement, determination, or mental alertness. On the other hand, negative affect relates to moods such as anger, fear, or feelings of guilt. When people experience low positive affect, they may feel sadness and lack of energy, while low negative affect can be described as a state of calmness and equilibrium. Numerous reviews and meta-analyses have shown that happy employees tend to exhibit positive behaviors within the organizational citizenship (Mousa, Massoud, & Ayoubi, 2020), have a higher intention to stay with their employer, display less counterproductive work behaviors (Harrison, Newman, & Roth, 2006), and deliver increased individual work performance, thereby enhancing organizational performance. The current prevalence of information and communication technologies enables individuals to receive work-related messages non-stop, providing them with greater control and flexibility over their work schedule. However, technologies also have downsides. These include issues such as increased technological complexity, frequent changes, technical problems, increased work demands, blurring boundaries between work and home, and creating a sense of constant connection to work. This constant connectivity hinders necessary mental detachment and recovery from work responsibilities (Pfaffinger, Reif, & Spieß, 2022). The concept of "digital well-being" has begun to emerge in the current literature. Vanden (2021) defines digital well-being as a construct that expresses a delicate balance between the advantages and disadvantages people experience in relation to continuous connectivity. This experiential state includes both affective and cognitive evaluations of how digital connectedness is integrated into one's daily life. Individuals achieve digital well-being when they experience high levels of controlled pleasure and functional support while simultaneously minimizing loss of control and deterioration in functionality. It also provides insights into measures that can be taken to support the development of healthier habits regarding the use of mobile media, whether through the implementation of interventions focused on digital well-being or otherwise (Vanden, 2021).

2.4. Objectives of the Study

The aim of the study, following the Job Demands-Resources Theory (Demerouti et al., 2001), is to verify: a) the relationships between techno-stressors, digital strain, and job affective well-being; b) the relationships between stress inhibitors and job affective well-being; c) the assumption that technostress creators (techno-overload, techno-complexity, techno-invasion, techno-variability, techno-uncertainty) increase employees' perception of digital strain and are negatively associated with job well-being, d) the assumption that organizational inhibitors (technical support, computer literacy support, user involvement in development), personal resources (high levels of resilience, and computer self-efficacy) reduce the perception of digital strain and positively impact job related well-being. The hypothetical research model is depicted in Figure 1.

Figure 1.
Model of the study.



3. METHODS

3.1. Participants and Procedure

The research sample consisted of 183 employed individuals using information technologies at work, including 87 men and 96 women, aged between 21 and 63 years. 70% respondents reported having completed a university degree, 29% a high school diploma and 1% indicated "other". Most respondents worked in IT and technology (48), followed by educators (29), and those in administration, economics, and accounting (23). Participants completed a series of self-assessment questionnaires (Techno-Strain, Technostress Creators and Technostress Inhibitors, Resilience Scale, Job Affective Well-Being Scale, Computer Self-Efficacy) administered online via social media platforms.

3.2. Measures

We used the Technostress Creators and Technostress Inhibitors Scale (Ragu-Nathan et al., 2008) to measure facilitators and inhibitors of technological stress. The first inventory, Technostress Creators, consists of 23 items divided into five subscales: Techno-overload (5 items, $\alpha = 0.82$; in our study $\alpha = 0.76$), Techno-invasion (4 items, $\alpha = 0.80$; in our study $\alpha = 0.81$), Techno-complexity (5 items, $\alpha = 0.77$; in our study $\alpha = 0.86$; e.g., "I need a long time to understand and use new technologies"), Techno-uncertainty (5 items, $\alpha = 0.78$; in our study $\alpha = 0.79$), and Techno-insecurity (4 items, $\alpha = 0.83$; in our study $\alpha = 0.83$). The second inventory, Technostress Inhibitors, contains 13 items divided into three subscales: Literacy facilitation (5 items, $\alpha = 0.85$; in our study $\alpha = 0.84$; e.g., "Our organization provides end-user training before the introduction of new technologies"), Technical support provision (4 items, $\alpha = 0.86$; in our study $\alpha = 0.89$), and Involvement facilitation (4 items, $\alpha = 0.87$; in our study $\alpha = 0.80$). Respondents rated items from both inventories on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

To assess the level of individual resilience as a positive personality trait that enhances individual adaptation, we used the Slovak short version (14-item) of the Resilience Scale (Hajdúk, Mesárošová, & Heretik, 2015). Example item: "*I usually manage one way or another*" ($\alpha = 0.84$; in our study $\alpha = 0.89$). The items were rated on a 7-point scale (1 - strongly disagree, 7 - strongly agree).

To evaluate perceived work strain due to the use of ICT, we used a 4-item Techno strain scale (Ayyagari et al., 2011). Example item: "*Activities that require the use of technology exhaust me*". The items were measured on a 7-point Likert scale, ranging from "never" (1) to "always" (7). The reliability of these items is given in the original work as $\alpha = 0.97$, our obtained value is $\alpha = 0.85$.

We measured positive and negative affect among respondents using a shortened version (12 items) of the Job Affective Well-Being Scale (JAWS) (Schaufeli & van Rhenen, 2006). Example item: "*My job made me feel at ease*", "*My job made me feel angry*". The respondents answered on a five-point scale from "never" (1) to "very often/always" (5). Internal consistency in our study was $\alpha = 0.838$ for positive affect and $\alpha = 0.852$ for negative affect.

Computer self-efficacy was measured using a 12-item Computer Self-Efficacy Measure (Howard, 2014). Example item: "*It is easy for me to accomplish my computers goals*". Participants responded on a 5-point scale (1 - strongly disagree, 5 - strongly agree). Cronbach's α in the original work was 0.95, in our research $\alpha = 0.93$.

4. RESULTS

The data were analyzed using the statistical software JASP. Correlation and linear regression analyses were employed to test the hypotheses. The correlation results (Table 1) demonstrate that regarding digital strain, there is a statistically significant negative relationship with self-efficacy ($r = -0.363$, $p < .001$) and significant positive relationships with techno-overload ($r = 0.360$, $p < .001$), techno-invasion ($r = 0.252$, $p < .001$), and techno-complexity ($r = 0.350$, $p < .001$). Positive affect significantly and positively correlated with resilience ($r = 0.329$, $p < .001$), computer self-efficacy ($r = 0.146$, $p = 0.048$), computer literacy support ($r = 0.224$, $p = 0.002$), user involvement ($r = 0.207$, $p = 0.005$), and negatively with techno-overload ($r = -0.249$, $p < .001$), techno-invasion ($r = -0.164$, $p = 0.026$), techno-complexity ($r = -0.190$, $p = 0.010$), and techno-uncertainty ($r = -0.250$, $p < .001$). Statistically significant negative relationships existed between negative affect and resilience ($r = -0.336$, $p < .001$), computer self-efficacy ($r = -0.254$, $p = 0.048$), computer literacy support ($r = -0.168$, $p = 0.023$), user involvement ($r = -0.184$, $p = 0.012$), and positive relationships were found between techno-overload ($r = 0.379$, $p < .001$), techno-invasion ($r = 0.392$, $p = 0.026$), techno-complexity ($r = 0.436$, $p = 0.010$), and techno-uncertainty ($r = 0.288$, $p < .001$).

Table 1.
Correlations for all variables.

Variables	Digital strain		Positive affect		Negative affect	
	rho	p	rho	p	rho	p
Resilience	-0.127	0.086	0.329	< .001***	-0.336	< .001***
Comp self-efficacy	-0.363	< .001***	0.146	0.048*	-0.254	< .001***
Literacy facilitation	-0.016	0.832	0.224	0.002**	-0.168	0.023*
Technical support	0.083	0.263	0.038	0.613	-0.006	0.941
Involvement facilit.	-0.019	0.794	0.207	0.005**	-0.184	0.012*
Techno-overload	0.360	< .001***	-0.249	< .001***	0.379	< .001***
Techno-invasion	0.252	< .001***	-0.164	0.026*	0.392	< .001***
Techno-complexity	0.350	< .001***	-0.190	0.010**	0.436	< .001***
Techno-uncertainty	0.104	0.159	-0.250	< .001***	0.288	< .001***
Techno-insecurity	0.093	0.212	-0.008	0.910	0.034	0.649

rho = Spearman's rho, * $p < .05$, ** $p < .01$, *** $p < .001$

The results of multiple linear regression showed that techno-stressors explain 27.2% of the variance in negative affect ($R^2 = 0.272$, $p < .001$); statistical significance was demonstrated by predictors of techno-overload ($\beta=0.200$, $SE=0.089$, $p=0.027$), techno-invasion ($\beta=0.209$, $SE=0.086$, $p=0.016$), techno-complexity ($\beta=0.268$, $SE=0.079$, $p < .001$), techno-insecurity ($\beta=-0.196$, $SE=0.081$, $p=0.017$). For the dependent variable of positive affect, in relation to personal inhibitors, statistical significance was found with the predictor resilience ($\beta=0.121$, $SE=0.027$, $p < .001$), from organizational inhibitors, statistical significance was found for predictors of computer literacy support ($\beta=0.0246$, $SE=0.094$, $p=0.010$), and technical support ($\beta=-0.193$, $SE=0.096$, $p=0.046$), ($R^2 = 0.205$, $p < .001$). Resilience proved to be significant as a protective individual factor, which was hypothesized to mitigate the effect of techno-stressors on job-related well-being ($\beta=0.097$, $SE=0.028$, $p < .001$). Techno-overload ($\beta=0.266$, $SE=0.110$, $p=0.017$) and techno-complexity ($\beta=0.284$, $SE=0.096$, $p=0.004$) predicted the experience of digital strain. Computer self-efficacy, as a significant personal resource, mitigated the effect of techno-stressors on digital strain ($\beta=-0.188$, $SE=0.045$, $p < .001$).

5. DISCUSSION AND CONCLUSION

Studies suggest that organizational and personal inhibitors can be helpful in managing the demands associated with technostress (Bakker & Demerouti, 2007), and can also have a positive effect on the well-being of workers (Ragu-Nathan et al., 2008; Kushlev & Dunn, 2015). The results of our study partially confirmed these assumptions. In line with the above, we confirmed that technostress sources - higher techno-overload, complexity, invasion, uncertainty - were associated with higher digital strain, lower positive, and higher negative well-being. Participants reporting higher scores on the resilience scale experienced higher levels of positive affect. This finding aligns with research by Mguni, Bacon, and Brown (2011), who found that well-being and resilience are closely related, and concluded that each individual's quality of life over time will depend on a certain mental resilience. Organizational inhibitors (computer literacy support, technical support) and personal inhibitors (resilience) contributed to positive job-related well-being, with resilience as a personal resource mitigating the negative effects of techno-stressors on positive well-being.

Similarly, researchers Yong, Ghulam, Anam and Ibrahim (2022) demonstrated that technostress inhibitors, such as providing technical support and computer literacy, significantly and positively influenced employees' well-being. The experience of digital strain was predicted by techno-overload, techno-invasion, and techno-complexity, and the personal resource computer self-efficacy mitigated the effect of techno-stressors on digital strain. Organizational inhibitors in our study did not show statistical significance in relation to digital strain. Other factors or variables that we did not test in the study may play a more significant role. Some studies, for example, suggest that factors such as technology reliability (Ayyagari et al., 2011), innovation support (Tarafdar et al., 2011), or technology usefulness (Lee, 2016) can help reduce the level of technostress.

In the study, we identified specific factors that negatively affect employee well-being, providing insights for designing measures to minimize these risks. We also highlighted factors that have the potential to alleviate the experience of digital strain and the impact of techno-stressors. Our findings thus have the potential to contribute to the creation of a better and healthier work environment, optimization of technological solutions, and increased satisfaction and performance of employees. These insights can be valuable for managers and organizations striving to address the challenges associated with digital transformation and modern technologies in the workplace. Implementing measures to support resilience, providing technical support, and improving computer literacy can help employees better manage technostress and achieve better job well-being. These steps could lead to improved productivity, reduced absenteeism, and overall employee satisfaction, positively impacting organizational performance.

The sample consisted of a high proportion of university-educated (70%) and younger respondents (ages 21-30), limiting the generalizability of the findings. Additionally, some participants found certain questions outdated or unclear, highlighting the need for clearer question design in future research.

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Chapter # 10

EXPLORING THE REPRESENTATIONS OF DISABLED WOMEN USING THE REPERTORY GRID TECHNIQUE

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ABSTRACT

This study aims at exploring the representations of disabled women held by disabled women themselves. Most of the literature available explores the representations of disabled people held by non-disabled people. However, this study aimed to fill a gap in the literature by shedding light on disabled women's views. This study is underpinned by social representations theory, intersectionality theory and the social model of disability. The way disabled women are treated often stems from the representations held about them by society. The understanding of the representations of disabled women can have significant implications for the drafting of policies and the development of services for disabled women. The repertory grid technique was used to collect data from 14 disabled women aged between 28 and 63 years old. The constructs yielded from the repertory grid technique were analysed using an adaptation of the core-categorisation method. The constructs were grouped under three themes, which are: The Power of First Impressions, A Part of One's Identity, and The Dichotomy of Career and Family. This study shows that participants care about body image and fashion, do not think that the impairment represents disabled women's entire identity, and that having a career is important.

Keywords: disabled women, social representations theory, intersectionality, social model of disability, repertory grid technique.

1. INTRODUCTION

The representations that society has of disabled women have implications and consequences that can be pervasive and can greatly impact their lives in a number of tangible ways (Soorenian, 2014, Wilde, 2022). I have decided to focus specifically on social representations because the marginalisation of disabled people has often been addressed through sociological or legislative processes, but very rarely through social psychological processes. I have decided to specifically focus on disabled women because their experiences have often been overlooked by researchers and policymakers (Council of Europe, 2022; Soorenian, 2014). Disabled women are still at a disadvantage when compared to disabled men and non-disabled women and men in a number of areas including, education, employment, harassment, and family life (Kim, Skinner, & Parish, 2020; Krnjacki, Emerson, Llewellyn, & Kavanagh, 2016).

This qualitative study is underpinned by three theoretical frameworks, namely, social representations theory, intersectionality theory, and the social model of disability. Moscovici (1973, 1984) defined social representations as a system of values, ideas, and practices which provide a coherent order for phenomena. This system has a two-fold function. Firstly, social representations establish an order which enables individuals to

orientate themselves with the tangible and intangible aspects of the world they live in (Vaughan & Hogg, 2014). Secondly, social representations are the tools which enable members of a community to communicate with each other. The term *intersectionality* was coined by Crenshaw (1989, 1991) and is defined as being a simultaneous member in multiple social categories due to which one may experience negative discrimination or reinforced marginalization. The approach of intersectionality posits that different minority statuses must be examined simultaneously in order to be able to reach an understanding of the *whole* experience rather than viewing them as separate identities and trying to understand which identity contributes to oppression the most (DeFilippis, 2015). This study is also underpinned by the social model of disability which makes a very clear distinction between the definitions of *impairment* and *disability* (Oliver, 1990). The social model identifies the social and political domains as the primary causes of disability for disabled people (Smith, 2008).

2. METHOD

2.1. The Repertory Grid Technique Interview

The repertory grid technique was considered as the right choice to collect data for this study because it enabled me to understand how the participants make sense of other disabled women (Fransella, Bell, & Bannister, 2004). Kelly (1955/2002, 1963) posited that individuals understand themselves, other people, and the events happening around them according to their own frame of reference which is derived from their upbringing and experiences. This knowledge about the world is stored in what he terms personal constructs (Kelly, 1955/2002, 1963). A repertory grid technique interview consists of a three-step process. These are: (i) element selection, (ii) construct elicitation, and (iii) linking the elements with the constructs (Fransella et al., 2004; Jankowicz, 2004). In this case the elements are the disabled women that the participants know personally or know of. The constructs are the ‘adjectives’ elicited from the participants to describe other disabled women using the triadic sort method. The constructs are then linked to the elements by means of a rating procedure such as a 5-point Likert scale. In this study, a maximum of thirteen constructs and a minimum of five constructs were yielded from the interviews.

2.2. The Participants

Participants for the repertory grid interviews were recruited through a voluntary database of disabled people held by the Commission for the Rights of Persons with Disability (CRPD). The inclusion criteria for participating in this study required that participants be of the female sex, living in Malta and that they have a physical or sensorial impairment. In all, 14 participants participated in the repertory grid technique interviews. Table 2 describes the demographics of the fourteen participants who took part in this phase of the study.

Table 1.
Demographics of the Participants for the Repertory Grid Interviews.

Pseudonym	Age	Occupation	Type of Impairment or Condition	Congenital/ Acquired Impairment
Violet	53	Higher Education	Mobility impairment	Acquired
Mary	33	Public Sector	Mobility impairment	Congenital
Sue	30	Public Sector	Visual impairment	Congenital
Rita	51	Public Sector	Mobility impairment	Congenital
Ylenia	44	Higher Education	Chronic illness	Congenital
Vanessa	28	Accountant/ Swimmer	Mobility impairment	Acquired
Miriam	42	Education	Hearing impairment	Acquired
Lara	45	Translation Service	Mobility impairment and chronic illness	Congenital
Ivy	36	Trainee Psychotherapist	Chronic illness	Acquired
Heather	40	Boarded Out	Mobility impairment and chronic illness	Acquired
Maya	33	Full-time mum	Hearing impairment	Acquired
Christine	38	Administration	Mobility impairment and chronic illness	Congenital and Acquired
Ruth	30	Unemployed	Mobility impairment	Congenital
Davina	63	Retired	Mobility impairment and chronic illness	Acquired

2.3. Analytic Strategy for the Repertory Grid Data

The fourteen interviews carried out with disabled women living in Malta resulted in a total of 129 constructs. For the purpose of analysis, the emergent and the opposing poles were considered separately, thus resulting in 258 constructs. An adaptation of the core-categorisation method of analysis as described by Jankowicz (2004) was used to analyse the adjectives. All 258 adjectives were written down on separate cards and placed on a large table. The 258 adjectives were reduced to 182 unique adjectives by grouping together the duplicate ones. Similar adjectives were then grouped under a category. When a new category was created, some existing categories were redefined. The process of categorisation continued until almost all the adjectives had been classified. Twenty-one adjectives were deemed unclassifiable and these were grouped under the category ‘miscellaneous’.

3. FINDINGS AND DISCUSSION

The 182 unique constructs elicited from the participants were grouped under three categories. These are: (i) The Power of First Impressions, (ii) A Part of One's Identity and (iii) The Dichotomy of Career and Family.

3.1. The Power of First Impressions

Body image, physical appearance and fashion are of importance to the disabled women taking part in this study. The participants used constructs like "physically beautiful", "looks healthy", "well dressed", "frumpy", "fashionable" and "unkept" amongst others, to describe other disabled women they knew. Miriam described these disabled women as, "...they [other disabled women] make an effort, they look good, they go to a beautician. They don't conform to the usual 'disabled' image of looking sick and scruffy". Heather argues that looking good is important and said, "...she [disabled woman] looks good, it shows that she takes the time to groom herself and takes care of herself, it shows, because she always looks good when we meet". Similarly, Christine with reference to another disabled woman she was describing, claimed, "...she colours her hair and puts on some make-up and this is good. She does not fit with the usual stereotype of disabled because people assume that if you are disabled you are not interested in how you look". These constructs are in stark contrast to the general idea amongst non-disabled people that disabled women are not interested in the way they look and the image their body portrays (Garland-Thomson, 2011, 2017). The reason for such positive constructs amongst the participants could be that they have a positive representation of themselves which is then reflected in their peers and vice-versa. Access to more positive representations of disability and disabled women on social media could have also influenced these positive constructs elicited from the participants. This could also be stemming from the more diverse and inclusive fashion content available on social media through a number of disabled influencers who have a high following reaching into the thousands. The strong interest in fashion shown by the participants in this study is also in line with the very recent vision of inclusion being taken on by a number of fashion retailers who have recently all included disabled models in their advertisements and fashion campaigns (Foster & Pettinicchio, 2022).

The participants also adopted very specific constructs related to body weight to describe other disabled women. The participants were not evasive in this aspect and used adjectives such as "fat" and "thin" to describe other disabled women's body weight. Ruth said, "...I would describe her as fat. She is not average but rather fat". Whereas Ivy, in order to explain her construct further claimed, "...she looks healthy, even her body weight, it shows that although she has a mobility impairment and a chronic condition that she has to deal with, she looks healthy, her bodyweight looks healthy". The reason for striving for an acceptable body weight amongst disabled women could be because, similarly to non-disabled women, disabled women might also equate being thin with physical attractiveness. For disabled women having an acceptable body weight could also be related to 'passing as normal', that is, as 'less disabled' and as a way of fitting in (Roosen & Mills, 2016).

3.2. A Part of One's Identity

Some of the participants used constructs such as "regressing disability", "visible disability" and "acquired disability" to describe the other disabled women they knew. In order to explain her choice of construct related to the other disabled women's

impairment, Ruth claimed, “I am finding myself judging the other disabled women solely on their disability whilst I know that they [the other disabled women] are more than their independence but somehow the disability still stands out”. This theme shows that the participants felt that it was important to describe other disabled women according to the type of impairment and the state of their body. The reason for this could be because the participants consider the other disabled women’s impairment, and probably also their own, as part of their identity. Another reason for choosing to describe other disabled women according to their type of impairment could also be because like the rest of society the participants could have also been influenced to believe that there was only one type of body and that is ‘the able body’ – a body free of impairment. Through their choice of constructs, the participants in this study acknowledge that the disabled women they were asked to think about have a body which differs from ‘the able body’.

The participants also made the distinction between “invisible disability” and “visible disability”. Mary explained her choice of construct “visible disability” by saying, “...her [for another disabled woman] impairment cannot really be hidden, you see it, it’s always there, she has to carry it wherever she goes”. Whereas Rita explained her construct “invisible disability” by saying, “...their [for other disabled women] impairment doesn’t show so sometimes other people assume that it’s not true that they can’t hear, this can sometimes create problems.” The distinction between invisible and visible disabilities is a relatively recent concept both at legislative level as well as in research and in disability studies literature. For a long time, the work by a number of disability activists focused only on visible impairments because invisible impairments tend to present a unique challenge due to the fact that they cannot be seen and so they are easier to discount (Mintz, 2015). In contrast to this, the disabled women taking part in this study showed that they are knowledgeable about the existence of hidden impairments and had no issues with using such specific constructs to describe other disabled women.

3.3. The Dichotomy of a Career and A Family

A large number of constructs in this category were related to disabled women’s educational achievements such as “academically accomplished”, “academically driven”, “ambitious” and “intelligent”. These constructs show that education holds a pivotal role in the lives of the participants taking part in this study and in the lives of the disabled women they knew. Ylenia referred to these women as the ones who, “...inspire me, they’re thinkers and they have achieved so much academically”. Another big number of constructs in this category were related to disabled women’s advancement in their careers such as “career driven”, “hardworking”, “successful” and “work driven”. Miriam explained her construct by saying, “...she had done well at school and went on to have a successful career. She was able to do this because of her resilience and the support available. But she also knew how to look for support”.

These constructs show that having a successful career is deemed equally important both for the participants and the other disabled women who they knew. The strong use of constructs related to education and employment is a very positive finding since education for disabled women has not always been encouraged. For a long-time disabled women were perceived as low-achievers without any strong prospects for a successful career (Nosek, 2012).

Notwithstanding the importance given to education and a career by the participants, during the interviews some participants came up with a career or education related construct in direct comparison to a family related construct, revealing a strong dichotomy between the two. Examples of these directly opposing comparisons include,

“career-oriented vs motherly” (Ylenia) and “home maker vs career driven” (Mary). This dichotomy shows that for some disabled women having both a career and a family is still perceived to be unattainable. The number of constructs related to motherhood were also very few in comparison to the number of constructs related to educational achievements and career advancement. The reason for the lack of family related constructs in comparison to the number of other constructs could be because unlike non-disabled women for whom motherhood is oftentimes viewed as the most natural thing to do, disabled women have often been discouraged from having a family of their own (Heideveld-Gerritsen et al., 2021).

4. RECOMMENDATIONS AND CONCLUSION

Through this study I was able to provide insights on how disabled women view other disabled women. Through this study I was able to give a voice to disabled women. In conclusion, the results of this study point to three important findings. Disabled women care about looking good and about fashion. A second important finding is that although the impairment may be congenital, acquired, visible or invisible, it is part of one’s identity and disabled women are not afraid to take their impairment in their stride and strive for greater things. The third and final finding is that disabled women in this study believe that having a career is very important but that having a family or both a career and a family for disabled women remains a challenge.

Further research with other groups of people would give a clearer picture of the representations of disabled women. Research investigating the representations of disabled women amongst professionals such as healthcare professionals and educators, amongst others is essential since such representations may have a strong impact on the everyday lives of disabled women.

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Chapter # 11

EVALUATING THE EFFECTIVENESS OF EXPOSURE TO COUNTERSTEREOTYPIC FATHERS ON REDUCING IMPLICIT FATHER AND MOTHER STEREOTYPES IN JAPAN: II ORDINARY FATHERS AS COUNTERSTEREOTYPIC EXEMPLARS

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ABSTRACT

An earlier study that exposed famous fathers as counterstereotypic exemplars suggested that, for men, exposure to counterstereotypic fathers can reduce the implicit father and mother stereotypes. However, one possible reason for such results is that, for women, famous fathers might be considered a subtype of fathers distinct from ordinary fathers. Therefore, this study examined whether exposure to ordinary fathers who took childcare leave for at least 3 months could reduce the implicit association between ‘father’ and ‘work’ and between ‘mother’ and ‘home’. The Implicit Association Test (IAT) was conducted among Japanese adults. The participants were randomly assigned to the counterstereotypic or control group by gender and age group. 210 respondents (105 men and 105 women in their 20s, 30s, 40s, 50s, and 60s) were included in the analysis. The results indicated that, for the 50s, with strong implicit father and mother stereotypes, exposure to counterstereotypic fathers could reduce the implicit father and mother stereotypes. In other age groups, however, the intervention did not reduce the implicit father and mother stereotypes. Therefore, future studies will need to examine interventions with stronger effects.

Keywords: stereotype, father, mother.

1. INTRODUCTION

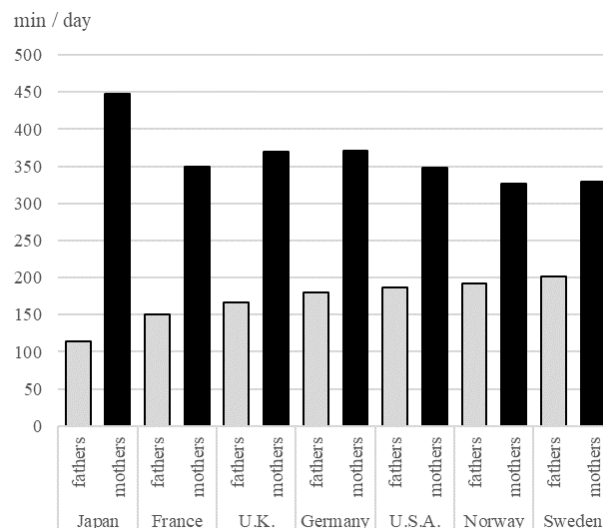
As illustrated in Figure 1, regarding housework and childcare, Japanese fathers spend less time on it, only 114 minutes and mothers spend more, 448 minutes per day. Although other developed countries show similar trends, the inequality in Japan is larger compared to those countries (Ministry of Health, Labour and Welfare, 2024). There are concerns that such disparities will distort the balance between work and family and lead to a declining birthrate in Japan. On that subject, Ohtaka (2019) has shown that the Japanese believe in the stereotype that ‘fathers (rather than men) should work outside the home, and mothers (rather than women) should keep the house’ and proposed that intervening in such parental stereotypes is important to correct gender inequality. In addition, according to Brewer’s dual process model (1988) and Fiske and Neuberg’s continuum model (1990) of impression formation, stereotypical judgements based on category information arise almost automatically, and to proceed to judgments based on individual information, it requires cognitive resources and motivation. Therefore, when cognitive resources and motivation are lacking, stereotypical judgments persist.

Moreover, since gender stereotypes particularly are implicit rather than explicitly expressed through social desirability (Blair & Banagi, 1996), the target to be intervened with

would be the implicit parental stereotypes rather than the explicit parental stereotypes. Specifically, this study targeted not the explicit parental stereotype ‘fathers should work outside the home, and mothers should keep the house’ but the implicit association between ‘father’ and ‘work’ and between ‘mother’ and ‘home’. Regarding the interventions in the implicit stereotypes, Lai et al. (2014), a meta-analysis of 17 intervention methods for implicit racial prejudice, concluded that the exposure to counterstereotypic exemplars was the most effective. Dasgupta & Asgari (2004) also found that exposure to counterstereotypic women reduced the implicit stereotypes about women among women only.

Similarly, Ohtaka (2020) exposed the famous fathers who enjoyed childrearing to Japanese undergraduates, and suggested, just for men, that exposure to counterstereotypic fathers could reduce the implicit association between ‘father’ and ‘work’ and between ‘mother’ and ‘home.’ However, even when the women were exposed to counterstereotypic fathers, their implicit parental stereotypes were not reduced as they might have considered counterstereotypic fathers a subtype of fathers. The famous fathers who enjoy childrearing as counterstereotypic fathers were selected, following previous studies (Dasgupta & Asgari, 2004, Study 1; Dasgupta & Greenwald, 2001, Study 1, Study 2; Dasgupta & Rivera, 2008; Hanita, 2015, Study 1-2). Famous fathers, however, might be considered a subtype of fathers distinct from ordinary fathers (Hewstone & Hamburger, 2000; Kunda & Oleson, 1995). In addition, based on Dasgupta & Asgari (2004)’s and Ohtaka (2020)’s results, it is possible that exposure to counterstereotypic women exemplars may be effective only for women, and exposure to men exemplars may be effective only for men concerning the implicit gender stereotype reduction. Furthermore, because gender stereotypes vary according to socioeconomic factors (Suzuki, 2017), this study targeted not only the undergraduates but also adult men and women in a larger sample to generalise the findings. Thus, this study revealed ordinary fathers who enjoyed childrearing as counterstereotypic fathers to the Japanese adults and investigated whether this exposure to the fathers could reduce the parental implicit association between ‘father’ and ‘work’ and between ‘mother’ and ‘home.’

Figure 1.
Fathers’ and mothers’ average time allotted to housework and childcare.
(Ministry of Health, Labour and Welfare, 2024)



2. METHODS

This study conducted the power analysis (effect size $f=.25$, alpha error probability: $.05$, power: $.80$) using G*Power, aimed for a sample size of 179. However, this study tried to recruit up to 250 participants through a research company, supposing nonparticipation. A total of 212 Japanese adults participated in the first and second study online. Their ages ranged from 20 to 69 years old, were of both genders, were born and raised in Japan, spoke Japanese as their native language and lived in Japan, excluding same-sex married couples and students. They answered the satisfying item ‘Please select the leftmost item for this item’ correctly (Miura & Kobayashi, 2015).

The first study was conducted as a study on memory based on Dasgupta and Asgari (2004). The participants were randomly assigned to the counterstereotypic father or control group by gender and age group. The participants were shown descriptions of either counterstereotypic fathers or flowers (control group). After reading the descriptions, the participants saw an abbreviated correct and incorrect description of each individual (or flower). They were asked to identify the correct description. This memory test was administered to ensure that the participants had paid attention to the information and to strengthen the memory cover story. After identifying the correct description, the participants in the counterstereotypic father condition were asked to rate the extent to which they thought most other fathers could enjoy childrearing as these fathers did on a five-point scale ranging from 1 (impossible) to 5 (possible). The participants in the flower control condition were asked to indicate the flowers that they liked the most from the rest.

In addition, four fathers who took childcare leave for at least three months were selected from ‘Star Ikumens (fathers who enjoy childrearing).’ The descriptions of each individual were taken from the internet site of the ‘Ikumen project’ (Ministry of Health, Labour and Welfare, 2024). Meanwhile, four flowers were collected for the control condition. The description of each flower was derived from the internet site ‘Gardening for Pleasure’ (NHK Publishing, 2020).

In the second study, the Implicit Association Test (IAT, Greenwald, McGhee, & Schwartz, 1998) was conducted as a study on judgement based on Dasgupta and Asgari (2004). The IAT procedure followed the recommendations by Nosek, Greenwald, A. G., and Banaji (2005). On the computer, the participants were instructed to categorise words and images as quickly and accurately as possible. In the case of a reaction error, error feedback (X) was provided and they were instructed to push the right key again. The IAT is composed of seven blocks, with three practice blocks and four critical blocks. In the 1st practice block (20 trials), participants categorised words related to father and mother into categories labelled on the left or right. In the 2nd practice block (20 trials), participants categorised words related to work and home. In the 3rd (20 trials) and 4th (40 trials) critical blocks, participants categorised words related to father/mother work/home in alternating trials. Consequently, participants categorised words corresponding to father and work with one key and those corresponding to mother and home with another key. In the 5th practice block (20 trials), participants categorised the words corresponding to mother and father again, except the categories had switched sides. The father/mother category originally on the left was now categorised with the right key and the father/mother category originally on the right was now categorised with the left key. In the 6th (20 trials) and 7th (40 trials) critical blocks, participants categorised pairings opposite to the ones found in the third and fourth blocks. Consequently, participants categorised words related to mother and work with one key and those related to father and home with the other key. The sixth and seventh blocks were counterbalanced with the third and fourth blocks between participants to control potential

order effects. The position of the work/home categories was also randomised between participants: Half the participants categorised work to the left key and home to the right key, and the other half did the reverse.

The ‘father’ (N = 5) and ‘mother’ (N = 5) words were selected from fathers’ and mothers’ names called by their children (e.g. ‘father’, ‘dad’ and ‘papa’/‘mother’, ‘mom’ and ‘mama’) (Benesse, 2009). The ‘home’ (N = 5) words were ‘cleaning’, ‘washing’, ‘housework’, ‘childrearing’ and ‘cooking’; the ‘work’ (N = 5) words were ‘meeting’, ‘workplace’, ‘commuting’, ‘working’ and ‘company’ (Hanita & Murata, 2013).

The IAT score was scored with the *D* algorithm as recommended by Greenwald, Nosek, and Banaji (2003). A positive *D* score indicated faster average response when ‘father’ words were paired with ‘work’ words and ‘mother’ words were paired with ‘home’ words, compared to the reverse situation.

Finally, the participants completed self-reported questionnaires on demographic measures on the computer.

3. RESULTS

3.1. Analysis Targets

Of the 212 valid responses, 1 respondent answered the open-ended question about the impact of the memory survey on their ability to process information: ‘I remembered examples of men who were positive about parental leave, so they remained in my mind as afterimages and I was a little more positive about them’. Another respondent whose latency was less than 300 ms in more than 10% of the trials (Greenwald et al., 2003) was thereby excluded, and 210 respondents (105 males and 105 females) were included in the analysis.

They were randomly assigned to the counterstereotypic father condition or the flower control condition by gender and age group in Table 1.

3.2. Analysis of Variance

The data were analysed using a three-way analysis of variance. The analysis design used three independent variables: the counterstereotypic father condition or the flower control condition (between factor) [condition], being man or woman (between factor) [respondents’ gender], age group i.e. 20s, 30s, 40s, 50s or 60s (between factor) [respondents’ age group]. The dependent variable was the *D* score (Greenwald et al., 2003).

First, the two-way interaction effect of [group] × [respondents’ age group] was marginally significant ($F(4, 190) = 2.27, p = .064$, partial $\eta^2 = .05$, 95% CI [.00, .09]). The simple main effect of [condition] was significant among the 50s group ($F(1, 190) = 8.20, p = .005$, partial $\eta^2 = .17$, 95% CI [.00, .10]). The *D* score in the counterstereotypic father condition ($M = 0.66$) was lower than the *D* score in the flower control condition ($M = 0.91$). That is, in the 50s group, regardless of their gender, the intervention reduced the implicit association between ‘father’ and ‘work’ and between ‘mother’ and ‘home’.

Second, the main effect of [respondents’ age group] was significant ($F(4, 190) = 2.93, p = .022$, partial $\eta^2 = .06$, 95% CI [.00, .11]). The *D* score in the 50s group ($M = 0.78$) was higher than the *D* score in the 20s group ($M = 0.60$). That is, the implicit association between ‘father’ and ‘work’ and between ‘mother’ and ‘home’ was stronger for those in their 50s than those in their 20s.

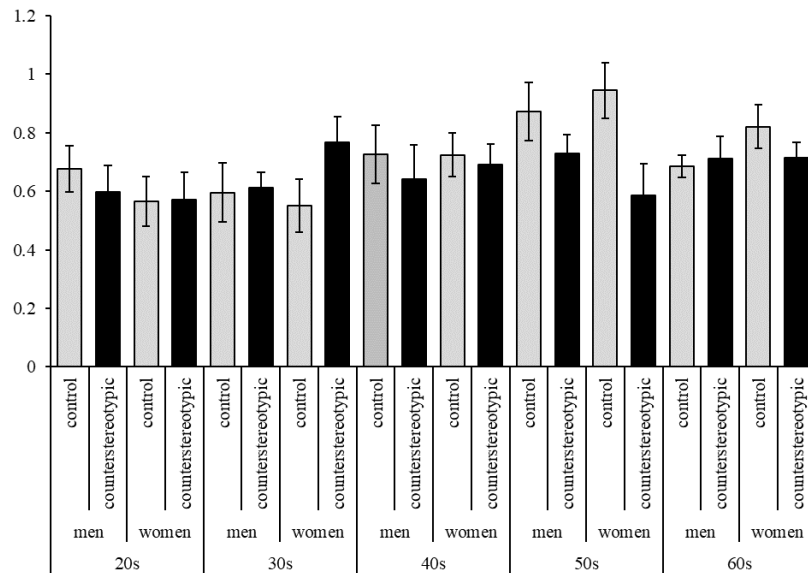
The mean *D* scores, standard deviations and number of respondents are shown in Table 1. The mean *D* scores are also shown in Figure 2.

Evaluating the Effectiveness of Exposure to Counterstereotypic Fathers on Reducing Implicit Father and Mother Stereotypes in Japan: II Ordinary Fathers as Counterstereotypic Exemplars

Table 1.
Mean D scores, standard deviations, and number of respondents.

Age group	Gender	Condition	Mean	SD	Number
20s	men	control	0.68	0.29	13
		counterstereotypic	0.60	0.27	9
	women	control	0.57	0.27	10
		counterstereotypic	0.57	0.30	10
30s	men	control	0.60	0.30	9
		counterstereotypic	0.61	0.18	11
	women	control	0.55	0.29	10
		counterstereotypic	0.77	0.29	11
40s	men	control	0.73	0.33	11
		counterstereotypic	0.64	0.36	10
	women	control	0.72	0.22	9
		counterstereotypic	0.69	0.24	12
50s	men	control	0.87	0.25	6
		counterstereotypic	0.73	0.26	16
	women	control	0.94	0.33	12
		counterstereotypic	0.59	0.34	10
60s	men	control	0.69	0.12	10
		counterstereotypic	0.71	0.24	10
	women	control	0.82	0.25	11
		counterstereotypic	0.71	0.17	10

Figure 2.
Mean D scores.



4. DISCUSSION/FUTURE RESEARCH DIRECTIONS

The results implied that the participants from the 50-year-old group exhibited a strong implicit father and mother stereotype. This might be because the younger people had more equal gender role attitudes (Ohtaka, 2022). As for the people in their 60s, however, this may be because their children as parents, regardless of their gender, work outside the home and keep the house. Furthermore, it has been determined that such a strong implicit stereotype in the 50s group, regardless of their gender, could be reduced by exposure to counterstereotypic fathers. Unlike the results of Dasgupta & Asgari (2004) and Ohtaka (2020), the exposure to counterstereotypic men exemplars was effective not only for men but also for women. However, the intervention did not reduce the implicit father and mother stereotypes among the other generations. This might be because the intervention effect was weak. Kurdi, Sanchez, Dasgupta, and Banaji (2023) argued that exposure to counter-attitudinal exemplars could reduce implicit racial stereotypes, but such malleability depends strongly on the contingency awareness between the racial categories and valence. Specifically, only with the Black-positive and White-negative contingency awareness, the exposure to the counterstereotypic exemplars could reduce implicit racial stereotypes. Thus, future studies should focus on contingency awareness to explore stronger interventions.

Moreover, Lai et al. (2014) compared the effects of 17 interventions on the implicit racial stereotypes and showed that asking participants to read a vivid and evocative counterstereotypic scenario of the Black-positive and White-negative, with the contingency awareness, reduced the implicit racial stereotypes most effectively. Specifically, it is believed that they increased the participants' contingency awareness by informing them that the race IAT task affirms the associations: Black-good and White-bad. Therefore, in the future, the exposure to counterstereotypic fathers by a vivid and evocative scenario, with contingency awareness, might reduce implicit parental stereotypes strongly.

Evaluating the Effectiveness of Exposure to Counterstereotypic Fathers on Reducing Implicit Father and Mother Stereotypes in Japan: II Ordinary Fathers as Counterstereotypic Exemplars

In addition, since we conducted an online experiment in this study, future laboratory experiments, such as the one conducted by Dasgupta and Asgari (2004), may more effectively reduce implicit parental stereotypes. However, it is also unclear whether the temporary changes in the implicit evaluations resulting from a single intervention may be sustained over time, and further investigation is needed.

In conclusion, the 50-year-olds had strong implicit parental stereotypes, and by exposing them to counterstereotypic fathers, they were able to reduce their implicit parental stereotypes. However, in other age groups, this intervention was not effective. Thus, in future research, it is necessary to verify more effective interventions.

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Chapter # 12

FACILITATING ACCULTURATION IN EDUCATIONAL SETTINGS: AN ANALYSIS OF POLICIES AND PRACTICES FOR SUPPORTING INTERNATIONAL STUDENTS IN IRISH HIGHER EDUCATION

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ABSTRACT

In an era of increasing global mobility, Irish higher education institutions (HEIs) are experiencing a significant rise in international student enrolments, highlighting the need for enhanced acculturation supports. This study uses a social psychological framework to analyse policy documents, teaching guides, and programme descriptions from a representative sample of Irish universities. It evaluates the inclusivity and effectiveness of these supports through parameters like social trust and psychological well-being. Findings reveal a wide range of acculturation practices, from formal orientation programmes to informal cultural exchange initiatives, though variability exists across institutions. Administrative supports such as visa assistance and housing play a crucial role but have limited impact on social trust and well-being compared to inclusive classroom practices. While culturally responsive teaching is increasingly recognised, structured training and resources for faculty remain insufficient. Social trust—particularly “bridging trust” between diverse groups—emerges as key to successful acculturation, with stronger correlations to psychological well-being than bonding trust within shared identity groups. Inclusive teaching practices are identified as the most effective means to foster social capital and improve psychological health, while administrative supports enhance vertical trust and academic outcomes. The study recommends standardising inclusive teaching practices to better support international students and optimise acculturation outcomes in Irish HEIs.

Keywords: acculturation, international students, Irish higher education, inclusive practice, social trust.

1. INTRODUCTION

In recent years, the landscape of higher education has undergone profound transformation due to the forces of globalisation, resulting in unprecedented levels of student mobility across international borders. Irish Higher Education Institutions (HEIs) are part of this shift, with a substantial rise in the enrolment of international students (Darmody, Groarke, & Mihut, 2022). This demographic evolution presents both opportunities and challenges, emphasising the critical need for comprehensive acculturation supports. Acculturation, the process through which individuals adapt to and integrate into a new cultural environment, is vital for fostering international students' psychological well-being and academic success (Berry, 2005; Can, Poyrazlı, & Pillay, 2021; Smith & Khawaja, 2011; Yan, 2020).

Existing literature has underscored the impact of acculturation across varied aspects of life, encompassing social trust, psychological health, and academic achievement. Social trust in particular has emerged as a cornerstone of successful acculturation, and entails both

"bridging trust" between diverse identity groups and "vertical trust" between individuals and institutional authorities (Wang, Zhi, & Yu, 2023; Ye, 2018). These foster, respectively, cross-cultural interactions and integration, and confidence in institutional structures. Both dimensions of trust are instrumental in promoting a sense of belonging, emotional stability, and social cohesion within academic environments (Healy, 2002; Putnam, 2000).

Despite these insights, gaps remain in the effectiveness and inclusivity of acculturation practices within HEIs. Research points to a disproportionate focus on administrative and logistical supports, such as visa processing and accommodation assistance, which, while essential, have limited impact on psychological well-being and social trust (O'Reilly, Ryan, & Hickey, 2010; Sebastian & Slaten, 2018). In contrast, inclusive classroom practices and culturally responsive teaching have been identified as being significantly more effective in fostering meaningful integration and supporting students' mental health (Saffari Rad, 2023; Zhou, 2023). These altogether suggest the need to shift from a predominantly procedural approach to a more holistic framework that incorporates emotional and social dimensions of acculturation.

Furthermore, recent studies emphasise the necessity for structured faculty training and institutional policies that promote intercultural competency and inclusive pedagogies. Faculty development programmes designed to address the cultural and academic needs of diverse classrooms remain inconsistent across institutions, often limiting their effectiveness (Gradellini et al., 2021; Lata, 2023). Similarly, mental health supports tailored to the unique challenges faced by international students, such as stress management workshops and culturally sensitive counselling services, vary widely in availability and accessibility (Forbes-Mewett, 2019; Sakız & Jencius, 2024).

In response to these challenges, this study adopts a social psychological analytical framework to evaluate the inclusivity and effectiveness of acculturation supports in Irish HEIs. By systematically analysing policy documents, teaching guides, and programme descriptions, the study identifies variability in the scope and depth of these supports and highlights areas for improvement. The findings call for a recalibration of institutional priorities by way of a standardised and integrated approach that balances administrative assistance with practices to enhance social trust, psychological well-being, and cross-cultural engagement. Such an approach would be valuable as Irish HEIs continue to adapt to the increasing diversity of their student populations and would help to ensure equitable and meaningful support for all students.

2. METHODOLOGY

This study employed a qualitative content analysis approach to evaluate the acculturation supports available to international students in Irish HEIs. The methodology was well-suited to the exploratory nature of the research, enabling an in-depth examination of policies, programmes, and teaching practices aimed at the integration of international students (Elo & Kyngäs, 2008; Hurley, Ryan, Faulkner, & Wang, 2022; Moran, Green, & Warren, 2021).

2.1. Selection of Documents for Analysis

The selection of universities for this study was carefully designed to ensure a diverse and representative sample. The criteria included institutional size, geographic distribution, and the diversity of student demographics. This included both large universities and smaller institutions, so as to capture a breadth of both formalised supports and informal practices, operationalised under a range of resource constraints. Geographic diversity ensured that the

analysis accounted for potential regional variations in acculturation supports, and demographic considerations were prioritised to reflect institutions with significant international student populations.

While these criteria aimed to ensure a broad representation, certain limitations must be acknowledged. The reliance on publicly available documents and institutional responses may have introduced biases, as institutions with well-documented policies were more likely to be included. Furthermore, smaller institutions with limited resources may have underreported their informal supports, potentially skewing the findings. These limitations suggest the need for future studies incorporating direct student and staff perspectives to validate and expand upon these initial findings.

2.2. Analytical Framework

The qualitative content analysis was structured to identify, analyse, and interpret patterns within the data. The analysis utilised a social psychological framework focusing on three interrelated dimensions: acculturation processes, social trust, and psychological well-being.

Acculturation processes were examined to understand how international students and staff adapt to their new cultural environments, applying strategies of “assimilation”, “integration”, “separation”, or “marginalisation” as defined by whether heritage culture is retained, and whether host culture is adopted (Sam & Berry, 2010; Schwartz, Unger, Zamboanga, & Szapocznik, 2010). Social trust was analysed through its two key dimensions—bridging trust, which fosters connections between diverse groups, and vertical trust, which reflects confidence in institutional authorities (Wang et al., 2023; Ye, 2018). Finally, indicators of psychological well-being, such as emotional stability, life satisfaction, and a sense of belonging, were evaluated to assess the holistic impact of acculturation supports (Allen, Fortune, & Arslan, 2021; Gautam et al., 2024). The integration of these dimensions provided a comprehensive framework for understanding how policies and practices influence the acculturation experience.

2.3. Coding and Analysis

Coding categories were iteratively developed based on existing literature and refined through a pilot analysis of selected documents. This iterative process ensured that the categories were theoretically grounded and responsive to emergent themes. The final coding scheme included dimensions such as bridging trust (e.g., buddy systems and cultural events), vertical trust (e.g., transparent grievance mechanisms), and psychological well-being (e.g., counselling services). These categories were applied systematically across the data set to ensure consistency and depth of analysis. The final coding scheme was applied to the entire data set, with adjustments made as necessary to capture emergent themes accurately. The coding categories are tabulated and described in detail, including definitions and examples, in *Table 1* as follows. This approach provided a detailed picture of the strengths and gaps in acculturation supports within Irish HEIs, showing significant variability in the scope and quality of support.

Table 1.
The coding categories.

Category	Definition	Examples
Bridging Trust	Supports that facilitate trust-building between international students and their Irish peers.	- Language exchange programmes - International and local student buddy systems
Vertical Trust	Supports that foster trust between international students and institutional authorities.	- Accessible grievance mechanisms - Transparent communication from administration
Psychological Well-Being	Indicators and supports related to the mental and emotional health of international students.	- Counselling services tailored to international students - Stress management workshops
Acculturation Support	Policies and programmes designed to assist international students in adjusting to the new culture.	- Orientation programmes detailing Irish culture - Guides on navigating academic expectations
Inclusive Teaching Practices	Teaching methods and curricular designs that address the needs of a culturally diverse classroom.	- Multicultural curriculum content - Training for faculty on cultural competency
Administrative and Logistical Support	Services dealing with the logistical aspects of studying abroad, such as housing and visa assistance.	- On-campus accommodation assistance - Visa application guidance

3. FINDINGS

The qualitative content analysis of policy documents, teaching guides, and programme descriptions from a representative sample of Irish HEIs revealed a diverse range of acculturation supports alongside significant gaps in formalised acculturation frameworks. These supports varied widely in scope and implementation, highlighting differences in how institutions address the integration and well-being of international students. The findings can be organised into key themes, with particular emphasis on the interconnection between social trust, psychological well-being, and logistical supports, and the role of inclusive teaching practices in fostering meaningful acculturation.

3.1. Building Trust and Addressing Well-Being

Acculturation supports often aim to build trust and foster psychological well-being among international students, and this study identifies two interrelated dimensions: social trust (bridging and vertical) and well-being. Bridging trust initiatives, designed to strengthen connections between international and local students, included programmes such as language exchanges, cultural sharing events, and buddy systems. These initiatives were particularly effective when well-structured and supported with institutional resources, such

as in the case of buddy systems that incorporated regular meetings, cultural excursions, and academic support sessions provided opportunities for sustained interactions and meaningful relationships (Darmody et al., 2022). Similarly, cultural sharing events promoted mutual understanding and appreciation by allowing students to showcase their cultural traditions, cuisine, and arts, fostering an inclusive campus environment.

However, not all institutions implemented these initiatives effectively. Inconsistent funding and informal oversight often resulted in fragmented and sporadic interactions, limiting their potential to build lasting connections. Language exchange programmes, for example, were more impactful when accompanied by dedicated facilitators and structured schedules, but some institutions reported low participation and engagement due to insufficient promotion or resources.

Vertical trust, which reflects confidence in institutional authorities, was primarily addressed through administrative services like visa processing, housing support, and transparent communication channels. Institutions that actively engaged students through regular town hall meetings, Q&A sessions, and accessible grievance mechanisms were more successful in fostering trust. For example, institutions with dedicated international student offices provided personalised assistance, strengthening students' perceptions of institutional accountability and commitment to their well-being.

Despite the availability of these supports, their impact on fostering deeper trust was limited. Administrative services primarily addressed logistical challenges, such as navigating visa requirements or securing accommodation, without directly influencing students' emotional or social integration. Bridging and vertical trust often intersected in programmes like structured buddy systems, where institutional oversight facilitated not only peer-to-peer connections but also confidence in the university's support structures.

Psychological well-being was another critical dimension identified in the findings. Counselling services, stress management workshops, and social support groups emerged as essential components of acculturation. Institutions with comprehensive mental health programmes, including dedicated counselling centres and active social support groups, provided international students with effective mechanisms to cope with academic pressure, homesickness, and cultural adjustment. However, there were significant disparities in the availability and accessibility of these supports. While some institutions had robust mental health services, others offered only minimal or ad hoc support, leaving students vulnerable to stress and isolation.

The interdependence between social trust and well-being was particularly evident in programmes that addressed multiple dimensions. For instance, stress management workshops combined with peer interaction activities enhanced students' emotional stability while simultaneously fostering bridging trust. This points to the need for institutions to adopt holistic frameworks that integrate social and emotional support systems in order to ensure that international students feel both connected and supported.

3.2. Logistical and Educational Supports

Administrative and logistical supports, such as orientation programmes, visa assistance, and housing services, were widely available across Irish HEIs and were particularly valued for easing the initial transition of international students. Orientation programmes that included detailed sessions on cultural norms, academic expectations, and legal requirements helped students navigate the complexities of studying in a foreign country. Similarly, housing offices that liaised with landlords or provided on-campus accommodation ensured a smoother transition for students unfamiliar with local housing markets.

Despite their importance, these supports were largely limited to addressing short-term needs. For example, while logistical supports reduced the immediate stress of settling into a new environment, they did not contribute significantly to deeper acculturation processes, such as building a sense of belonging or fostering long-term psychological well-being. Institutions that complemented logistical supports with initiatives promoting social interaction and cross-cultural engagement achieved more holistic outcomes. For instance, combining housing services with roommate-matching systems based on shared interests or cultural exchange programmes created opportunities for interpersonal connections and cultural learning.

Inclusive teaching practices also emerged as a critical factor in acculturation. Efforts to incorporate multicultural content into curricula and provide faculty training on cultural competency were noted across several institutions (Darby, 2022). Multicultural curricula that included diverse perspectives and case studies enriched the learning experience by reflecting the global context of higher education. Faculty training workshops on cultural sensitivity and communication styles equipped instructors with the skills to address the diverse needs of their classrooms.

However, the implementation of these practices was often inconsistent. Some institutions offered occasional diversity seminars or standalone training sessions, but without ongoing support or follow-up, their impact was limited. Faculty members frequently expressed uncertainty about how to modify teaching techniques to accommodate students from different educational backgrounds, resulting in missed opportunities for inclusion. Systematic faculty development programmes, including peer mentoring and continuous professional development, were identified as critical for addressing these gaps and creating inclusive learning environments.

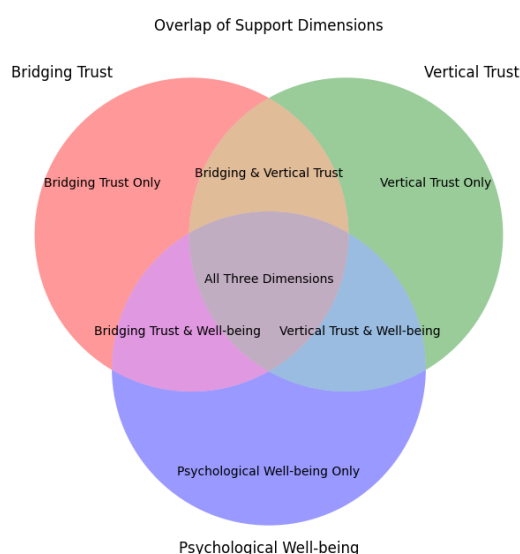
3.3. Institutional Variability and Overlaps in Support Dimensions

The findings revealed significant variability in the implementation of acculturation supports across institutions. Buddy systems were consistently strong across all institutions and were implemented widely. In contrast, counselling services exhibited notable disparities, with some institutions achieving high levels of implementation while others lagged behind. Faculty training and orientation programmes showed moderate consistency, but gaps in these areas highlighted the need for more standardised approaches.

This variability underscores the importance of resource allocation and institutional prioritisation. Institutions with higher implementation levels often benefited from strong administrative backing and dedicated funding, while those with lower scores struggled to achieve similar outcomes. Sharing best practices and fostering collaboration between institutions could help bridge these gaps and promote equity in acculturation supports.

The overlap of support dimensions was another key finding, as in *figure 1*. Programmes that simultaneously addressed multiple dimensions, such as structured buddy systems and culturally responsive counselling services, provided the most comprehensive support for international students. For example, peer interaction activities not only fostered bridging trust but also enhanced students' emotional well-being. Similarly, transparent grievance mechanisms and town hall meetings strengthened vertical trust while contributing to students' sense of belonging. These intersections highlight the potential for holistic frameworks that integrate bridging trust, vertical trust, and psychological well-being, ensuring that students benefit from interconnected and mutually reinforcing supports.

Figure 1.
Overlap of Support Dimensions.



The findings altogether emphasised the need for HEIs to adopt integrated and standardised, if flexible and adaptive, approaches to acculturation supports. While existing initiatives address various aspects of social trust, well-being, and logistical needs, inconsistencies in implementation limit their overall impact. Prioritising programmes that overlap multiple dimensions and promoting collaboration between institutions can help HEIs to create more inclusive and supportive environments for international students. These efforts are critical both for fostering successful acculturation and for enriching the educational experience of all students within increasingly diverse academic communities.

4. DISCUSSION

The results of this research underscored the complexities of acculturation support within HEIs, with challenges provided by both variation in resources and standards or guidance. The study further demonstrated the necessity of balancing logistical services with social and emotional integration mechanisms. While administrative supports provide essential groundwork, their effectiveness is limited without complementary efforts to foster interpersonal connections and psychological well-being. Bridging trust initiatives, such as structured language exchanges and buddy systems, emerged as critical to promoting cross-cultural understanding, but their success hinged on institutional commitment and resources.

The analysis also revealed gaps in mental health and well-being supports, with inconsistencies across institutions exacerbating challenges for international students. A standardised approach to providing accessible mental health resources and fostering cultural competency in teaching practices is imperative to addressing these disparities.

To maximise the impact of acculturation efforts, institutions are recommended to adopt an integrated strategy that aligns administrative supports with initiatives promoting social trust and inclusive teaching. Through prioritisation of both structural and interpersonal elements of acculturation, HEIs can create environments that support international students' transitions as well as foster long-term integration and academic success.

5. CONCLUSION

This study accentuates the pressing need for a comprehensive and standardised approach to acculturation support within Irish HEIs. The findings emphasise that while logistical supports are foundational, they must be supplemented with initiatives fostering social integration, psychological well-being, and inclusive teaching. HEIs that implement transparent communication, structured faculty development, and culturally responsive practices are better positioned to support the holistic needs of international students.

While the study focused on Irish HEIs, its findings hold relevance for other English-speaking countries and universities, particularly in the post-Brexit context. Institutions in these countries face similar challenges as they accommodate increasing numbers of international students, particularly from countries of origin within the EU. The emphasis on bridging and vertical trust, combined with holistic acculturation practices, offers a framework that can be adapted to foster inclusion and well-being in broader contexts.

Moving forward, HEIs where possible should focus on deploying integrated programmes that balance administrative, social, and emotional dimensions of acculturation. Policymakers accordingly would be advised to offer greater resources to both guide and implement such programmes, so as to enhance the educational experience for international students, foster meaningful connections, and generally contribute to a more inclusive academic community. These practices offer a blueprint for addressing the challenges and opportunities presented by an increasingly globalised higher education landscape.

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Chapter # 13

UNDERSTANDING GROUP ISSUES: THE SYRIAN REFUGEE EXPERIENCE IN BRAZIL

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ABSTRACT

Refugees are people who are outside their countries because of a well-founded fear of persecution for reasons of race, religion, nationality, political opinion, or social participation, and who are unable (or unwilling) to return home. According to data released by the Brazilian National Committee for Refugees in its eighth edition (BRASIL, 2023), between January 2011 and the end of 2022, Brazil had identified 65,840 people as refugees in Brazil. Among the main countries of nationality or habitual residence of people identified as refugees in the period from 2011 to 2022, Syria stood out, with a total of 3,762 asylum requests granted, following Venezuela, which stood out in recent years. Syrian refugees have acquired great magnitude and representation in the issue that involves the policy of reception and insertion of refugees throughout the world and in Brazil. The arrival of these refugees in Brazil caused different reactions and behaviors, including potential conflicts. This work aimed to discuss the matter of how we see certain groups and their common and right away generalization that naturalizes this view with often preestablished standards without there being reflection and better knowledge about this group of people.

Keywords: social psychology, human rights, refugees.

1. INTRODUCTION

Refugees are individuals who have fled their country due to a well-founded fear of persecution based on race, religion, nationality, political opinion, or social group, and who are unable or unwilling to return home. According to data released by the National Committee for Refugees in its 8th edition (Brazil, 2023), between January 2011 and the end of 2022, Brazil recognized 65,840 individuals as refugees.

Among the primary countries of nationality or habitual residence of people recognized as refugees during the period from 2011 to 2022, Syria ranks with a total of 3,762 granted asylum applications, falling behind only Venezuela, which has been prominent in recent years. Syrian refugees have gained significant prominence and representation in discussions surrounding refugee reception and integration policies worldwide, including in Brazil. The arrival of these refugees in Brazil has triggered various reactions and behaviors, including potential conflicts. Diverse customs and beliefs have led to reactions ranging from curiosity to rejection, creating a perception of these individuals as a homogeneous group, often based on the idea of uniformity and ignoring their individual differences.

A literature review conducted by Campos and Rosa (2024) on the term "Syrian refugees in Brazil" resulted in a collection of published texts that address various themes concerning this population. The identified texts cover topics such as the experience of refuge and the social integration of refugees into Brazilian society, the reception policies and legislation in Brazil, the issue of religion, and language acquisition, among others. The authors point out that although Brazilian legislation regarding refugees is considered

advanced, there are obstacles to the guarantee and realization of rights stipulated by law. They emphasize the need for joint actions to ensure the full and dignified integration of Syrian refugees into Brazilian society.

Reflecting on the composition of these groups is crucial for understanding the integration of refugees into the host country. In the case of this study, the guiding questions were: Do the Syrians who entered Brazil with refugee status constitute a group? Are they subject to being studied as a group, or are they merely a social aggregate united by the shared suffering caused by the civil war?

2. OBJECTIVE

This work aimed to discuss the issue of how we see certain groups and their common, automatic generalization that naturalizes this view with standards that are often pre-established without there being reflection and better knowledge about this group of people.

3. METHOD

This study is a qualitative research approach that focuses on understanding social phenomena through the collection of rich and descriptive data. According to Bauer and Gaskell (2002), this methodology is particularly useful for investigating questions that cannot be adequately analyzed using quantitative methods, as it seeks to explore the perceptions, experiences, and meanings that individuals attribute to their realities.

3.1. Data Collection

In this study, data was collected through theoretical research to focus on the analysis and discussion of theories, concepts, and ideas, without the collection of empirical data. According to Barros and Lehfeld (2000), theoretical research aims to deepen knowledge and discussions.

3.2. Data Analysis Procedure

To carry out data analysis, the following steps were followed: I) Selection of texts. II) Pre- Analysis, first reading of the material, in order to define, within the possibilities of texts, those that could contribute to the discussion of the proposed theme to achieve the objective of this research. Next, III) Material Exploration was carried out, which consisted of readings of the selected texts, and finally IV) Treatment of results and interpretation, in which, based on the reading of the texts, the aim is to propose inferences and interpretations, thus building knowledge that makes it possible to deepen knowledge about group and intergroup relations, especially Syrian refugees in Brazil. For this study, the selected texts were: 1. Bourdieu, P. (1983a). *O campo científico*. 2. Durkheim, É. (1984). The division of labor in society. 3. Jesuino, J. C., (2004). *Estruturas e processos de grupo*. 4. Moscovici, S. (1978). *A psicanálise: Sua imagem e seu público*. 5. Sherif, M. (1966). Group conflict and cooperation: Their social psychology. 6. Tajfel, H., & Turner, J. C. (1982). *A teoria da identidade social*. To present the results, a text was organized into two topics.

4. RESULTS

4.1. Refugees: Group or Social Aggregate

The concept of a group is central to various disciplines, including social psychology. But what exactly constitutes a group? Generally, a group can be defined as a collection of individuals who interact with each other, share certain common goals or interests, and possess a sense of collective identity. According to Émile Durkheim (1984), groups are considered social entities that exert a coercive force on their members, influencing their opinions and behaviors. For Durkheim, these groups play a crucial role in maintaining social cohesion and societal order. This perspective underscores the importance of groups in shaping morality and integrating individuals into a broader social context.

Max Weber (1922) defines social groups as collections of individuals who unite around common interests, goals, or values and interact in ways that influence their actions through this association. For Weber, the notion of a group is closely related to the concept of social action, where interactions are meaningful and guided by a shared sense. He emphasizes that the formation of groups is a social process involving both internal structuring and relations with other groups and society at large.

Durkheim (1984) and Weber (1922) present distinct perspectives on social groups. Durkheim emphasizes the role of groups in maintaining social cohesion and order, viewing them as entities that exert a coercive force on individuals. In contrast, Weber focuses on social action and meaningful interaction among group members, highlighting their unity around common interests and values, and concentrating on the internal structuring of groups as well as their relationships with other groups and society. By analyzing the approaches of Durkheim (1984) and Weber (1922), we gain a deeper understanding of the experience of Syrian refugees in Brazil. It is possible to consider, on one hand, the cohesion and social norms within refugee groups, and on the other, the interactions and social structuring that impact their integration into the new society.

Sherif (1966), a pioneer in the analysis of groups, conducted experiments aimed at understanding how groups develop norms and how these norms influence individual behavior. He defines a group as a social unit composed of individuals who interact with each other and adhere to a set of norms and values. Sherif investigated the development and organization of groups, highlighting that cooperation or competition among members leads to the formation of norms and group cohesion. By discussing the dynamics of conflict and cooperation between groups, his theory can help us understand, for example, the interactions between refugees and the host society.

Social Representation Theory (SRT), developed by Serge Moscovici (1978), provides a valuable theoretical foundation for understanding how social groups construct and share meanings about reality. This theory is fundamental to social psychology and offers a deep understanding of the internal dynamics of groups and their interactions with the broader social context. The processes of anchoring and objectification are central to SRT. Anchoring refers to how new information is integrated into existing representations, while objectification pertains to the transformation of abstract concepts into tangible realities that can be shared and discussed within the group. These mechanisms help solidify group beliefs and practices, making them part of the members' everyday lives.

The *Social Identity Theory*, proposed by Henri Tajfel and John Turner in 1982, posits that an individual's identity is strongly influenced by their affiliation with social groups. This theory suggests that people categorize themselves and others into groups, resulting in a sense of belonging and intergroup behaviors. They proposed that individuals classify themselves into ingroups and outgroups. Key concepts of the theory include: Social

Categorization, where individuals classify themselves and others into groups, facilitating social perception and organization, but also potentially leading to stereotypes and prejudices. Another concept developed by the authors is Social Identity, which comprises an individual's self-image, influenced by their membership in social groups such as ethnicities, religions, or other categories. The authors' theory also explains how competition for resources or status between groups can lead to conflicts and social prejudices.

Tajfel and Turner's (1982) *Social Identity Theory* can be crucial in understanding how the association of Syrian refugees with social groups affects their behaviors, attitudes, and power dynamics with Brazilian society, for example. Upon arriving in Brazil, Syrian refugees encounter a new social reality where they must navigate the categorization of themselves and others into various groups. This categorization may lead to the formation of a strong social identity based on their Syrian origin and their shared experiences as refugees. Social comparison between the ingroup of Syrian refugees and the outgroups within Brazilian society may foster a sense of belonging and internal cohesion, but it can also result in conflicts. Refugees may seek to elevate their social identity relative to other groups, which can lead to favoritism towards fellow compatriots and a perception of discrimination from the host society. These power dynamics and intergroup conflicts can impact the integration of Syrian refugees into Brazilian society. Understanding Social Identity Theory can aid in developing policies and programs that promote inclusion, respect the identity of refugees, facilitate interactions among different groups in society, and address issues of prejudice and discrimination faced by this population.

Based on the definitions provided so far, the question arises: What is required for a social aggregate to be considered a group?

Tajfel and Turner's (1982) theory helps us understand the distinction between Social Group and Social Aggregate, which is fundamental to the discussion of Syrian refugees in Brazil, as proposed in this study. According to these authors, a group is a social unit composed of individuals who interact continuously, share a common identity, and have norms, values, and goals that unite them. Members of a group are regular participants in a collective, and their interactions are meaningful, influencing behaviors and attitudes. In contrast, a social aggregate refers to a collection of individuals who are together in a given space but do not necessarily interact or share a common identity. Members of an aggregate may not have significant social ties or shared objectives, resulting in more superficial interactions. Members of a social aggregate do not perceive themselves as part of a unified social entity, lacking a sense of "us" that would unify them. These definitions are important for understanding how social dynamics operate in different contexts, such as among Syrian refugees in Brazil, where the formation of groups may be crucial for integration and mutual support.

When we referring to a large number of people, in this case refugees, these individuals represent a significant portion of the population who were living their daily lives but were caught up by civil war. They were forced to leave their homes, abandon their jobs and possessions, and ultimately leave their country in order to survive. They were brought together by an incident that gave them a common fate: seeking refuge. This incident may have conferred upon them the status of a group. In this regard, Jesuino (2004) argues that: "Any gathering, regardless of its size, whether it be a crowd, audience, or assembly, constitutes a potential group or, at the very least, it is possible to identify the always latent emergence of group phenomena within it" (p. 299).

According to the same author, several elements are necessary for the formation of a group from a social aggregate: it is fundamental that there be interaction among the members of the aggregate. This interaction must be meaningful and recurrent, allowing for

the exchange of information, feelings, and actions between individuals. Members should share common objectives, goals, or interests that motivate cooperation and coordination among them. These shared objectives provide a sense of purpose to the group and guide collective activities and efforts. The group develops a set of norms and values that regulate members' behavior, establishing what is considered appropriate or inappropriate within the group context. These norms promote the cohesion and stability of the group, facilitating the predictability and coordination of individual actions. Another important aspect for Jesuino (2004) is that members of a group develop a sense of belonging and identification with the group, perceiving themselves as part of a distinct unit from other groups or aggregates. This aspect reinforces the idea that collective identity strengthens the bonds between members and influences their self-esteem and commitment to the group.

4.2. Syrian Refugees in Brazil as a Social Group

Considering the elements outlined above, it is possible to view Syrian refugees in Brazil as a social group. Through social interaction, shared objectives, common norms, social identity, and interdependence, refugees can form groups that facilitate their integration and help them address the challenges of their new reality. Syrian refugees, by coming together in communities or support groups, establish meaningful and recurring interactions. These interactions are crucial for exchanging information about resources, services, and experiences, allowing members to influence one another and build bonds of solidarity that extend beyond mere physical proximity. By setting common goals, such as seeking safety, access to basic services, employment, and integration into Brazilian society, these objectives drive mutual cooperation, fostering a sense of purpose that guides their collective activities and efforts, such as participating in language courses or professional training programs. Within these formed groups, refugees develop norms and values that regulate their behavior. These norms can promote the cohesion and stability of the group, facilitating adaptation to new living conditions and the creation of a collective identity that values their experiences and cultures. The shared experience of resettlement and the quest for a new life in Brazil can contribute to the development of a shared social identity. A sense of belonging may strengthen bonds among members and positively influence their confidence and commitment to the group, helping them in overcoming common challenges in their new environment.

Cichoski (2017) highlights the issue of generalizing collective entities as an undifferentiated whole, arguing that this approach overlooks the nuances and particularities that characterize each group. He emphasizes that treating social groups as singular entities risks simplifying complex dynamics and disregarding the diverse experiences, identities, and contexts that shape collective action. This generalization can lead to erroneous conclusions about the effectiveness and nature of social interactions, as each group has its own norms, values, and power structures that influence its actions. The author advocates for a more detailed and contextualized analysis of collective entities, which takes into account the internal diversity and specificities of each group, thereby allowing for a richer and more accurate understanding of collective action and social relations.

By questioning the generalization of collective entities treated as an undifferentiated whole, Cichoski (2017) argues that this approach overlooks the nuances and particularities that characterize each group. Syrian refugees in Brazil, for example, do not constitute a homogeneous group; they bring with them a diversity of experiences, personal histories, cultures, and social contexts. Generalizing refugees as an undifferentiated collective entity disregards these differences and can lead to policies and approaches that do not address the specific needs of subgroups within the Syrian community. The author emphasizes that such

generalization can obscure these multiple identities, which are crucial for understanding how refugees organize, interact, and adapt to their new society.

The Theory of Field by Pierre Bourdieu's (1983a) can offer valuable insights for the discussion on Syrian refugees in Brazil, particularly in relation to Cichoski's critique of the generalization of collective entities. Bourdieu defines "field" as social spaces where various agents (individuals or groups) compete for resources and capital (economic, cultural, social, and symbolic). In the context of Syrian refugees, different social fields (such as the labor market, the educational system, and community support networks) can be analyzed to understand how refugees interact and compete for resources. This analysis allows for the identification of the particularities within each subgroup of the refugee community, rather than treating them as a singular entity.

The concept of habitus proposed by Bourdieu (1983b), which refers to the set of dispositions and practices individuals develop based on their experiences and social contexts, is also relevant. Syrian refugees bring with them a habitus formed in their country of origin, which may influence their interactions and adaptations in Brazil. Recognizing how the habitus related to how refugees perceive and engage with the new society can enhance the understanding of social dynamics at play.

5. CONCLUSION

This paper aimed to address the issue of how we perceive certain groups and their common and automatic generalization, which often normalizes this view through pre-established standards without adequate reflection and deeper understanding of the group in question. Reviewing literature from social psychology and sociology has allowed us to reflect on the guiding questions: do Syrians who have entered Brazil with refugee status constitute a group? Can they be studied as a group, or are they merely a social aggregate united by the shared suffering caused by civil war?

The analyzed texts enable us to show that the intersection of the concepts of group, social identity, collective action, norms, power structures, and the critique of generalization offers a comprehensive approach to understanding the issue of Syrian refugees in Brazil. This analysis underscores the importance of forming groups that foster solidarity and mobilization, while also reinforcing the unique complexities and challenges faced by each refugee.

Even when considered a group, reflections on Syrian refugees in Brazil must take into account their cultural and social diversity, which, while sharing a common origin, encompasses a mosaic of experiences and identities. Prior to the civil war that began in 2011, Syria was a country with a diverse population in terms of ethnicities, religions, and traditions. This diversity is reflected in the experiences of Syrians who have arrived in Brazil, where they encounter unique challenges and opportunities. Such an aspect leads to a reflection on the generalization of collective entities.

Utilizing these theories allows for the development of more effective policies and interventions that address the specific needs of refugees, facilitating their integration and fostering an environment of inclusion and respect. Building a continuous dialogue between refugees and Brazilian society is essential for promoting empathy, understanding, and social cohesion, ensuring that all individuals, regardless of their origin, can contribute to and integrate into the society that welcomes them.

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CHAPTER # 14

MIDDLE CORRIDOR PERSPECTIVE: WHAT DOES GEORGIA'S POLITICAL IDENTITY CHANGE?

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ABSTRACT

This Chapter considers a wider Black Sea Region for Georgia's identity search considering Georgia's geopolitical location, its Euro-Atlantic aspirations and its main value for the region and beyond – all features for a successful transit hub. It is even more relevant in the context of the current geopolitical changes and an increased focus on Middle Corridor. The Middle Corridor, also called TITR (Trans-Caspian International Transport Route), is a trade route from Southeast Asia and China to Europe via Kazakhstan, Caspian Sea, Azerbaijan, and Georgia. It is an alternative to the Northern Corridor, to the north through Russia, and the Ocean Route to the south, via the Suez Canal. Geographically, the Middle Corridor is the shortest route between Western China and Europe. International Sanctions on Russia and COVID-19 before that make Middle Corridor a safer and better option for trade. Based on different intergroup approaches developed in social psychology (e.g., Social Identity Theory, Realistic Conflict Theory), political identities refer to identification with and meaning attributed to membership in politically relevant groups, including political parties and national, ethnic, linguistic, or gender groups. A key concept in this intergroup approach to political psychology is political identity. This Chapter argues that (i) Georgia's political identity is strongly tied with its Euro-Atlantic aspirations and (ii) Georgia will embrace its regional identity if it sees the perspective of strengthening its political identity.

Keywords: political identity, middle corridor, values, Georgia, EU, regional identity.

1. INTRODUCTION

Writing over two decades ago, Stuart Hall (1991) first told the story of European identity as contradictory processes of marking symbolic boundaries and constructing symbolic frontiers between inside and outside, interior and exterior, belonging and otherness, which are central to any account of the political psychology of European integration. However, no systematic attempt has been made to weave the stories of European identity together with those of European integration using political psychology (Manners, 2018, Political Psychology). Given that marking inside and outside, interior and exterior, belonging and otherness are both political and psychological processes, this absence of engagement seems problematic.

Georgia could be a good case study to highlight this engagement.

Georgia's complex political geography has always been and will stay a reality that we cannot avoid on multiple levels – be it politics, economy, or identity (Pirtskhalava & Kvanchilashvili; 2023). The global changes that the COVID-19 and Russia's War in Ukraine has caused, pushes Georgia to balance its regional integration with its ultimate goal to become a member of the EU. Today, Georgia holds the EU candidate country status bringing it closer to opening negotiations for its EU membership, which makes the nature

and possible impact of its effort to balance between regional and Euro-Atlantic values something that needs to be watched closely.

Middle Corridor could be one factor amplifying Georgia's need for perfect balance. The so-called "Middle Corridor" is a Trans-Caspian logistics route that connects Asia with Europe, bypassing Russia. Due to the Russian invasion of Ukraine, the sanctions imposed and the resulting obstruction of the transport route via Russia, the Middle Corridor is becoming increasingly important. A multimodal land-and-sea transport route is stretching from China through Kazakhstan, and partly Uzbekistan and Turkmenistan, and across the Caspian Sea, through Azerbaijan and Georgia, to the Black Sea. The route consists of about 4,250 km of rail lines, and about 500 km of seaway. Afterwards, two paths lead to the Europe via Turkey and the Black Sea, respectively. From a European perspective, it also offers access to the growing markets of Central Asia and the Caucasus region, as well as faster access to the Middle East, North Africa and the European Mediterranean region via the ports in Georgia and Turkey.

In November 2023, the World Bank published the report titled - *The Middle Trade and Transport Corridor: Policies and Investments to Triple Freight Volumes and Halve Travel Time by 2030* – which provides a comprehensive assessment of the expected demand for the Middle Corridor, a multimodal rail and maritime corridor linking Chinese and European markets via Central Asia and the Caucasus. The study also offers a detailed diagnostic of infrastructure and logistics services capacity and constraints in the three core countries of the Middle Corridor: Kazakhstan, Azerbaijan, and Georgia.

Although there is significant focus on the corridor's role as a land bridge between China and Europe, it is of critical importance as a regional corridor for countries through which trade will flow. Increased trade between Azerbaijan, Georgia, Kazakhstan, and Europe are the key drivers of demand. [<https://www.worldbank.org/en/region/eca/publication/middle-trade-and-transport-corridor>].

In this Chapter, I argue that this opportune moment for the Middle Corridor development and the recent reshuffling of the trading routes might be one factor where Georgia's political identity and values on the one hand, might help the country to secure its role in the wider Black Sea region without a compromise towards its Euro-Integration path that the majority of Georgian citizens have steadily chosen [https://crrc.ge/wp-content/uploads/2024/02/eng_perception-of-foreign-threats-in-georgia-2023.pdf].

2. WHY POLITICAL PSYCHOLOGY AND MIDDLE CORRIDOR?

Political psychologists strive to unravel the psychological foundations, origins, and consequences of political behavior. Political psychology uncovers the dynamics of significant real-world phenomena, offering valuable insights and enhancing the development of fundamental theories regarding cognitive processes and social relations. In essence, it helps us understand why political events unfold as they do.

That being said, the single most consistent criticism of political psychology (and political behavior more generally) is its frequent disregard of politics or, at best, its tendency to reduce politics to a psychological phenomenon [Kuklinski, 2002, Cambridge University Press]. Given that the three foundational elements of politics are power, conflict, and governing, political psychology, to be truly political, must address each of these elements.

Middle Corridor comprises all three basic elements of politics.

Firstly, it represents the most practical way to exercise a general vision for establishing transport links within the wider Eurasian region, which could link two economic powerhouses – China and Europe, and help establish a connecting route through Central Asia

and the South Caucasus by circumventing Russia (Civic Idea, Geopolitics of Transportation, CAPS, 2024). The need for this alternative route in itself arises from the largest geo-political conflict of our time – Russia's unprovoked war in Ukraine.

On the other hand, the maintenance of a peaceful environment is crucial to ensure the smooth and uninterrupted operation of the Middle Corridor. This means it is imperative to de-escalate conflicts and any other potential disruptions to the route. Russia's continued sabotage of its international reputation and trade partnerships can further motivate countries in the region to recalibrate their partnerships, diversify trade portfolios, and seek viable alternatives to Russia (Civic Idea, Geopolitics of Transportation, CAPS 2024). As a result, better governance will become increasingly crucial for all the countries alongside the route.

Lastly, before 2022, the Trans-Caspian Middle Corridor was primarily a niche regional initiative that lacked proper endorsement from international businesses and stakeholders. Then COVID-19 happened and the global supply chains have been distorted. Later, Russia invaded Ukraine, resulting in international sanctions on Russia, Europe's biggest trade partner, especially in the area of energy. All of this was followed by the resurgence of interest in the Middle Corridor that came with a significant engagement from global logistics corporations and initiatives that were attracted by the diversifying environment around the route (Civic Idea, Geopolitics of Transportation, CAPS 2024). Therefore, it will be crucial to see who gains the most influence over the new route and help emerge a totally new power against Russia's dominance – especially in the global economic sphere.

And finally, analyzing Middle Corridor from the perspective of political psychology is a completely new approach and an initial attempt to avoid reductionism. This chapter argues that the concept of the Middle Corridor for Georgia could be viewed as an economic and foreign policy tool. This leads us to the notion of Political Identity in Georgia's context.

3. GEORGIA'S POLITICAL IDENTITY

Political identity refers to how individuals define themselves and others in terms of their political affiliations, values, and group memberships. It is deeply intertwined with concepts of social identity and often revolves around ideological, party, national, ethnic, or other group identifications that shape political outlooks.

Georgia's political identity has been vastly shaped by speech of the late Georgian Prime Minister, Zurab Zhvania, in front of the Council of Europe in 1999: "I am Georgian and therefore I am European."

Being at the cross-roads of diverse experiences and common cultural practices with multiple states and regions, Georgia could potentially identify itself with a range of regions. These include the post-Soviet space, the Caucasus, wider Black Sea Region or even the Middle East. Georgia could have chosen a multi-vector political approach as well; however, it decided to select a sole vector, focusing on its European identity, which in itself is also viewed as a ticket to Euro-Atlantic integration – Georgia's foreign policy priority for almost two decades now.

The last NDI/CRRC survey, for example, which was conducted last year, before the European Commission's November 8th decision when Georgia was granted EU candidate country status, reaffirms the unwavering dedication of the Georgian people to European integration, with an impressive 79 percent expressing support for EU membership. Over the last year, public opinion trends show a significant increase in favor of political and economic cooperation with the EU [<https://www.ndi.org/sites/default/files/NDI%20Georgia%20October%202023%20poll%20>

-%20press%20release%20-%20Eng%20-%20FINAL.pdf]. Other surveys show the same support for Georgia’s Euro-Atlantic Integration. The 2024 Parliamentary Elections in Georgia is to this day viewed as the attempt of Georgian people to break away from Russia’s influence and move forward to the EU membership.

This Chapter argues that the political identity of Georgia and the concept of the Middle Corridor share several parallels, particularly in their geopolitical positioning, aspirations for independence, and the pursuit of broader regional integration. Below are some key parallels:

*Table 1.
Georgia’s Political Identity & Concept of Middle Corridor – Parallels.*

Aspect	Georgia’s Political Identity	Middle Corridor
Strategic Location	A bridge between Europe & Asia, enhancing regional importance	Connects Europe & China through Eurasia, bypassing Russia
Sovereignty & Independence	Strives for Independence, especially from the Russian influence	Reduces reliance on Russia, offering greater autonomy in trade
Western Alignment	Seeks integration with NATO, EU & Western Institutions	Aligns with global trade routes, linking Europe & West
Geopolitical Conflict Navigation	Navigates tensions with Russia, aiming for resilience & peace	Created as a response to geopolitical conflicts, especially in Ukraine
Regional Stability & Security Role	Acts as a stabilizing force in a conflict-prone region	Requires stability for smooth operation, contributing to peace
Economic Development	Focuses on modernization & attracting foreign investment	Enhances economic prospects by becoming a critical trade hub
Balancing Regional & Global Interests	Balances regional issues with global aspirations (NATO, EU)	Balances regional cooperation with global trade & supply chains

In-depth interviews conducted with the three main International Financial Institutions involved in securing Middle Corridor as a viable option for transit for Georgia and beyond, support these parallels. Some main quotes are summarized below:

“This region has been having multi-crisis, poly-crisis I would say. As we know there are geopolitical tensions but also after COVID, we noticed a huge issue about supply chains followed by the Russian invasion of Ukraine. We saw huge differences in trade flows and lots of challenges in gas supply to Europe and also Europe deciding to de-couple from Russian energy market; so, energy prices increased creating huge energy crisis. Georgia in particular is a country that has been thinking about – because of its geopolitical situation – how to bring countries together around major infrastructure – Georgia being at the center of an important region trying to get countries to have a common vision”... Charles J. Cormier - Regional Director for Infrastructure for ECA, WB [<https://www.youtube.com/watch?v=qbG7u5aOdWc>]

"I took the note of the role and ambition that Georgia has in becoming a hub and a key participant, a key player in the Silk Road. I am convinced in the political buy-in in this one, because there are a number of projects that the realization of which will make a difference in Georgia's economic growth and the prosperity of the people..." Alkis Drakinos - Director, Regional Head of Caucasus, EBRD [<https://www.youtube.com/watch?v=svM95UUQeuo>]

"My impression was of the strategic importance of what the country – Georgia – means and the strategic importance for the economic development of Georgia and the Caucasus and the Western Asian countries. The Middle Corridor is definitely a strategic infrastructure that can enhance cooperation and develop and foster the economic development, trade and investment and can bring not only public but also private capital at place to help the sustainable development of the whole region" ... Roberta Casali - VP, ADB [<https://www.youtube.com/watch?v=Yau37axZQg0>]

In summary, the Middle Corridor serves as both a literal and symbolic extension of Georgia's political identity. Both are defined by their strategic positioning, desire for sovereignty, alignment with Western institutions, resilience in the face of conflict, and a commitment to fostering economic growth and stability in a complex geopolitical landscape. This Chapter argues that the EU aspirations of Georgia shape its political identity to the higher extent than its desire to balance. For this, the Chapter analyzes World Culture Map 2023 – the largest open-source data for world values, currently in 7 waves.

4. RESEARCH FRAMEWORK

Political psychology is critical for understanding the processes behind political beliefs, values and behaviors, decision making processes and interactions between individuals and groups. With the help of political psychology, researchers examine the foreign policies of nations through different conceptual theories and research methods.

This Chapter attempts to analyze the role of Middle Corridor from the perspective of the political psychology on three main levels: Political Psychology, Political Behavior and Political Identity, with the biggest focus on the latter. With the focus on the Political Identity the chapter delves into 'who' people see themselves as within the political landscape, linking personal and group identification to political attitudes and behaviors. With focus on the Political Behavior the chapter accentuates 'what' people do in politics, encompassing all form of political engagement. And with the focus on Political Psychology the chapter attempts to explain the 'why' behind political attitudes and behaviors from a mental and emotional standpoint.

The theoretical framework is visualized in the chart below:

Table 2.
Theoretical Framework.

Aspect	Political Identity	Political Behavior	Political Psychology
Definition	The way individuals define themselves based on political group membership and affiliations.	The study of political actions and activities of individuals and groups.	The study of how psychological processes influence political attitudes, beliefs, and behavior.
Key Focus	Self-concept and group membership in terms of political ideologies, parties, or movements.	Observable actions and forms of political participation, such as voting, protests, and campaigning.	Mental and emotional processes that shape political attitudes and behaviors.
Core Concepts	Partisanship, Ideological Identity, Social Identity Theory, intersectionality	Voting behavior, political participation, public opinion, electoral choices.	Cognition, emotions, personality, heuristics, group dynamics, biases.
Discipline Roots	Political Science, Social Psychology, Identity Theory, Sociology	Primarily political science, with insights from sociology and economics.	Interdisciplinary: psychology and political science.
Focus on Individual vs. Collective	Primarily individual identity, but deeply tied to collective group affiliation	Focuses on both individual and collective actions in the political sphere.	Primarily individual processes, though it also includes group dynamics.
Observable vs. Latent Processes	Combination of latent identity processes & observable group aligned actions	Observable political actions and behavior.	Latent processes (mental and emotional factors, biases).
Key Theories / Models	Social Identity Theory, partisanship theory, intersectionality	Rational choice theory, mobilization theories, political socialization.	Cognitive dissonance, motivated reasoning, authoritarianism, emotion theories.
Outcomes	Understanding of how political self-identification shapes attitudes & actions	Patterns of political participation and trends in collective behavior.	Insights into how mental processes shape political decision-making.

This Chapter incorporates three main political psychological conceptual approaches in its analysis:

(i) Situationism vs dispositionism – this approach is important, because the evidence shows that there is no consistently pro-disposition or pro-situation bias across international relations (Houghton, 2009). The opportune moment of the Middle Corridor is definitely driven by situationism [COVID-19 and Russia's unprovoked war in Ukraine]; however, its sustainable development is based on dispositionism in the sense that dispositions account for altruistic, desirable, or “good” behaviors, which are crucial for international cooperation rather than competition (Houghton, , 2009);

(ii) Operational Code Analysis –this is one especially prominent approach that political psychologists have used to study political beliefs. The first set of beliefs has to do with one's general philosophy about the

nature of political life, while the second deals with more “practical” questions such as how one goes about implementing one's chosen political objectives (Houghton, , 2009). This Chapter slightly modifies the approach in the sense that it examines the political beliefs not of the elites, but rather public on both ‘philosophical’ and ‘practical’ levels of their own political behavior. This approach is more relevant for Georgia's current situational framework since developing Middle Corridor is viewed as an alternative to a North Corridor by the West, confronting Russia, by trying to bypass its interests and grip in the region. In order for the political elites in Georgia to take brave political steps and side with the democratic part of the world rather than autocratic, they will need strong electoral support. 2024 elections in Georgia in late October are thought to be exactly this – some sort of referendum on Georgia's EU-NATO aspirations rather than securing its place on Russian orbit [<https://eprc.ge/en/news/8th-tbilisi-international-conference-2024-a-pivotal-year/>];

(iii) Beliefs vs. values –Values are stable long-lasting beliefs about what is important to a person. They become standards by which people order their lives and make their choices. A belief will develop into a value when the person's commitment to it grows and they see it as being important. This Chapter argues that current (immediate) economic development has an impact on value sets of Georgia. This Chapter uses the most recent World Value Survey, the largest open sourced data that is available in 7 waves and focuses on two sets of values, namely traditional-survival values and secular-rational values.

Figure 1.
Factor Loadings.

	Factor Loadings
Traditional values emphasize the following (Secular-rational values emphasize the opposite): ^a	
God is very important in respondent's life.	.70
It is more important for a child to learn obedience and religious faith than independence and determination. (Autonomy index)	.61
Abortion is never justifiable.	.61
Respondent has strong sense of national pride.	.60
Respondent favors more respect for authority.	.51
Survival values emphasize the following (Self-expression values emphasize the opposite): ^b	
Respondent gives priority to economic and physical security over self expression and quality of life. (4-item Materialist/Postmaterialist Values Index)	.59
Respondent describes self as not very happy.	.59
Homosexuality is never justifiable.	.58
Respondent has not and would not sign a petition	.54
You have to be very careful about trusting people.	.44
<i>Note:</i> The original polarities vary; the above statements show how each item relates to the given factor. Total N = 165,594; smallest N for any of the above variables is 146,789.	
^a First factor explains 26 percent of total individual variation; secular = positive pole.	
^b Second factor explains 13 percent of total individual variation; self-expression = positive pole.	
<i>Source:</i> World Values Survey data from 125 surveys carried out in three waves in 65 societies.	

Traditional–survival values emphasize the importance of religion, parent-child ties, deference to authority and traditional family values. People who embrace these values also reject divorce, abortion, euthanasia and suicide. These societies have high levels of national pride and a nationalistic outlook. Survival values place emphasis on economic and physical security. It is linked with a relatively ethnocentric outlook and low levels of trust and tolerance. These values are referred to as materialist values. [<https://www.worldvaluessurvey.org/WVSCContents.jsp?CMSID=findings>].

Secular-rational values have the opposite preferences to the traditional values. These societies place less emphasis on religion, traditional family values and authority. Divorce, abortion, euthanasia and suicide are seen as relatively acceptable. (Suicide is not necessarily more common.) Self-expression values give high priority to environmental protection, growing tolerance of minorities and gender equality, and rising demands for participation in decision-making in economic and political life. These values are referred to as post-materialist values. [<https://www.worldvaluessurvey.org/WVSCContents.jsp?CMSID=findings>].

5. FINDINGS & DISCUSSION

The World Cultural Map and the Middle Corridor intersect in their emphasis on cross-regional connectivity, cultural exchange, and geopolitical significance. They both highlight how geographic and cultural positioning influences not only individual national identities but also broader international dynamics.

The Inglehart-Welzel Cultural Map shows that as societies become more prosperous and educated, their values tend to evolve from a focus on survival to self-expression. Georgia's movement on this map indicates a cautious shift from the survival values that emphasize economic and physical security, toward more progressive, self-expressive values that prioritize environmental protection, tolerance, and self-expression.

According to the Inglehart-Welzel World Cultural Map, following an increase in standards of living, and a transit from development country via industrialization to post-industrial knowledge society, a country tends to move diagonally in the direction from lower-left corner (poor) to upper-right corner (rich), indicating a transit in both dimensions. This is where most of EU countries are positioned on the World Cultural Map.

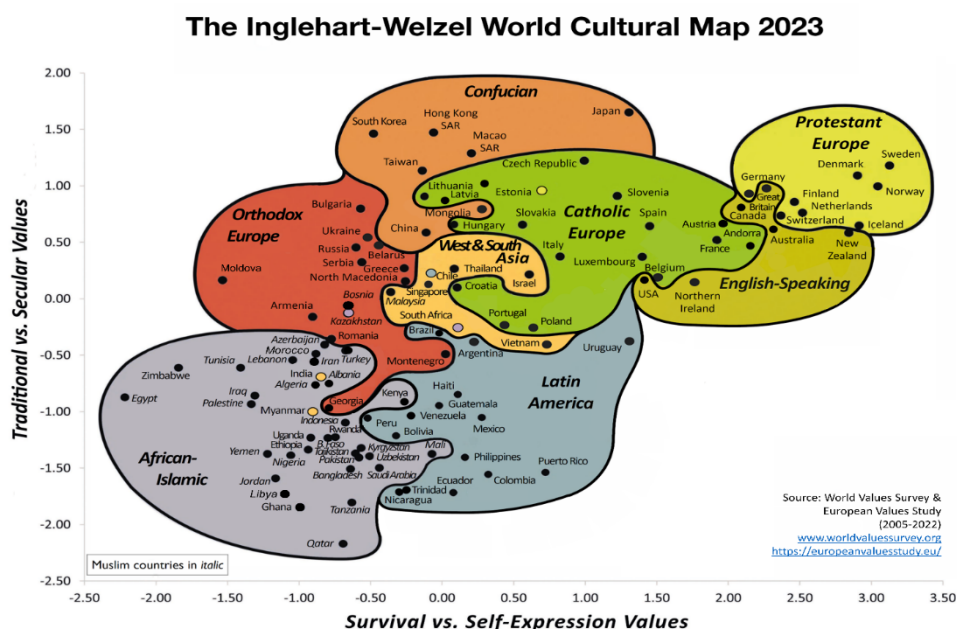
The World Cultural Map and the Middle Corridor represent frameworks for understanding cultural, economic, and geopolitical dynamics across regions, and there are notable parallels between the two. While they have different primary focuses—one centered on cultural value systems and the other on trade and infrastructure—their overlaps highlight shared influences in shaping international interactions. The World Cultural Map, based on theories like those of Ronald Inglehart and Samuel Huntington, identifies clusters of countries with shared cultural, religious, and historical foundations. The Middle Corridor, which links Central Asia, the Caucasus, and Turkey to Europe and China, passes through regions historically shaped by Islam, Turkic heritage, and the influence of the Silk Road. Both frameworks emphasize a cultural continuum that spans from East to West, illustrating a blend of civilizations. For instance, countries in Central Asia and the Caucasus feature prominently on the Middle Corridor and also fall within a unique cluster in the World Cultural Map, reflecting shared historical influences from Persian, Ottoman, and Soviet legacies.

The World Cultural Map also emphasizes areas where cultural identities intersect or clash, often giving rise to geopolitical competition. The Middle Corridor, part of the broader Belt and Road Initiative (BRI) and an alternative to Russian routes, holds strategic significance as countries navigate complex power dynamics between China, Russia, Turkey,

and the EU. The clear parallel here is that both frameworks highlight regions of geopolitical importance and competition. The Middle Corridor runs through countries like Kazakhstan, Azerbaijan, and Georgia, which sit at the crossroads of different cultural spheres (Eastern Orthodox, Islamic, and Turkic cultures) on the World Cultural Map. This geographic positioning creates a blend of cultural and political identities and a competitive geopolitical environment where nations seek to assert influence.

Despite these differences, as the World Cultural Map shows, all three main countries driving the demand for the Middle Corridor – Georgia, Azerbaijan and Kazakhstan – tend to be closer to traditional and survival values, rather than rational and self-expression values that are more common to the EU countries of Georgia's aspiration.

Figure 2.
World Culture Map 2023.



However, out of all three countries along the Middle Corridor – Georgia, Kazakhstan, Azerbaijan – only Georgia shows the clear trajectory shift from traditional towards emancipative values.

Table 3.
Traditional & Emancipative Values.

Mean	Traditional Values	Emancipative Values
Georgia	0.28	0.35
Azerbaijan	0.33	0.33
Kazakhstan	0.38	0.37

In the context of the Middle Corridor, this means that value-wise Georgia might side more with green initiatives, gender-sensitive policies and shared responsibilities in decision-making process. How sustainable may Georgia be towards these values – is another issue and the main component to be observed here is Georgia’s current (immediate) economic situation.

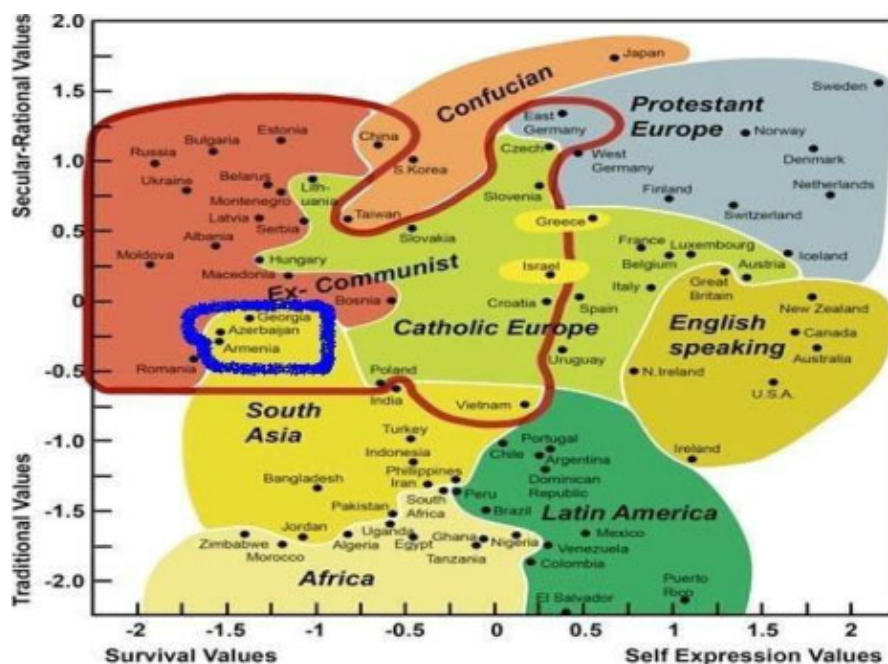
Table 4.
Situationism.

Most Serious Problems & Aims		Most Serious Worries	
People living in poverty and need	73.1%	Losing my job or not finding a job	85.2%
A high level of economic growth	76.8%	A war involving my country	96.7%
A stable Economy	73.5%	A civil war	94.4%
		Government wire-tapping or reading my email or mail	74.4%

Main concerns associated with the economy include losing a job or not finding a job, lack of a high level of economic growth; stability and a high level of poverty.

This economic situation then influences Georgia’s diagonal move on the World Cultural Map. The sharpest shift towards traditional and survival values for Georgia happened during pandemic [WVS 2005-2020 / Inglehart-Welzel World Cultural Map 2020]. Since then, Georgia has not returned to its highest position on the World Cultural Map’s diagonal: From 2005 to 2009, Georgia had the stable trajectory towards secular-rational and self-expression values and it was ahead of its two neighbors.

Figure 3.
World Cultural Map 2005-2020.



What differentiates Georgia from Azerbaijan and Kazakhstan is its transition process in values. The Middle Corridor is fundamentally about connectivity, linking China to Europe via Central Asia and the Caucasus through a network of railways, highways, and maritime routes across the Caspian Sea. Similarly, the World Cultural Map suggests that societies are not isolated but are influenced by cultural exchange, migration, and trade. Both frameworks suggest the tension between modernization and maintaining cultural identity. For instance, Middle Corridor countries like Azerbaijan and Kazakhstan, are pursuing modernization primarily through investment in infrastructure and trade, while Georgia on the other hand tries to embrace economic growth while retaining traditional cultural values.

If we compare materialist and post materialist indexes for Georgia, we will see that Georgia is still driven by material values, which express the need for economic and financial security, societal stability, personal safety, and law and order - Materialist vs. Post Materialist Index: Materialist – 42.8%; Mixed – 51.7%; Post Materialist – 0.8% - however, the share of mixed nature of values clearly indicates that Georgia has already started to question its material values and is ready for transition.

The same tendency is maintained in the Autonomy index, which show the transition from traditional to emancipative values - Autonomy Index: Obedience – Religious Faith – 28.8%; Mixed – 38.5%; Determination-Perseverance – 32.7% - clearly, Georgia strives towards advanced Western society league. According to Inglehart (2023) [European Values Study 2017-2022], advanced Western societies experience a shift from materialist to post-materialist values. In other words, Georgia expresses a greater need for political freedom and participation, self-actualization, personal relationships, creativity, and care for the environment.

Operational Code analysis also reflects this mixed nature of Georgia's value shift in that its philosophical beliefs not always match its instrumental beliefs.

Table 5.
Operational Code Analysis.

Philosophical Beliefs		Instrumental Beliefs	
Confidence in Democracy	79.3%	Having a strong leader who does not have to bother with parliament and elections	53.8%
Importance of Democracy	54.1%	People obey their leaders	11.3%
Confidence in Politics	38.7%	Would never attend peaceful demonstrations	60.6%
		Would never join strikes	80%
Confidence in Churches	87.1%	Membership of Churches or Religious Organizations	Not a member – 79% Inactive member – 14.1%
		Attendance of Religious Services	Only on Special Holidays – 25.5%
Confidence in the EU	47.6%	I see myself as the citizen of the EU	41.3%

As you can see Georgians say they have confidence in almost all important institutions; however, with the democracy, for example, they also need a strong leader, but are not inclined to obey the leader. This again shows the mixed values that are overriding Georgia. The only high consistency is confidence in the EU.

Overall, Georgia's latest trajectory in the World Values Survey (WVS) reflects a slow transition toward more secular and self-expressive values, in line with global trends. This shift includes a growing focus on individual autonomy, gender equality, and democratic governance, although the influence of Orthodox Christianity remains significant in shaping social attitudes.

Table 6.
Value Analysis.

Traditional Values		Survival Values	
God is very important	67.1%	Feeling of Happiness	69.6%
Abortion is never justifiable	68.1%	Homosexuality is never justifiable	86.1%
National Pride	76.2%	Would never sign a petition	71.9%
Respect for the Authority	61.6%	You need to be rather careful when trusting other people	90.1%

The slow and cautious shift described in this Chapter, occurs amidst broader regional pressures, including political turbulence, economic challenges, and Russia's geopolitical influence. These factors create some friction between traditional elements of Georgian society and the newer, more liberal attitudes emerging among younger generations, resulting, for example, in the permanent demonstrations against the 'Russian Law', the primary reason the EU accession process has been currently suspended for Georgia [<https://civil.ge/archives/600995>].

To conclude, Middle Corridor could be a relevant instrument for enhancing Georgia's transit role and contributing to its economic development, but not sufficient enough to form Georgia's political identity alone. Georgia's regional and / or cultural identities are important as long as they contribute to the overall political goal of Georgia embracing its political identity – shifting diagonally on the World Culture Map close to the EU countries while itself becoming the member of the EU. The only high consistency in philosophical and instrumental political beliefs for Georgia is confidence in the EU.

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Chapter # 15

THE EVOLUTION OF HATE LANGUAGE IN POLITICS: SHIFTS IN PUBLIC PERCEPTION AND RECOGNITION OVER TIME

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ABSTRACT

This study investigates the perception of hate language in political speeches and its impact on voter preferences, comparing data from 2013 and 2023. In 2013, neutral language was preferred, followed by critical language, with hate speech rated the lowest. Over the decade, public preferences shifted, with speeches promoting equality and inclusion becoming the most favored in 2023. A significant correlation between age and education was observed, indicating that older and more educated individuals tend to reject hate language more strongly. Younger respondents were more likely to identify hate speech.

For example, respondents aged 18-35 rated hate language significantly higher. ANOVA and post-hoc tests revealed generational shifts, as younger respondents in 2023 demonstrated greater rejection of hate speech compared to their counterparts a decade earlier. The study also explored perceptions of hate language targeting specific groups (age, religion, gender, sexual orientation), finding that while most forms of hate speech were clearly identified, ageism remained less recognized. These findings reflect societal changes in attitudes toward political discourse and highlight the role of demographic factors in shaping perceptions.

Keywords: hate language, equality, perception, political behavior.

1. INTRODUCTION

Hate language, defined as the use of derogatory or inflammatory speech targeting individuals or groups based on their characteristics (Cervone, Augoustinos, & Maass, 2021), has become increasingly prevalent in media and political discourse. This article presents an attempt to contribute the understanding of the phenomenon of hate language through the lenses of social psychology and political psychology, focusing on its impact on individuals, groups, and society as a whole.

Hate speech and its evaluation in political discourse have garnered increasing attention in recent years. Hate language in political discourse has long been a contentious issue, with varying perceptions across different demographic groups. Political speeches are a primary platform for influencing public opinion and voter behavior, and the language used can significantly shape these perceptions. This study aims to explore how hate language in political speeches is perceived over time, focusing on changes in voter preferences between 2013 and 2023. Additionally, it examines the role of age, education, and other demographic factors in shaping attitudes toward hate speech. By comparing data from two distinct periods, this research provides insights into evolving societal norms and the growing preference for inclusive political discourse. Understanding these dynamics is essential for informing strategies to promote more respectful and constructive communication in the political sphere.

2. BACKGROUND

2.1. Social Psychology Perspective

Several theoretical perspectives may help us to understand why it is so “favored” by politicians and not only, what are the background mechanisms that make hate language effective. According to social identity theory (Tajfel & Turner, 1979), individuals derive their self-concept from their group memberships and engage in ingroup favoritism and outgroup derogation to enhance their self-esteem. Studies on news consumption have shown that people are more likely to favor media narratives aligning with their ingroup's perspective, while derogating outgroup perspectives. Hate language often serves as a tool for reinforcing ingroup solidarity by vilifying outgroups, thereby exacerbating intergroup conflict and prejudice (Leach, Van Zomeren, Zebel, Vliek, Pennekamp, Doosje, Ouwerkerk, & Spears, 2008). This may mean that using hate language makes ingroup and outgroup division more salient, this promoting attitude of hate as a mechanism to make ingroup more favorable, and by this serving enhancing self-esteem. This only may be enough to get the idea how deep are the roots of impact of hate language.

From the perspective of social cognitive theory of prejudice, cognitive biases such as confirmation bias and illusory correlation contribute to the selective processing of information that confirms existing stereotypes and prejudices (Devine, 1989). Media representations of marginalized groups often perpetuate negative stereotypes through sensationalized reporting and selective framing, fueling the proliferation of hate speech and discriminatory attitudes (Dixon & Linz, 2000). Furthermore, the contact hypothesis suggests that positive interactions between members of different groups can reduce prejudice and intergroup hostility (Allport, 1954). However, hate language in media and politics can create a hostile environment that inhibits intergroup contact, perpetuating stereotypes and increasing prejudice (Pettigrew & Tropp, 2006).

Thus, the impact of hate language does not stop at creating distance between the ingroup and the outgroup. It also strengthens “cognitive filter” to process further information about the target group, creating such a strong barrier, that it increases the rift, over which it becomes difficult to reach each other and come into contact.

2.2. Political Psychology Perspective

Group polarization Theory analyses the process, where exposure to extreme viewpoints, facilitated by hate language in political discourse, can intensify existing attitudes and contribute to the polarization of society (Sunstein, 2002). The use of hate speech by political leaders and media figures can galvanize supporters, foster loyalty, and mobilize collective action, thereby influencing electoral outcomes and policy decisions (Bruneau & Kteily, 2017). From another perspective, moral disengagement enables individuals to justify and rationalize hate speech by dehumanizing and delegitimizing outgroups (Bandura, 1999). By distancing themselves from the moral implications of their actions, individuals can engage in hate speech without experiencing guilt or remorse, perpetuating discrimination and hostility (Traclet et.al, 2014). In addition, individuals predisposed to authoritarian attitudes are more likely to endorse hate speech and support authoritarian leaders who espouse discriminatory rhetoric (Altemeyer, 1998). Authoritarian leaders often use hate language to scapegoat marginalized groups, mobilize support, and consolidate power, undermining democratic norms and values (Hetherington & Weiler, 2009).

The Spiral of Silence Theory (Noelle-Neumann, 1984) posits that individuals are reluctant to express opinions that deviate from perceived societal norms, fearing social isolation or reprisal. Hate language, when normalized within a political context, can create an atmosphere of intimidation, suppressing dissenting voices and perpetuating discriminatory attitudes (Moy & Gastil, 2006). Consequently, voters may conform to dominant narratives, even if they personally disapprove of hate speech, leading to polarization and the marginalization of vulnerable populations.

Research has shown that exposure to hate speech can significantly influence electoral behavior. A longitudinal analysis by Green and their colleagues (Green, Edgerton, Naftel, Shoub, & Cranmer 2020) demonstrated a positive correlation between exposure to hate speech on social media and support for authoritarian political leaders. These findings underscore the potential for hate language to shape voters' perceptions and preferences, with implications for democratic decision-making.

Several factors may moderate the relationship between hate language and voters' attitudes. For instance, research by Mutz (2006) suggests that individual differences in media literacy and cognitive processing can mitigate the impact of hate speech, particularly among educated voters. Understanding these moderating influences is essential for developing effective interventions to combat the proliferation of hate speech in political discourse.

2.3. Social Media, Polarization, and Echo Chambers

The rapid proliferation of social media platforms has fundamentally altered the landscape of communication and political engagement. While these platforms facilitate broader civic participation, they also serve as hubs for the spread of hate speech and misinformation, both of which can profoundly influence voter behavior. Research underscores that social media amplifies hate speech, creating environments that normalize prejudice and hostility. The algorithms used by platforms further exacerbate the issue by prioritizing content that generates engagement, often amplifying divisive and hateful rhetoric (Arora et.al, 2022).

Social media has reshaped political communication, offering both opportunities and challenges. While it democratizes information access and amplifies marginalized voices, it also fosters polarization, misinformation, and the entrenchment of echo chambers. Understanding the role of algorithmic design in shaping political discourse is critical for mitigating these challenges and fostering healthier public spheres. As the dynamics of social media continue to evolve, future research must explore innovative strategies to enhance its positive potential while addressing its vulnerabilities.

While social media democratizes access to information, it also fosters political polarization. Sunstein (2017) argues that platforms exacerbate polarization by creating echo chambers, where individuals are exposed predominantly to content that reinforces their pre-existing beliefs. Algorithmic personalization intensifies this effect, as platforms prioritize content that aligns with users' preferences to maximize engagement (Pariser, 2011). This design encourages selective exposure and the formation of ideologically homogeneous networks, weakening cross-partisan dialogue and mutual understanding (Flaxman, Goel, & Rao, 2016).

Recent studies also highlight the role of social media in amplifying political misinformation. Fake news spreads more rapidly than factual information, especially when it aligns with users' biases (Vosoughi, Roy, & Aral, 2018). This phenomenon has contributed to public skepticism of traditional institutions, increased political cynicism, and

heightened partisan hostility (Guess, Nyhan, & Reifler, 2020). Online platforms are fertile grounds for false narratives, which can manipulate voter perceptions and decisions.

Algorithmic design plays a critical role in shaping political communication on social media. Platforms like Facebook and YouTube use recommendation systems that prioritize engagement metrics, often at the expense of content diversity (Cinelli, 2021). This prioritization fosters filter bubbles that limit users' exposure to opposing viewpoints, reinforcing ideological rigidity (Barberá, Jost, Nagler, Tucker, & Bonneau, 2015).

However, research also suggests opportunities to mitigate these effects through algorithmic interventions. The overemphasis on the amplification of hate language risks oversimplifying the broader dynamics of social media's role in political discourse. This focus, while significant, should be contextualized within a framework that considers the platforms' potential to foster inclusivity and counter hate speech through community-driven initiatives and policy reforms (Pukallus & Arthur, 2024). For example, systems that prioritize diverse content and encourage exposure to cross-partisan dialogue can reduce polarization (Bail, Argyle, Brown, Bumpus, Chen, Hunzaker, & Volfovsky, 2018). Media literacy has emerged as a critical tool in combating the negative effects of social media on hate speech and voter behavior. For instance, initiatives like the Digital Media Arts for an Inclusive Public Sphere (DMAPS) project employ community-based strategies to counteract hate speech through evidence-based interventions and AI-driven tools (Pukallus & Arthur, 2024). Such programs underscore the importance of integrating local knowledge and cultural sensitivity in designing effective countermeasures.

Social media has also been instrumental in destabilizing traditional political hierarchies, often enabling the rise of populist leaders. Populist movements frequently use platforms to bypass mainstream media, disseminating direct, unfiltered messages to supporters (Moffitt, 2016). These tactics exploit the affordances of social media, such as virality and personalized messaging, to amplify populist rhetoric and mobilize discontent against perceived elites (Mudde & Rovira Kaltwasser, 2018).

2.4. The Intersectionality of Hate Language

A major gap in the current discussion is the insufficient emphasis on the intersectionality of hate language. Intersectionality, a concept introduced by Crenshaw (1989), explores how overlapping identities, such as race, gender, sexual orientation, and socioeconomic status, create unique experiences of oppression and discrimination. In the context of hate language, intersectionality reveals how individuals with multiple marginalized identities are often disproportionately targeted, experiencing compounded forms of hatred and exclusion.

Despite its critical importance, intersectionality remains underexplored in the literature on hate language and social media. Addressing this gap would not only enhance our understanding of the nuances of online hate speech but also inform more effective interventions.

3. THE FIRST ATTEMPT TO UNDERSTAND THE PERCEPTION OF HATE LANGUAGE IN 2013

There is a strong theoretical framework provided by insights from social and political psychology, particularly in the context of a political environment rife with hate speech. This situation raises several important questions: Does hate speech actually achieve its intended effect of making a politician more likable? Are individuals of different genders, ages, and backgrounds equally influenced by it? Or do some groups have varying attitudes and

reactions to hate speech? How do people perceive, detect, and identify it? The research discussed in this chapter aims to address some of these questions and offer clearer directions for future research.

3.1. Method and Design

Participants: The research was conducted in two stages: the first stage took place in 2013 and the second – in 2023. The sample comprised 210 individuals at the first stage, and 398 individuals (245 respondents in the replication of the original research, 20 experts, 145 respondents in the quantitative research) at the second stage recruited from diverse demographic backgrounds, including varying age cohorts ranging from 18 to 70 years. Respondents were selected through stratified random sampling to represent diverse demographic characteristics, such as age, gender, or location

Procedure: Participants were given three texts as examples of political candidate's public speech. Candidate one used hate language against political opponents. Candidate two focused their speech on the achievement of the speaker and also criticized the opponents. Candidate three used neutral language only speaking about the politician's own accomplishments and goals. After reading three texts, the respondents were asked: "If there would be elections tomorrow, which of the candidates would you vote for in the first place, in the second place and in the third place."

Second stage of the research in 2023 used the same procedure. Additional research component was added: experts were asked to give list of hate language expressions, statements were grouped and used in quantitative research with a larger sample where participants were asked to evaluate each statement. The purpose of this research component was to establish whether expressions of hate language are actually identified as such.

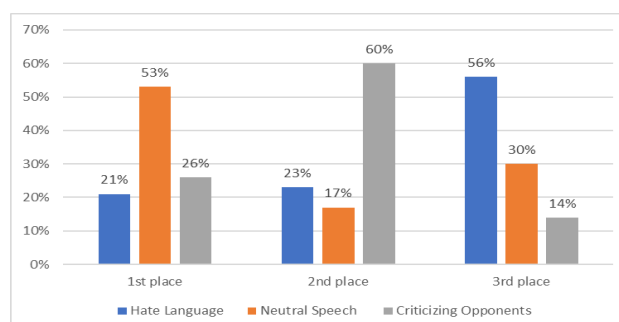
Data Analysis: Quantitative data were analyzed using descriptive statistics and inferential tests to examine attitudes towards hate language across different age groups and education level.

Self-report data, especially in relation to sensitive topics like hate speech May imply potential biases like social desirability bias which may cause individuals to underreport socially undesirable behaviors, such as using hate speech. Or self-serving bias which may lead individuals to present themselves in a favorable light, emphasizing positive behaviors and downplaying negative ones. To mitigate these biases, the study was anonymous and used indirect questioning techniques.

3.2. Language of Hate and Voting

In the ratings of three different speeches, neutral language was leading as the first choice for voting (53%), for the second place political speech criticizing opponents was dominating (60%), and political speech expressing hate language was put in the third place by the majority (56%).

*Figure 1.
Ratings of politicians' speeches, 2013.*



We grouped age into three subgroups: 18-35, 36-50, 51 and above. Analysis of variance was used to look more in detail into correlation of age with the evaluation of speeches. Grouping age into three subgroups revealed significant differences in attitudes towards hate language ($F=6.255$, $df=2$, $p<.05$) and neutral speech ($F=9.625$, $df=2$, $p<.001$) among different age groups. Post-hoc analysis using Tukey HSD test indicated that respondents aged 18-35 found hate speech in politicians' discourse more acceptable ($M=2.1$) compared to those aged 51 and above ($M=2.64$), lower number means higher rating of the speech.

Analysis of variance demonstrated significant differences in attitudes towards hate speech based on education level. Attitudes towards politician's choice of language was significantly different amongst different education levels ($F=4.441$, $df=3$, $p<.005$). Post-hoc analysis revealed that respondents with a university degree perceived hate speech as more unacceptable compared to high school graduates. The first found hate language as more unacceptable ($M=2.4$) than the second group ($M=1.5$).

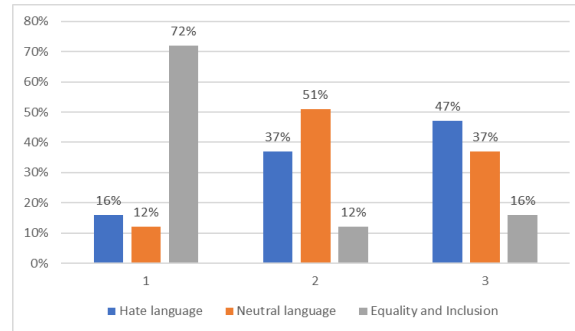
This it can be assumed that higher the age and education of the person, hate language is least preferred.

3.3. Perception of Hate Language Ten Years After – Data from 2023

The study was repeated ten years later, in 2023, with modifications to the procedure. Participants were again presented with three texts containing examples of politicians' public speeches. Text one employed hate language towards specific target groups – gender, age, or ethnicity; text two remained neutral and focused on the political views of the candidate; and text three expressed values of equality and inclusion for different groups.

The majority of respondents (47%) chose a speech where the political candidate expressed values of equality and inclusion as their first choice. The second choice for 51% of respondents was a speech using neutral language, while hate speech was again rated the lowest, with 72% of respondents placing it in the third position.

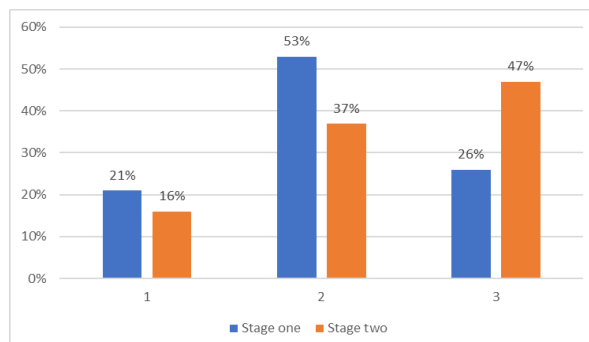
Figure 2.
Ratings of politicians' speeches, 2023.



Analysis of variance was utilized to explore correlations between age and the evaluation of speeches in more detail. Grouping age into three subgroups revealed significant differences in attitudes towards hate language ($F=9$, $df=2$, $p<.001$) and language promoting equality and inclusion ($F=6.7$, $df=2$, $p<.001$) among different age groups. Post-hoc analysis using Tukey HSD test indicated significant differences in evaluations of both types of speeches among all three age groups. Hate speech was least preferred by respondents in the 18-35 age group ($M=2.8$), followed by the 36-51 age group ($M=2.4$), and was more preferred by respondents aged 51 and above ($M=2.3$). Language promoting inclusion and equality was most preferred by respondents in the 18-35 age group ($M=1.5$), followed by the 36-51 age group ($M=1.8$), and least preferred by respondents aged 51 and above ($M=1.9$).

Independence Chi-Square analysis was conducted to compare ratings of hate language between the 2013 and 2023 data. The analysis revealed statistically significant differences in the rating of political speeches containing hate language (Chi Square=32.232, $df=2$, $p<0.001$). Ten years later, a smaller percentage of the sample evaluated hate language as more preferred or even as the second choice. Conversely, a larger percentage of the sample rated hate language as least preferred.

Figure 3.
Change of preferences between 2013 and 2023.



These findings differ from those of the first stage of our research, wherein younger respondents rated hate language more favorably than older individuals. If ten years before, younger people were more accepting language of hate by politicians, now the picture was reversed. It may be assumed that younger generation who grew up to the voting age, are more informed and sensitive to the language of hate and discrimination. This is the generation which grew in more politically stable period, unlike the older generations, which went through politically turbulent times. Besides, younger generation has more online presence that gives them access to broader range of information and opinions.

3.4. Do We Understand Hate Language the Same Way?

Additionally in 2023, the research looked into specific expressions of hate language actually identified by the audience. Four scales were created to see if different types of hate language are perceived differently, and if the age of the audience make difference.

For this purpose, mixed method was used. First, we asked twenty experts (psychologists, lawyers, journalists, human rights activists) to think about examples of hate language targeting gender, age religion and sexual orientation they can remember from media content or from politicians. The respondents were asked to give examples for each category. Responses were grouped based on similarity. As a result, we got statements expressing hate language towards different groups: 16 targeting age, 12 – religion, 14 – gender and 12 – sexual orientation / LGBTQ. These statements were included in the quantitative research, where apart demographic data we asked 133 respondents to evaluate how much did each statement express hate language in their opinion, on a scale from 1 to 10, where 1 would be not expressing hate language at all. Age range of participants was from 18 to 70. 72% of the respondents were female, 25% male, 2% preferred not to identify.

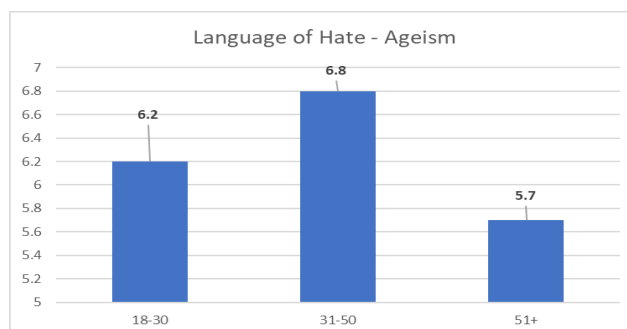
Cronbach's Alpha coefficient was used to evaluate validity of each scale. All four scales had strong internal validity: scale for hate language targeting age – Cronbach's Alpha .897; Scale for hate language targeting religion – Cronbach's Alpha .940; Scale for hate language targeting gender – Cronbach's Alpha .971; Scale for hate language targeting sexual orientation – Cronbach's Alpha .967.

Overall, all types of language of hate were identified by the respondents – those targeting religion, gender and sexual orientation more clearly. It means, that respondents notice and detect these expressions as examples of hate language. Slight difference was found concerning different types of hate language: ageism was least identified, which means that even though the respondents did indicate existence of hate language towards older people in the items presented, some items were still evaluated as neutral. For example statements that contained reverse ageism, or stating lack of technical skills in older people were evaluated as not ageist or neutral. Interesting observation was driven analyzing answers on a scale expressing homophobic language. The respondents clearly identified hate language attacking LGBTQ people, but statements against protecting laws LGBTQ rights or statements about unacceptance of LGBTQ “propaganda” were evaluated more neutral.

Analysis of variance was used to explore whether evaluation of hate language was different among different age groups. This time, we used generation (centennials, millennials, generation x) for grouping criteria.

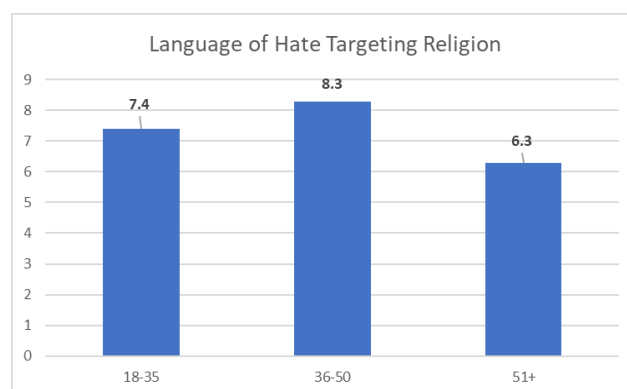
Interestingly, age did not play significant role in identifying ageism. Even though mean score of the ageism scale is smallest amongst the respondents above the age of 50 and the highest amongst those between 31 and 50, the difference was not statistically significant.

Figure 4.
Age and ageism.



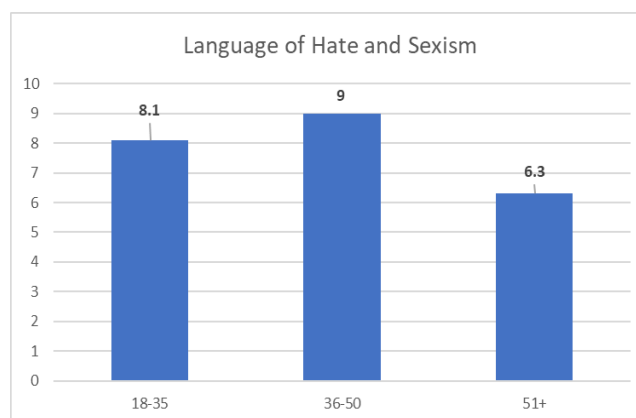
The analysis revealed significant differences in identifying hate language targeting religion ($F=9$, $df=2$, $p<.001$), gender ($F=8.9$, $df=2$, $p=0$) and sexual orientation ($F=5.5$, $df=2$, $p<.001$) among different age groups. Post-hoc analysis using Tukey HSD test indicated that evaluation of hate language towards religion was statistically significantly different between age group 36-50 ($M=7.4$) and respondents older than 51 ($M=6.3$). Interestingly younger respondents identified language of hate expressing ageism more than older group. Even though mean evaluations of 18-35 respondents was not significantly different than those by two other groups.

Figure 5.
Age and Hate Language towards Religion.



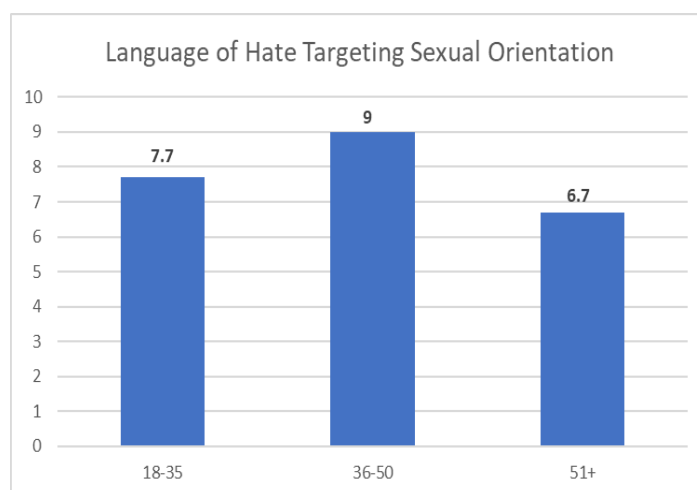
Post hoc analysis using Tukey HSD test indicated that respondents older than 51 identified language of hate expressing sexism, but their evaluation is slightly above neutral ($M=6.3$). Statistically significant differences were found in the responses of this and two other age groups, which strongly identified expressions of sexism as language of hate (age 18-35 – $M=8.1$; age 36-50 – $M=9$).

Figure 6.
Age and Hate Language – Sexism.



Post hoc analysis using Tukey HSD test indicated that evaluation of hate language towards people of different sexual orientation was statistically significantly different between age group 36-50 ($M=9$) and respondents older than 51 ($M=6.7$). Even though mean evaluations of 18-35 respondents was not significantly different than those by two other groups.

Figure 7.
Age and Hate Language Targeting Sexual Orientation.



4. FUTURE RESEARCH DIRECTIONS

This research has highlighted significant trends and shifts in attitudes towards hate language and its impact on political preferences. However, several areas warrant further investigation to deepen our understanding of these dynamics and their implications.

With the increasing role of digital media in shaping political discourse, further research should explore how online platforms influence the perception and impact of hate language. This could involve examining how hate speech on social media compares with traditional media in terms of public reaction and political outcomes. While this study differentiated among types of hate speech based on target categories such as age, gender, religion, and sexual orientation, future research could delve deeper into intersectional analyses, that examines how various social identities (e.g., race, gender, sexuality, class, disability) intersect to create unique experiences of discrimination or privilege. Investigating how hate language directed at individuals with multiple marginalized identities is perceived and its effects on their political preferences could provide a more nuanced understanding.

The observed differences in how various age groups perceive and react to hate speech suggest that generational factors play a significant role. Future research should explore these generational differences in more detail, considering factors such as political socialization, exposure to media, and life experiences.

Investigating the emotional and cognitive responses to hate speech could provide insights into why certain types of hate language are more or less acceptable to different demographic groups. This includes studying the psychological impact of hate speech on individuals and how it influences their political behavior and attitudes.

By addressing these areas, future research can use longitudinal mixed-method approaches and/or experimental design to build on the findings of this study and contribute to a more comprehensive understanding of the complexities surrounding hate language and its effects on political attitudes and behaviors.

5. CONCLUSION/DISCUSSION

This study delves into the nuanced dynamics of speech evaluation in political contexts, particularly focusing on hate speech and its intersection with demographic variables such as age and education level. Our findings contribute valuable insights into the complex interplay between these factors and attitudes towards political discourse.

The results reveal a notable shift in preferences over the ten-year period between 2013 and 2023. Initially, speeches criticizing opponents were favored, followed by those using neutral language, with hate speech rated the least preferred. However, in 2023, there was a remarkable change, with speeches promoting equality and inclusion garnering the highest preference among respondents. This shift underscores evolving societal norms and values, indicating a growing emphasis on inclusive and respectful discourse in political communication.

Age emerged as a significant determinant of speech evaluation, with younger respondents displaying greater tolerance towards hate speech compared to older individuals in the first stage of the study. This finding contradicts the conventional notion that younger generations are more progressive in their attitudes. Instead, it suggests a potential generational divide in perceptions of acceptable political discourse. Furthermore, older individuals showed a stronger preference for neutral language, reflecting a desire for less contentious rhetoric in political communication. This picture was reversed in the second stage of the research, where younger respondents had less tolerance towards hate speech and more preference of the language of equality, compared to the older respondents.

Education level also played a crucial role in shaping attitudes towards hate speech. Respondents with higher education levels were more likely to perceive hate speech as unacceptable, emphasizing the role of education in fostering critical thinking and tolerance.

Additionally, higher education correlated with a preference for neutral language, indicating a desire for rational and constructive political discourse.

The study sought to investigate how hate language targeting specific social groups (age, religion, gender, and sexual orientation) is perceived by audiences and whether age and gender of respondents influence their perceptions. The creation of four scales to evaluate hate language across these dimensions, along with the mixed-method approach involving experts and the general population, provided a robust framework for understanding public perception of hate speech.

The internal consistency of the scales, as reflected by high Cronbach's Alpha coefficients (ranging from .897 to .971), suggests that the developed scales are reliable measures for assessing hate language across the four categories. However, there were nuanced differences in how respondents evaluated different types of hate language. While hate language targeting religion, gender, and sexual orientation was clearly identified by the majority of respondents, ageism was less recognized. This finding aligns with previous research, which has shown that ageism is often normalized in social discourse, particularly when it involves subtle or reverse ageist statements (e.g., highlighting lack of technical skills in older adults). This result indicates that respondents may not universally perceive certain types of age-related statements as harmful or hateful, suggesting a broader societal tolerance or lack of awareness regarding ageism.

The study also highlights generational differences in the perception of hate language. Significant variation was found in the evaluation of hate language targeting religion, gender, and sexual orientation, particularly between younger respondents (18-35 years) and those older than 51. Notably, younger respondents were more likely to identify hate speech in these categories, consistent with existing literature suggesting that younger generations tend to be more aware of and sensitive to issues of social justice and discrimination. For example, respondents aged 18-35 rated gender-based hate language significantly higher ($M=8.1$) than respondents older than 51 ($M=6.3$), highlighting generational disparities in recognizing sexism as a form of hate speech.

Interestingly, the study found no statistically significant differences across age groups in recognizing ageism. Despite expectations that older respondents might be more sensitive to ageist language, the results suggest that age may not play a significant role in the identification of age-based hate speech. This finding could be attributed to the normalization of ageist discourse, making it less likely to be perceived as offensive even by those who are its primary targets.

The findings regarding hate language targeting sexual orientation are also noteworthy. Respondents, particularly those in the 36-50 age group, were more likely to identify homophobic language compared to older respondents. However, language that criticized LGBTQ rights or rejected "LGBTQ propaganda" was evaluated more neutrally, indicating that certain types of hate language toward LGBTQ individuals are either not fully recognized or are considered less offensive by some segments of the population. This suggests that societal views on LGBTQ issues may still be evolving, with residual bias or lack of awareness about the harmful impact of such rhetoric.

These findings, which reveal decreasing preference for hate language in political speeches, must be contextualized within the broader global trends of populism, political polarization, and the evolving dynamics of voter behavior. From 2013 to 2023, there has been a notable decline in the acceptance of hate language in political rhetoric, particularly among younger respondents. This reversal of trends—where younger generations now display greater rejection of hate speech than older cohorts—aligns with the broader societal movements advocating for inclusivity and equality. However, this shift also unfolds in a

political environment increasingly characterized by polarization and the global rise of populist movements (Inglehart & Norris, 2017; Mounk, 2018). Populist leaders often rely on divisive rhetoric, including hate language, as a strategy to mobilize supporters and frame political opponents as threats to societal values (Mudde & Rovira Kaltwasser, 2018). Yet, the declining preference for hate language among the general population may reflect a growing disillusionment with such tactics, especially among younger voters exposed to counter-narratives emphasizing inclusivity (Arora et.al, 2022). The decreasing acceptance of hate language suggests a demand for higher ethical standards in political communication. Politicians relying on divisive rhetoric may face challenges in resonating with younger, more informed voters. Furthermore, this trend could signify a broader societal shift toward rejecting populist and polarizing political strategies, potentially reshaping the political landscape over time (Mounk, 2018; Arora et.al, 2022). Access to diverse narratives likely plays a role in shaping their sensitivity toward hate language. Social justice movements have undoubtedly influenced public attitudes toward hate language by amplifying marginalized voices and fostering a more inclusive dialogue. These movements have used digital platforms to mobilize support, spread awareness, and hold political figures accountable for their rhetoric. The rejection of hate language in the 2023 data may reflect the success of these movements in shaping public consciousness about the dangers of divisive speech and its impact on vulnerable communities (Pukallus & Arthur, 2024).

This shift in public preferences has implications for political actors and their communication strategies. Politicians who rely on hate language may find themselves alienating younger voters, who are increasingly rejecting divisive rhetoric. Furthermore, the trend suggests a growing demand for accountability and ethical standards in political discourse, driven by a more informed and engaged electorate (Arora et.al, 2022).

Hate language in media and politics has profound implications for social cohesion, intergroup relations, and political behavior. Future research should continue to explore the complex interplay between individual attitudes, group dynamics, and institutional factors in shaping the prevalence and impact of hate language. Moreover, efforts to mitigate the spread of hate speech should focus on promoting empathy, critical thinking, and inclusive discourse to foster a more tolerant and equitable society.

In conclusion, this study highlights the intricate interplay between demographic factors and speech evaluation in political contexts. The findings underscore the importance of considering age and education level in understanding attitudes towards hate speech and political discourse. The observed shift towards inclusive speech in 2023 reflects evolving societal values, emphasizing the need for politicians to adapt their communication strategies to resonate with changing public sentiments. Moving forward, continued research in this area is essential to inform efforts aimed at promoting respectful and inclusive political discourse in democratic societies.

Future research should further explore the mechanisms underlying these relationships and investigate additional factors that may influence speech evaluation. Understanding these dynamics is crucial for promoting inclusive and respectful communication in political contexts.

This study provides important insights into public perceptions of hate language targeting different social groups and the influence of demographic factors such as age and gender on these perceptions. While hate language targeting religion, gender, and sexual orientation is more readily recognized, ageism remains less salient, highlighting the need for greater public awareness around age-related discrimination. Generational differences in the recognition of hate language suggest that younger respondents are more attuned to

issues of social justice, particularly regarding gender and sexual orientation, while older generations may not perceive certain forms of hate speech as harmful.

The findings underscore the complexity of hate speech perception, showing that societal norms and individual biases can shape how hate language is identified and evaluated. Future research could explore the role of educational interventions in improving awareness of subtle forms of hate speech, particularly ageism, and the impact of evolving societal attitudes on perceptions of LGBTQ-related hate speech. Additionally, exploring gender differences in more depth could provide further insights into how men and women perceive and react to different types of hate language. Overall, the study reinforces the importance of ongoing efforts to address and mitigate hate speech in all its forms.

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Section 4

Educational Psychology

Chapter # 16

LEARNING STYLES OF GENERATION Z BASED ON KOLB'S LEARNING THEORY: A CASE OF INDONESIAN UNDERGRADUATES MAJORING IN EDUCATION

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ABSTRACT

This study aimed to empirically examine the preferred learning styles of undergraduate students of Generation Z based on Kolb's learning theory. The literature has highlighted unique learning characteristics of Generation Z, but empirical investigations have been inconclusive in terms of Generation Z's learning style, particularly in relation to Kolb's learning model. We applied Kolb's Learning Style Inventory, examining 423 undergraduate elementary education students in an Indonesian university. All of the participants were in Generation Z, ranging from 18 to 23 years old in 2023. Results revealed that as a whole, students preferred the learning mode of abstract conceptualization (i.e., thinking) over concrete experience (i.e., feeling), as well as preferred the mode of reflective observation (i.e., reflecting) over active experimentation (i.e., acting). Furthermore, the most common learning style was Diverging (63%); the second, Assimilating (28%); the third, Converging (5%); and finally, the fourth, Accommodating (4%). Based on these results, we discuss implications and limitations.

Keywords: learning style, Generation Z, Kolb's learning theory, Indonesian university, teacher education.

1. INTRODUCTION

Since Prensky (2001) proposed the term *digital natives* as a feature of a new generation after Millennials, the characteristics of this generation, known as Generation Z, have been widely studied. Typically, Generation Z is considered to include those born between 1995–1997 and 2010–2012. Among their characteristics, learning and educational aspects have frequently been the focus of researchers and scholars (see Isaacs, Scott, & Nisly, 2020; Nicholas, 2019; Sayekti, Habibah, & Rahmawati, 2020; Schwieger & Ladwig, 2018; Seemiller & Grace, 2017; Yu, 2020). Conceptual and review studies on Generation Z have presented a list of unique learning characteristics (see Isaacs et al., 2020; Schwieger & Ladwig, 2018; Seemiller & Grace, 2017; Shorey, Chan, Rajendran, & Ang, 2021), and a number of empirical examinations have begun to examine Generation Z's preferred approach to learning, which is called a 'learning style', in educational institutions and learning contexts. Although numerous learning styles, models, and measures have been studied in various disciplines (Coffield, Moseley, Hall, & Ecclestone, 2004), several empirical studies on Generation Z have applied Kolb's (Kolb, 1984; Kolb & Kolb, 2017) learning model to identify the learning style of Generation Z (e.g., Joonas, Mahfouz, González-Trujillo, & Ruiz, 2021; Jurenka, Stareček, Vraňáková, & Cagánová, 2018; Manzoni, Caporarello, Cirulli, & Magni, 2021). However, the research on learning styles of

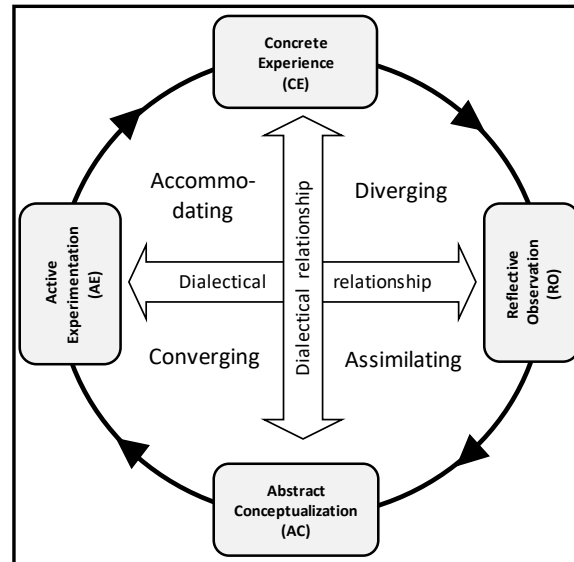
Generation Z using Kolb's learning model has provided not only inconsistent results but also methodological limitations. Thus, it seemed important to fill these gaps. Accordingly, the aim of this study was to examine what learning style Generation Z undergraduate students prefer to employ with regard to Kolb's learning model and measure.

2. LEARNING STYLE AND KOLB'S LEARNING MODEL

For almost half a century, learning style has been studied in various academic and organizational areas. Early research on learning style focused on the process of how individuals learn in learning environments as well as a measurement model of how individuals' way of learning can be examined and identified. More recently, learning style has been studied in relation to broader contextual differences, including country and culture (Yamazaki, 2005) and generations (Albadi & Zollinger, 2021; Nossoni, 2021). Learning style generally refers to an individual's preferred approach to learning (Price, 2004). Many definitions and models of learning style exist (Richardson, 2011). Coffield et al. (2004) reviewed learning style studies and discovered 71 learning style models. In this study, we focused on Kolb's learning model not only because of its intellectual approach to information processing (Cassidy, 2004), but also because it is one of the most well-known and disseminated learning models with its measure (Hawk & Shah, 2007).

By integrating influential learning theories and models in disciplines relevant to psychology, education, and behavior science, Kolb (1984) developed experiential learning theory. The unique feature of experiential learning theory is to focus on individuals' experiences as a central role of human learning (Kolb, 1984; Kolb & Kolb, 2017). According to Kolb's learning theory, people are required to apply four learning modes in learning situations: concrete experience (CE), abstract conceptualization (AC), reflective observation (RO), and active experimentation (AE). CE serves to grasp an experience by using sensing and feelings, which becomes apprehensive knowledge that can be described as implicit. This knowledge is processed by the mode of RO, which requires people to carefully watch and patiently listen to others. As a result of this processing, knowledge becomes more comprehensive, which is captured by the mode of AC. The role of AC is to make human/individual experience clearly and explicitly expressed by words, concepts, numbers, and logic. Such knowledge is a foundation for testing whether it is correct or not by the mode of AE, which requires taking action, leading to a new experience. The CE mode is dialectically opposite the AC mode, while the RO mode is dialectically contrasted with the AE mode. A combination of the four learning modes leads to four basic learning styles: the Diverging learning style (CE and RO), the Assimilating style (AC and RO), the Converging style (AC and AE), and the Accommodating style (CE and AE). Figure 1 depicts Kolb's experiential learning model.

Figure 1.
Kolb's experiential learning model and four learning styles.



3. GENERATION Z AND LEARNING STYLE

Predecessor generation in order from old to new before Generation Z refers to Baby Boomer, Generation X, and Generation Y (i.e., Millennials). As each generation has distinguished characteristics, Generation Z also possesses ones (Shatto & Erwin, 2016; Shorey et al., 2021). For example, Baby Boomers are seen as competitive, loyal, and reliable at work and home (Venter, 2017), while Generation Xers are self-reliant, pursuing skill development due to their young age without relatively parental attention (Berkup, 2014). Generation Y was described as being sheltered, confident, team-oriented, and pressured (Howe & Strauss, 2000).

Generation Z is also called Gen Z, Digital Natives, iGeneration, iGen, and Net Generation. The everyday personal and academic life of Generation Z students has been largely influenced by information and communication technologies since they were young (Ali, Jamil, Ahmad, Mohamed, & Yaacob, 2017; Schwieger & Ladwig, 2018). They have always had internet access to information by means of various channels and devices inside or outside of class, and they disseminate information and messages quickly (Yu, 2020). Additionally, they also interact with their learning environments through “collaborative projects, interactive games or online discussions” (Gargallo-Camarillas, 2021, p. 51). The immediate activities and ability to get, deal with, and send information and messages may affect their learning style (Nicholas, 2019), personality (Ali et al., 2017), and unique characteristics. For example, Schwieger and Ladwig (2018) investigated nine studies on Generation Z, listing their characteristics as entrepreneurial, hands-on experience, personalized micro-experiences, self-reliant, multitasking, pragmatic, and self-informed. Seemiller and Grace (2017) noted that Generation Z students are good at observation and intrapersonal learning as learning characteristics. Consistently, the study of Shatto and Erwin (2016) indicated that Generation Z has a tendency to be observing learners.

In contrast, the study of Mosca, Curtis, and Savoth (2019) reported that Generation Z students prefer to learn by doing rather than listening in class.

To the best of our knowledge, five empirical studies have been conducted on the learning style of Generation Z applying Kolb's learning model: the studies of Galingan (2019), Joonas et al. (2021), Jurenka et al. (2018), Manzoni et al. (2021), and Seemiller, Grace, Campagnolo, Alves, and De Borba (2019). Table 1 summarizes study characteristics and learning style results. All studies reported the ratio/distribution of the four learning styles, though learning style names varied based on research features and aims. For example, the *Diverging* learning style, which is the original name applied in Kolb's learning theory, was changed to Reflector (Galingan, 2019), Innovator (Jurenka et al., 2018), and Imagination (Seemiller et al., 2019). Also, Kolb's learning theory is aligned with Kolb's Learning Style Inventory (KLSI), with a forced-choice form to match dialectical learning dimensions; however, two studies modified the response from forced-choice to a Likert-type scale (Manzoni et al., 2021; Seemiller et al., 2019), which presents limitations in comparing studies. As the study of Manzoni et al. (2021) also documented, their study participants also included Millennials, so that the study's learning style results may have reflected both Generation Z and Millennials. Finally, it should be noted that the percentage expression described in the study of Seemiller et al. (2019) was different from those of the other studies. Their study applied a 5-point Likert scale instead of the forced-choice form and reported "the frequency of responses for those who indicated 'often' or 'always' using each style" (Seemiller et al., 2019, p. 361).

Based on the differences in these studies, it seemed difficult to compare the learning style result of one study with that of the others. Yet, some insight can be gained by listing the first and second dominant styles of learning for each study. The study of Joonas et al. (2021) showed the first learning style was Converging and the second learning styles were Assimilating and Accommodating equally; that of Manzoni et al. (2021), Assimilating (first) and Diverging and Accommodating (second) equally; that of Galingan (2019), Reflector (=Diverging, first) and Pragmatist (=Converging, second); that of Jurenka et al. (2018), Practice (=Converging, first), and Dynamic (=Accommodating, second); and that of Seemiller et al. (2019), Logic in USA and Brazil (=Assimilating, first), and Experience in USA (=Accommodating, second) and Experience and Practicality in Brazil (=Converging, equally as the second). Accordingly, it did not appear that a common learning style dominated in Generation Z.

Table 1.
Summary of five studies' results of learning style and Generation Z.

Authors	N	Country	Institution	Learning Style**			
				Diverging	Assimilating	Converging	Accommodating
Joonas et al. (2021)	120	Mexico	University	18 15%	29 24%	44 37%	29 24%
Manzoni et al.* (2021)	592	Italy	University	150 25%	164 28%	128 22%	150 25%
				Reflector	Theorist	Pragmatist	Activist
Galingan (2019)	149	Philippines	University	63 42%	11 7%	40 27%	35 23%
				Innovator	Analysist	Practice	Dynamic
Jurenka et al. (2018)	40	Slovakia	Secondary	2 5%	7 18%	22 55%	8 20%
				Imagination	Logic	Practicality	Experience
Seemiller et al.*** (2019)	701	USA	College	390 56%	587 84%	524 75%	563 80%
	1481	Brazil	College	840 57%	1118 76%	884 60%	886 60%

Note. *Sample size and frequency numbers were estimated by the authors based on precepts presented in the study of Manzoni et al. (2021). **Names of the learning styles reflect what was used in each study, but the heading at the top indicates the original term used by Kolb. ***Frequency numbers and percentages were resulted from the first and second highest selection based on the usage of Likert scale.

4. METHODS

As a research site, our study sample was undergraduate students of the Faculty of Education in an Indonesian university. As we discussed earlier, this study used Kolb's learning model for analysis. In terms of study on Generation Z's learning style in Indonesian university, there were very few studies on them except the study of Sayekti et al. (2020); however, they applied VAK learning model (Fleming & Bonwell, 2019)

This study involved 423 undergraduate students majoring in elementary education at an Indonesian university. As part of our research project, online survey questionnaires were distributed and collected in the spring term of 2023 at the Faculty of Teacher Training and Education. Participants' ages ranged from 18 to 23 years old; thus, all were considered Generation Z students. Seventy-five percent of the participants were 19, 20, or 21 years old. There were 61 male students (14%) and 362 female students (86%). This study was approved by the university, and the consent of study participants was obtained.

To identify students' learning style, we used version 3 of Kolb's (1999) KLSI translated into the Indonesian language. The psychometrics of the KLSI were investigated by several researchers (Andreou, Papastavrou, Lemonidou, Mattheou, & Merkouris, 2015), showing that it had better psychometric properties than the previous version. The KLSI has been applied in a great number of countries (Kolb & Kolb, 2017).

To examine an individual's preferred learning approach in a learning situation, the KLSI has 12 questions. For each question, there are four options theoretically relevant to the four modes of learning: concrete experience (CE), abstract conceptualization (AC), reflective observation (RO), and active experimentation (AE). The KLSI asks the individual to choose the best option (most preferred), the second best, the third best, and the least preferred. Thus, the KLSI applies a forced-choice approach in alignment with the dialectical learning aspects theorized in Kolb's experiential learning theory. To determine an individual's learning style, the total score for concrete experience (CE) is subtracted from that of abstract conceptualization (AC), which is in the same dialectical learning dimension. Results of the calculated values indicate a relative learning preference for AC vs. CE. Similarly, subtracting the total score for reflective observation (RO) from that of active experimentation (AE) leads to a description of a relative learning preference for AE vs. RO. The normative scores of the third version of the LSI are 4.3 as the value of $AC - CE$, and 5.9 as the value of $AE - RO$ (Kolb, 1999) to determine an individual's learning style. Additionally, the KLSI is designed to examine an individual's balanced learning tendency in terms of the same dialectical learning dimension (i.e., AC vs. CE and AE vs. RO; Mainemelis, Boyatzis, & Kolb, 2002). Such a balanced learning tendency is determined by adjusted absolute scores of each dialectical learning dimension: $|AC - CE|$ and $|AE - RO|$. The former value is the absolute value of $(AC - (4 + CE))$, while the latter value is that of $(AE - (6 + RO))$ (Mainemelis et al., 2002). An absolute value that is closer to 0 means more balance in a learning dimension, while a value further away from 0 shows less balance in that dimension (Mainemelis et al., 2002). Another interpretation is that the more the scores are balanced, the more flexibility an individual has within the learning dimension (Mainemelis et al., 2002).

5. RESULTS

As depicted in Table 2, results of correlation analysis illustrated statistical relationships among eight key learning style variables and three demographic variables: age, gender, and academic year. To analyze relationships between the learning variables and gender, this study used a gender code: male = 1 and female = 2. Student ages were significantly correlated with the mode of abstract conceptualization (AC; $r = 0.12, p < 0.05$), had a marginally negative relationship with the mode of reflective observation (RO; $r = -0.09, p < 0.10$), and had a marginally positive relationship with a relative preference for AC over CE (i.e., AC – CE; $r = 0.08, p < 0.10$). In terms of student gender, there was a marginal positive relationship between gender and AC ($r = 0.08, p < 0.10$) as well as AC – CE ($r = 0.09, p < 0.10$). Those results concerning demographics in relation to learning style variables might be important when considering the influence of age and gender on learning styles of Generation Z students.

Table 2.
Results of correlation analysis of key learning style variables and demographic variables.

	Mean	SD	Age	Gender	Academic year	CE	AC	RO	AE	AC-CE	AE-RO	AC-CE
Age	20.29	1.24	-									
Gender	-	-	0.05	-								
Academic year	2.83	1.88	0.46 **	0.02	-							
CE	30.59	3.77	-0.01	-0.07	0.00	-						
AC	30.79	4.08	0.12 *	0.08 †	0.06	-0.37 **	-					
RO	30.98	4.29	-0.09 †	-0.06	-0.05	-0.27 **	-0.46 **	-				
AE	27.65	3.61	-0.01	0.05	0.00	-0.3 **	-0.2 **	-0.39 **	-			
AC-CE	0.20	6.50	0.08 †	0.09 †	0.04	-0.81 **	0.84 **	-0.13 *	0.04	-		
AE-RO	-3.33	6.59	0.05	0.07	0.03	0.02	0.18 **	-0.86 **	0.08 **	0.11 *	-	
AC-CE	5.88	4.70	-0.03	-0.07	-0.08	0.57 **	-0.6 **	0.08	-0.01	-0.71 **	-0.06	-
AE-RO	9.84	5.80	-0.03	-0.05	-0.01	-0.05	-0.15 **	0.81 **	-0.74 **	-0.07	-0.93 **	0.03

Note. ** $p < 0.01$, * $p < 0.05$, † $p < 0.10$; CE = concrete experience; AC = abstract conceptualization; RO = reflective observation; AE = active experimentation; AC – CE = relative preference for AC vs. CE; AE – RO = relative preference of AE vs. RO; |AC – CE| = balanced score between AC and CE, absolute value of [AC – (4 + CE)]; |AE – RO| = balanced score between AE and RO, absolute value of [AE – (6 + RO)].

Mean scores of four learning modes (CE, AC, RO, and AE) in Table 2 show the degree of learning mode preference: Indonesian undergraduates as a whole preferred to use the three modes of AC, CE, and RO to a similar degree, while they had a lower preference for applying the mode of AE. Figure 2 visually illustrates Generation Z students' preferences for the four learning modes in a learning situation.

Mean scores of AC – CE and AE – RO indicated a relative preference for one learning mode over the other in the same dialectical learning dimension (AC vs. CE, and AE vs. RO). Since the normative scores are AC – CE = 4.3 and AE – RO = 5.9, Generation Z Indonesian undergraduate students as a group exhibited much lower scores in the dialectical learning dimension (mean of AC – CE = 0.20 and mean of AE – RO = -3.33). Thus, Indonesian students as a group prefer to use CE more than AC in comparison with the norm, while they prefer to apply RO more than AE. These scores showed that their learning style as a group was the Diverging learning style.

Mean scores of $|AC - CE|$ and $|AE - RO|$ described a balanced tendency of the Indonesian students within the same dialectical learning dimension. As shown in Table 2, the score of $|AC - CE|$ was 5.88, while that of $|AE - RO|$ was 9.84, indicating that the Indonesian students as a group were more balanced in the learning dimension of $AC - CE$ than that of $AE - RO$. This explanation is also consistent with Figure 2, which showed that the degree of the CE mode was similar to that of the AC mode, whereas the degree of the RO mode was much greater than that of the AE mode. Accordingly, it seems that Indonesian students tend to be more flexible to adapt to both AC and CE learning situations; however, they may not be so flexible with the learning dimension of AE and RO.

Based on a cut-off point using the normative scores ($AC - CE = 4.3$ and $AE - RO = 5.9$), four learning styles can be specified: Diverging, Assimilating, Converging, and Accommodating (Kolb, 1999). Table 3 presents the frequency distribution of the four learning styles per age and gender. The highest number of students had a learning style of Diverging, 266 (63%); followed by Assimilating, 118 (28%); Converging, 22 (5%); and finally Accommodating, 17 (4%). These learning style results show a learning mode of reflective observation (RO), which consists of both Diverging and Assimilating learning styles.

Figure 2.
Degrees of four learning modes among Indonesian undergraduates.

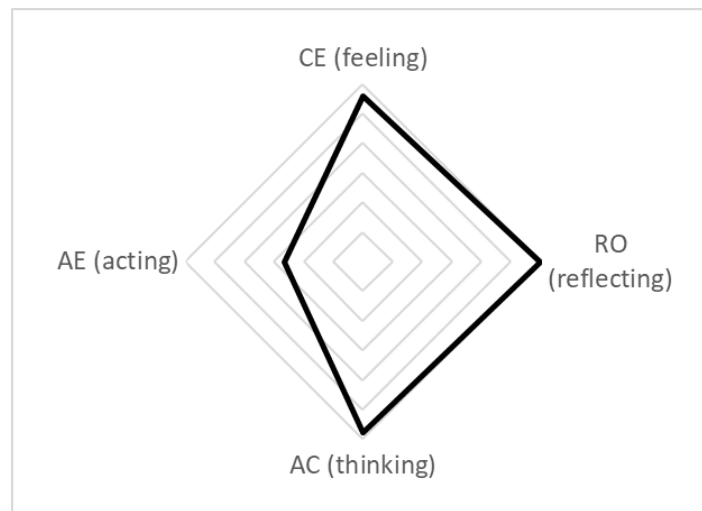


Table 3.
Frequency distribution of four learning styles per age and gender.

		Learning Style				
		Diverging	Assimilating	Converging	Accommodating	Total
Age	18	15	9	1	0	25
	19	65	26	3	8	102
	20	78	32	1	3	114
	21	61	30	6	4	101
	22	40	18	9	2	69
	23	7	3	2	0	12
Gender	male	44	14	1	2	61
	female	222	104	21	15	362
Total		266	118	22	17	423
percent		63%	28%	5%	4%	100%

6. DISCUSSION

This study explored in what way Generation Z students prefer to learn by applying Kolb's learning theory in an Indonesian university. Our study results revealed that their learning style as a group represented a Diverging learning style that accentuates the two learning modes of concrete experience (CE) and reflective observation (RO). Congruently, the largest frequency distribution among four learning styles was also the Diverging style followed by the Assimilating style. The common learning mode of these two learning styles is reflective observation (RO), which suggests the weak usage of the mode of active experimentation (AE) in a learning situation. This finding can be seen in Figure 2, which reflects a lower degree of the AE mode. Finally, our Indonesian Generation Z participants majoring in elementary education exhibited a more balanced learning tendency in a learning situation requiring the AC and CE modes than in that demanding the AE and RO modes. This balanced tendency suggests that they become more flexible when learning in a context that requires either AC or CE modes. For example, when people participate in a field work project, they may have to capture hands-on experiences from an immediate situation, whereas they may be required to express thoughts in the form of speaking or writing. Although the situation is complex, those who possess a balanced style of learning with AC and CE modes would be able to respond to it properly.

When comparing our results with the past five Generation Z studies using Kolb's learning model discussed in the earlier section, we found few similarities. The study of Galingan (2019) using the sample of engineering university students reported that the learning style of Reflector (Diverging) was most dominant, but that of Pragmatist (Converging) and that of Activist (Accommodating) were the second and third largest group, which was different from our results. In conjunction with past studies, our results imply that an influence of factors relevant to generations on learning style might not be enough to determine a certain learning style as unique to Generation Z. To further develop the literature of Generation Z's learning style, it may be important to consider other influential factors such as educational disciplines of participants or their majors, which

affect the formation of learning style (Kolb, 1984), as well as cultural differences (Yamazaki, 2005). This perspective may allow us to develop a research design for study of learning styles and Generation Z, including such factors as educational majors and/or country cultures.

Past studies focused on the frequency distribution of learning style of Generation Z without providing other learning style statistics. This fact may enable us to offer a methodological implication. Our study reported not only the frequency distribution of learning style as a presentation of dominant learning style, but also other learning style results relevant to eight learning style variables. With this approach, research results allow us to capture more comprehensive and broader perspectives to understand the learning styles of Generation Z students. We acknowledge that all studies have their own aims, including other critical variables, or they do not examine only the learning style of Generation Z students; however, we still believe that the eight key learning style variables used in our study contain rich information, which will provide a fuller picture of Generation Z's learning style.

The final implication based of this study concerns educational practice in class. The learning style of Generation Z students as a whole in the Indonesian university was Diverging, with 63% of participants having a Diverging learning style and 28% having an Assimilating style. Since the majority of students tend to prefer to rely on the mode of reflective observation (RO), they feel comfortable with lecture as a teaching method, requiring them to observe, watch, and listen carefully in class. It should be added that these human behaviors and activities are characteristics of Generation Z (Seemiller & Grace, 2017). Because of students' strong RO mode, instructors need to give students enough time to respond to questions or assignments. Theoretically, those with the RO mode of learning would feel better taking time for actions (i.e., answering questions) by gathering various information and points of views (Kolb, 1984, 1999; Kolb & Kolb, 2017). Also, instructors should focus on two teaching approaches: a friendly attitude towards those with a Diverging learning style, and intellectual interaction towards those with an Assimilating learning style. Educational roles in relation to student learning styles need to be considered and practiced for the enhancement of students' learning and development in class (Kolb & Kolb, 2017).

There were several limitations of this study. First, although we exclusively applied the learning style founded on Kolb's experiential learning theory in this study, there are multiple learning styles and measures in the literature, which we did not focus on. Second, in order to identify the learning style of Generation Z students, this study used a sample of Indonesian undergraduates majoring in elementary education. To support, and even generalize, our results, it will be critical to investigate participants who have different demographic characteristics like other majors/programs, other universities, and different countries. Third, our analysis and results relied on one group of the sample belonging to Generation Z using the KLSI measure that enables us to identify individuals' learning styles and learning characteristics. To better specify the uniqueness of Generation Z, comparative studies between Generation Z and other generations like Generation X and Millennials may be a useful research design.

7. CONCLUSION

Our study presented and discussed more comprehensive results of the learning style of Generation Z students based on Kolb's learning model. Nevertheless, much is still not clear in terms of the learning style of Generation Z students. To further advance the

literature on the learning style of Generation Z, it will be essential to accumulate more empirical investigations across majors, institutions, and country cultures.

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Chapter # 17

EFFECTS OF VIRTUAL REALITY COLLABORATIVE LEARNING USING A GIANT MAZE ON SOCIALITY AND LEARNING

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ABSTRACT

In this study, two experiments examined the effects of collaborative virtual reality (VR) learning on sociality and learning outcomes using a giant maze. In Experiment 1, differences between VR/Head Mounted Display (HMD) and VR/desktop conditions were evaluated using the same collaborative learning task. Experiment 2 compared cooperative learning with competitive learning using the same VR learning material. Participants in Experiment 1 included 24 female students, whereas Experiment 2 involved 54 students. Participants, paired for the task, navigated a giant maze in the VR collaborative learning material “ayalab Shall we walk?” with a 10-minute completion time. In Experiment 1, participants were randomly assigned to either the VR/HMD condition (META Quest 2 headset) or the VR/desktop condition (iPad 9th generation) in individual small laboratories. In Experiment 2, participants experienced one learning activity, either VR competitive or cooperative learning activities, using an iPad. Group cohesion, the Interpersonal Reactive Index, and critical thinking attitudes were measured before and after the sessions using Microsoft Forms. Experiment 1 showed differing learning effects between VR/HMD and VR/desktop conditions, whereas Experiment 2 demonstrated varied effects between VR cooperative and competitive learning environments. These findings are discussed in detail in this chapter.

Keywords: cooperative learning, competitive learning, VR/HMD and VR/desktop, sociality, giant maze.

1. INTRODUCTION

Recently, various educational materials have been developed utilizing virtual reality (VR) technology (Thompson, Wang, Roy, & Klopfer, 2018). VR technology offers multiple advantages relevant to this study, including experiencing another individual's perspective by wearing an avatar, working on empathy rather than real-life experience (Cotton, 2021), increasing intrinsic motivation (Bailenson, 2018), and facilitating collaboration (Ademola, 2021). In this study, we developed a giant maze in a virtual space to examine the effects of VR collaborative learning utilizing VR/Head Mounted Display (HMD) or VR/desktop (Experiment 1) and to clarify the abilities fostered during VR cooperative or competitive learning in pairs (Experiment 2).

There are three primary types of VR applications: CAVEs (laboratory for experiencing virtual reality), VR/HMDs, and VR/desktop devices. Among these, VR/desktop is the most familiar and accessible, utilizing a PC, an iPad, or an iPhone. A review of prior studies indicated that the educational effects of VR vary depending on the method utilized (Hsu & Wang, 2021). As CAVEs are rarely utilized in educational settings and tablets are distributed to all elementary and junior high schools in Japan, this study focused on comparing VR/HMD and VR/desktop in a collaborative learning context in Experiment 1.

Collaborative learning is generally considered an active learning method, where learners participate actively. In this study, students used avatars in a virtual space to work together (VR cooperative learning), leveraging interactivity and collaboration, which are the strengths of VR technology (Ademola, 2021). While prior studies have not specifically examined cooperative learning utilizing VR, research has found that playing VR cooperative games enhances social skills in high-functioning children with autism aged 10–14 years (Ke & Moon, 2018) and native English-speaking children aged 7–11 years (Craig, Brown, Upright, & DeRosier, 2016). Additionally, VR perspective-taking (VRPT), wherein users adopt another individual's perspective through avatars, has been confirmed by several studies (Herrera, Bailenson, Weisz, Ogle, & Zaki, 2018; van Loon, Bailenson, Zaki, Bostick, & Willer, 2018). Indeed, conducting moral dilemma discussions using VR technology can increase scores in perspective-taking (PT) on the Interpersonal Reactivity Index (IRI) (Fujisawa, 2023), and experiencing moral dilemmas in virtual space can decrease utilitarian judgments (Francis et al., 2016). Fujimoto, Fujisawa, and Murota (2024), who used *L'émisérable* as a subject for pairs and performed virtual reality role-playing, found that fantasy (FA) scores, which are part of IRI, increased.

The present study compared VR cooperative learning and VR competitive learning utilizing a giant maze. Both learning activities required participants to navigate a maze as quickly as possible. To conquer the maze, participants could utilize strategies such as climbing a steel tower to view the route from above (but reducing the time allotted), checking their current location with various items in the maze, and estimating their position from an overhead perspective. In the VR cooperative learning condition, pairs need to cooperate with each other, remain alert, and strategize to escape from the giant maze more quickly. Conversely, in the VR competitive learning condition, participants do not need to cooperate or think about others; however, they need to think and strategize on their own to reach the goal as quickly as possible.

Meanwhile, there is some debate about the educational effects of competitive and cooperative learning. Fujisawa (2024) developed a VR moral education material that enables participants to enjoy cleaning up the classroom and compared competitive learning with cooperative learning. The results showed that participants were less likely to forget to clean up (higher learning performance) under the competitive learning condition followed by cooperative learning, compared to doing so under cooperative learning followed by competitive learning. Xu, Read, and Allen (2023) developed a video game in which participants played a game wherein they had to rescue a princess, and made comparisons between control, competitive learning, and cooperative learning groups. The results showed that the competitive and cooperative learning groups had higher learning performance than the control group; however, there was no significant difference between the competitive and cooperative learning groups. In statistical learning, individual, competitive, and cooperative learning were compared (Si, Chen, Guo, & Wang, 2022). The results showed that the competitive and cooperative learning groups learned faster than the control group in terms of general learning. Regarding statistical learning, the competitive learning group performed better than the other two groups at the beginning of learning; however, at the end of learning, there was no significant difference among the three groups.

Thus, the findings on competitive and cooperative learning are mixed, and few studies have utilized VR technology. Therefore, it is worthwhile to investigate this knowledge gap further.

Berkowitz and Gibbs (1983) analyzed college students' utterances in moral discussions and identified two types of utterances: operational transactions, which influence participants' thoughts regarding each other, and representational transactions, which do not. The former

speech enhances morality. In non-VR paired games, Ilten-Gee and Hilliard (2021) found an increase in operative transactions. In VR cooperative learning, both transaction types occur, whereas in VR competitive learning, neither type is present. However, participants in the VR competitive learning condition would not use the social skills required for cooperation but instead would use different skills of solving and thinking alone.

Based on the above, this study compared VR/HMD and VR/desktop (Experiment 1) and VR cooperative and competitive learning (Experiment 2) utilizing a giant maze to clarify which social and learning skills are fostered in each condition.

2. EXPERIMENT 1

Utilizing the giant maze “ayalab Shall we walk?,” Experiment 1 compared VR/HMD and VR/desktop in cooperative learning circumstances to clarify the types of socialities and learning outcomes fostered in each cooperative learning environment.

2.1. Methods

2.1.1. Participants

The participants comprised 24 female university students and undergraduate students (age range: 19–26 years). Among them, five had never utilized VR, eight had utilized VR two or three times, and 11 had utilized VR multiple times. They participated in pairs with friends.

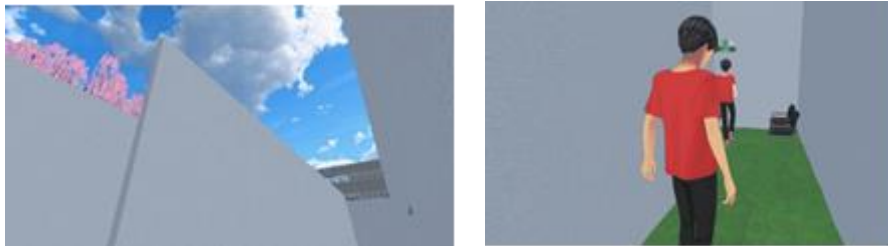
2.1.2. Development of the Virtual Space

Prior to this study, the VR collaborative learning material, “ayalab Shall we walk?” was developed using a cluster, metaverse platform. This virtual space enables visitors to stroll through a vast site that changes depending on the four seasons, designed to be universally accessible. Originally, this virtual space was developed to enable truant children and their teachers or counselors to enjoy conversations while taking a slow walk in the virtual space and to ease an individual’s expression of feelings in the form of an avatar. This study was conducted in the winter area. The maze was located on a flat surface and was made of white walls. The maze had an entrance (Figure 1) and it consisted of several paths and cul-de-sacs (Figure 2), having only one exit. The ceiling was not covered, and the sky could be seen from inside the maze (Figure 2). The maze had different chairs, sofas, stuffed animals, and so on, which were placed in various locations (Figure 2). There was a steel tower on the upper floor of the entrance to the maze (Figure 1) for participants to climb and observe the maze from above. The decision to climb the tower and observe the maze from above depended on the participants. However, the observation time was within the time limit of the maze (10 minutes). During the experiment, participants could determine their current position and whether it was the first time they had passed through the maze by looking at it from above as well as taking note of various items placed irregularly along the maze (Figure 2).

Figure 1.
Maze entrance and steel tower above the entrance to allow observation of the maze passageways from above.



Figure 2.
Examples of clues in the sky visible from the passageway of the maze (left side) and items placed in the passageway of the maze (right side).



2.1.3. Procedure

The pairs of participants were randomly assigned either to the VR/HMD condition (utilizing Meta Quest 2) or the VR/desktop condition (utilizing a 9th generation iPad). Both groups were informed of the rules of VR cooperative learning as follows: (1) enter the maze from the entrance (Figure 1), (2) reach the maze goal together as a pair, and (3) complete the maze as quickly as possible. Each pair had 10 minutes to complete the maze in the virtual space. Participants in the VR/HMD condition entered individual small experimental rooms where they were assisted by the experimenter in fitting a VR headset and handles, ensuring they understood how to operate the equipment. Participants in the VR/desktop condition similarly entered individual small experimental rooms to confirm that they knew how to operate the iPad. In both conditions, participants were alone in their small laboratories but had online access to converse with each other and the experimenter. During the VR cooperative learning session, the experimenter observed each pair without interference, noting their discussions and recording the avatar's behaviors. Before and after the experiment, participants completed a questionnaire using Microsoft Forms.

2.1.4. Survey Contents

Eight items from the Attitude toward Groups Scale (Evans & Jarvis, 1986) were utilized to measure group cohesion. The items were scored on a 5-point scale, with 1 = "not applicable" and 5 = "applicable." The Cronbach's alpha coefficient was .96. The short version of the Critical Thinking Attitude Scale (Kusumi & Hirayama, 2013) was used to measure critical thinking attitudes. It comprises four subscales: awareness of logical thinking, inquisitiveness,

objectivity, and emphasis on evidence. Each subscale comprises three items scored on a 5-point scale, with 1 = “not applicable” and 5 = “applicable.”

The Interpersonal Reactivity Index (IRI; Davis, 1983) was used to measure empathy utilizing four subscales: PT, FA, empathic concerns (EC), and personal distress (PD). Each subscale comprises seven items scored on a 4-point scale, with 1 = “not applicable” and 4 = “applicable.” This scale has been utilized in prior VRPT studies (e.g., Herrera et al., 2018; van Loon et al., 2018).

2.1.5. Scoring

The time taken from the start of the maze to the goal was measured.

2.1.6. Categorization

Pairs of participants who climbed the tower at the start of the maze and observed the maze from above were assigned the term “observed,” while those who did not were assigned “not observed.” Those who reached the goal within the time limit were assigned “task-completed,” and those who could not reach the goal were assigned “task-incomplete.”

2.2. Results and Discussion

Six participants completed the task in the VR/HMD condition, while six did not. In the VR/desktop condition, eight participants completed the task, and four participants did not. Among those in the VR/HMD condition, four participants climbed the steel tower above the maze entrance and observed the layout from above, while eight did not. Similarly, in the VR/desktop condition, four participants chose to observe it from above, and eight did not. A direct probability computation method revealed no significant disparities between condition (VR/HMD, VR/desktop) and task completion (completed/incomplete). The time required to reach this goal was analyzed as follows: 511.0 (0.0) seconds for completed tasks with observation in the VR/HMD condition, 425.8 (45.7) seconds for completed tasks without observation in the VR/HMD condition, 369.0 (0.0) seconds for completed tasks with observation in the VR/desktop condition, and 450.0 (9.2) seconds for completed tasks without observation in the VR/desktop condition.

Basic statistics for the measures adopted in the pre and post-tests are presented in Tables 1 and 2. A three-factor analysis of variance was conducted for group cohesion, IRI subscales, and critical thinking attitude subscales: survey timing (pre-test, post-test), condition (VR/HMD, VR/desktop), and task (completed, incomplete). The findings revealed a significant main effect of the survey timing on group cohesion ($F(1, 20) = 5.0, p < .05, \eta^2 = .20$), indicating more enhanced group cohesion in the post-test than in the pre-test across both conditions. This suggests that participants felt more connected to their partners after engaging in VR cooperative learning, even without direct face-to-face interaction. There were no significant differences between the VR/HMD and VR/desktop conditions, suggesting that cooperative learning enhances group cohesion even when there are differences in the immersiveness of the tools.

Table 1.
Basic statistics for group cohesion and subscales of Interpersonal Reactivity Index (IRI)
(Experiment 1).

			Group cohesion		perspective-taking		IRI fantasy		IRI empathic concern		Distress	
			M	SD	M	SD	M	SD	M	SD	M	SD
pre-	VR/	complete	34.0	6.7	21.7	1.6	21.8	3.3	22.5	3.7	19.5	5.5
test	desktop	not complete	34.2	4.6	19.0	2.3	23.3	3.3	18.2	5.1	15.3	5.0
	VR/	complete	36.8	2.7	21.8	1.5	24	3.1	21.1	1.8	18.6	5.9
	HMD	not complete	38.5	0.6	21.0	0.8	21.5	4.5	22.8	1.5	17.3	4.2
post-	VR/	complete	37.0	3.1	24.2	2.7	22.0	4.6	23.5	3.9	19.0	5.9
test	desktop	not complete	37.5	2.9	19.8	2.3	24.0	2.9	18.0	5.1	14.8	5.2
	VR/	complete	38.4	1.6	22.0	1.7	23.6	2.6	21.5	3.3	18.9	5.4
	HMD	not complete	38.0	3.4	23.8	1.3	20.5	4.1	23.3	2.4	16.3	3.4

Table 2.
Basic statistics for critical thinking attitudes (Experiment 1).

			Awareness of logical thinking		Inquisitiveness		Objectivity		Emphasis on evidence	
			M	SD	M	SD	M	SD	M	SD
pre-	VR/desktop	complete	12.8	1.7	13.0	3.2	12.2	2.0	11.8	3.4
test		not complete	11.5	2.2	12.8	1.9	11.5	1.9	9.2	3.3
	VR/HMD	complete	12.1	1.2	12.6	1.3	12.3	2.1	9.6	2.8
		not complete	11.0	1.2	12.3	1.0	11.5	3.0	10.8	1.7
post-	VR/desktop	complete	13.2	1.5	12.7	3.6	12.2	2.1	11.0	3.8
test		not complete	9.3	3.3	13.8	1.0	11.2	1.8	8.0	3.9
	VR/HMD	complete	11.6	1.8	13.0	1.5	12.5	1.9	9.8	2.8
		not complete	9.8	2.9	12.8	2.6	13.8	1.3	10.0	1.6

Regarding IRI, there was a significant interaction effect between the survey timing, condition, and task ($F(1, 20) = 9.3, p < .01, \eta^2 = .32$). PT scores were higher in the post-test than in the pre-test for completed tasks in VR/desktop and incomplete tasks in both conditions. However, there was no significant change in PT for completed tasks in VR/HMD. This suggests that VR/desktop devices may facilitate the development of PT (Bailenson, 2018;

Herrera et al., 2018; van Loon et al., 2018). This study supports the previous studies (Bailenson, 2018; Herrera et al., 2018; van Loon et al., 2018).

Regarding EC, there was a significant interaction effect between condition and task ($F(1, 20) = 4.9, p < .10, \eta^2 = .13$). EC scores increased in the post-test compared with the pre-test for the completed tasks in both conditions, but remained unchanged for completed tasks in the VR/desktop condition. This suggests that VR/HMDs, with immersive 360° 3D capabilities, enhance EC more than VR/desktop devices. No significant differences were found for FA and PD. This may be because this study was a paired maze study, and the participants did not experience fantasizing or feeling the pain of others.

On the Critical Thinking Attitude Scale, there was a significant main effect of task on awareness of logical thinking ($F(1, 20) = 9.7, p < .01, \eta^2 = .33$). Post-test scores for awareness of logical thinking were lower when the task was not completed than when it was completed, indicating that task completion status influenced logical thinking skills. This finding underscores the importance of task completion in fostering awareness of logical thinking, regardless of the device utilized. Participants may have judged that, if they could not complete the task, they were not using skills such as awareness of logical thinking.

Finally, for objectivity, there was a significant interaction effect between survey timing and condition ($F(1, 20) = 4.8, p < .05, \eta^2 = .20$). Participants may have found it easier to perceive the maze task objectively in the VR/HMD condition than in the VR/desktop condition. This suggests that the immersive nature of VR/HMDs aids in spatial cognitive tasks such as navigating a virtual maze.

These findings highlight the nuanced effects of VR technology on various cognitive and social measures in educational settings, particularly in collaborative learning environments utilizing virtual spaces like mazes. Meanwhile, Experiment 1 had fewer participants and fewer task completers; thus, the findings should be replicated. In addition, the differences between competitive and cooperative learning, as well as the influence of pairs, require analysis.

3. EXPERIMENT 2

This experiment compared VR cooperative learning and VR competitive learning utilizing the VR collaborative learning material, “ayalab Shall we walk?” It also clarified the sociality and learning outcomes fostered in each condition.

3.1. Methods

3.1.1. Participants

The participants included 54 female university students (age range: 18–26 years old).

3.1.2. Procedure

The students participated in the experiment in pairs, with 30 participants randomly assigned to the VR cooperative learning condition (18 opposite-sex paired avatars, 12 same-sex paired avatars) and 24 to the VR competitive learning condition (12 opposite-sex paired avatars, 12 same-sex paired avatars). Questionnaires were administered utilizing Microsoft Forms, before and after the experiment. Participants entered the VR collaborative learning material, “ayalab Shall we walk?” on a cluster platform utilizing a 9th-generation iPad. Along with the experimenter, the participants confirmed the basic operation of the avatar and other functions. The rules of the giant VR maze were then confirmed, namely, (1) always move in pairs in the maze (cooperative learning condition only), (2) enter the maze from the entrance (Figure 1), and (3) reach the goal as quickly as possible. The time limit was set to 10 minutes. In the competitive learning condition,

participants were provided with independent virtual spaces of the same content so that they could not follow each other or give each other clues, participating in the experiment without talking to each other or recognizing their competitors in the same laboratory.

3.1.3. Survey Contents and Scoring

Survey contents and scoring were the same as in Experiment 1.

3.2. Results and Discussion

In total, 41 of the 54 participants completed the study within the allotted time. The completion times for the study were as follows: cooperative learning opposite-sex pairs (10 participants) = 483.6 (86.1) seconds, cooperative learning same-sex pairs (10 participants) = 361.2 (157.4) seconds, competitive learning opposite-sex pairs (12 participants) = 292.4 (133.1) seconds, and competitive learning same-sex pairs (9 participants) = 341.1 (143.1) seconds. A two-factor analysis of variance, with learning time as the dependent variable and learning conditions (cooperative learning, competitive learning) and pair composition (opposite-sex pairs, same-sex pairs) as independent variables, revealed a significant interaction between learning conditions and pair composition ($F(1,41) = 4.2, p = .047, \eta^2 = .10$). Learning tasks were completed more quickly during competitive learning among opposite-sex pairs. The results suggest that competitive learning by male–female pairs may increase learning performance in maze-like learning tasks. The higher learning performance in competitive maze learning is similar to the results of statistical learning (Si et al., 2022). Although the process of learning achievement in both cases may have been similar, the possibility remains that the participants in both cases were college students; therefore, the sense of competition may have been at work.

The basic statistics of group cohesion, IRI, and critical thinking attitudes are exhibited in Tables 3 and 4. A three-factor analysis of variance was conducted with group cohesion, critical thinking attitude subscales, and IRI subscales as dependent variables and the survey timing (pre-test, post-test), learning conditions (cooperative learning, competitive learning), and pair composition (opposite-sex pairs, same-sex pairs) as independent variables.

The main effect of the survey timing was significant for group cohesion ($F(1,50) = 215.9, p < .001, \eta^2 = .81$). The scores were lower on the post-test than on the pre-test, suggesting that cooperative and competitive learning with VR/desktop reduces group cohesion regardless of the pair composition of the avatars. The result of Experiment 2 contrasted that of Experiment 1. The results of Experiment 2 suggest that learning with pairs in VR may not increase group cohesion regardless of the type of learning. Conversely, Experiment 1 required less time to complete the task than Experiment 2. Thus, the time required for learning together was less. Consequently, it may not have led to increased group cohesion; however, this is not clear from the results of this study.

Regarding IRI, the main effect of the survey timing for PT was significant ($F(1,50) = 5.6, p = .02, \eta^2 = .10$), and the main effect of pair combination had a significant trend ($F(1,50) = 3.3, p = .08, \eta^2 = .06$). In both conditions, scores were higher in the post-test than in the pre-test, supporting previous research (Bailenson, 2018; Herrera et al., 2018; van Loon et al., 2018) and Experiment 1. Scores were higher for same-sex pairs than opposite-sex pairs, suggesting that same-sex pairs may be more likely to acquire another viewpoint. For FA and EC, there was a significant trend toward an interaction between the survey timing and learning conditions (FA: $F(1,50) = 3.5, p = .07, \eta^2 = .07$; EC: $F(1,50) = 9.3, p = .01, \eta^2 = .16$). Both increased in cooperative learning and decreased in competitive learning. Regarding PD, there was an interaction between the survey timing and the learning conditions, and the pair composition tended to be significant ($F(1,50) = 3.4, p = .07, \eta^2 = .07$).

Concerning critical thinking attitudes, there was a significant trend for an interaction between the survey timing and pair composition ($F(1, 49) = 3.9, p = .05, \eta^2 = .07$). Scores were higher among opposite-sex pairs in both learning conditions. As prior studies have shown, the utilization of VR technology increases intrinsic motivation, which was demonstrated in the opposite-sex pair condition in the present study.

Table 3.
Basic statistics for subscales of Interpersonal Reactivity Index (Experiment 2).

			perspective-taking		fantasy		empathic concern		distress	
			M	SD	M	SD	M	SD	M	SD
pre-test	opposite-sex pairs	cooperative	21.3	2.2	21.1	3.1	20.4	4.2	18.1	5.1
		competitive	21.5	2.4	23.9	3.1	23.3	1.6	20.9	3.5
	same-sex pairs	cooperative	22.3	3.4	22.3	3.6	20.6	2.7	20.3	5.0
		competitive	23.3	3.1	24.0	3.1	23.3	1.7	20.3	3.4
post-test	opposite-sex pairs	cooperative	22.4	2.9	22.3	3.8	21.2	4.6	18.1	5.3
		competitive	21.7	3.5	24.0	2.7	22.8	2.1	20.3	5.0
	same-sex pairs	cooperative	23.0	4.0	22.6	4.7	21.3	2.5	19.8	4.8
		competitive	24.3	4.1	23.0	3.4	22.5	2.2	21.8	3.4

Table 4.
Basic statistics for group cohesion and critical thinking attitudes (Experiment 2).

			Group cohesion		Awareness of logical thinking		Inquisitiveness		Objectivity		Emphasis on evidence	
			M	SD	M	SD	M	SD	M	SD	M	SD
pre-test	opposite-sex pairs	cooperative	34.2	5.9	12.0	2.1	12.4	2.3	11.4	2.3	10.6	3.2
		competitive	35.7	5.1	11.7	1.9	12.3	1.6	11.9	2.4	11.3	2.4
	same-sex pairs	cooperative	37.3	3.7	10.4	3.1	13.5	1.3	12.1	2.2	10.8	2.6
		competitive	34.7	6.0	11.3	1.8	13.2	1.9	13.4	1.7	12.3	1.4
post-test	opposite-sex pairs	cooperative	24.1	1.6	11.4	2.6	12.7	2.4	12.1	1.7	10.2	3.4
		competitive	23.6	1.8	12.3	2.0	13.0	1.5	12.4	2.4	12.3	2.3
	same-sex pairs	cooperative	24.0	1.0	10.8	3.7	13.4	1.6	12.1	3.4	11.1	2.6
		competitive	23.3	1.3	11.2	2.7	13.0	2.6	13.6	1.5	12.3	1.4

4. FUTURE RESEARCH DIRECTIONS

In this study, two points have to be further examined in the future. First, female university students engaged in collaborative participation. In Experiment 2, a male–male avatar pair condition was implemented as a same-sex pair, whereas a female–female avatar pair condition was not established. If conditions that promote cooperative or competitive learning are to be examined, there is still room to consider female–female pair avatars in the future.

Second, in the competitive learning of the study, where each participant used the same maze, learning was completed if one stuck behind the other (escaped from the maze). To prevent this, two independent and identical virtual spaces were set up. In the realistic situation, participants were made visually aware of the presence of competitors in the laboratory. The virtual space used for the experiment was then made independent, creating a learning environment in which participants could not follow (finish) behind the other participant. Thus, at the time when one of the competitors finished learning (escaped from the maze), the other could see who had won—though not during the competition—including how close that individual was to the goal. Therefore, for some participants, it may have been difficult to create a sense of competition until they were informed of their opponent’s goal.

In the future, it is necessary to create two symmetrical skeleton courses in the same virtual space for competitive learning. This would enable visualization of the entire competitive process, as one cannot follow behind the other but can visually recognize how far the other has progressed, thereby learning from each other.

5. CONCLUSION

In this study, the differences between VR/HMD and VR/desktop (Experiment 1) and VR cooperative learning versus VR competitive learning (Experiment 2) were compared utilizing VR collaborative learning materials, examining the social and learning outcomes fostered in each learning.

In Experiment 1, the VR/HMD versus VR/desktop devices were evaluated in a VR cooperative learning setting to assess the skills developed when utilizing each device during the same cooperative learning session. The findings indicated no significant difference in task completion (reaching the goal within the time limit) between the two devices. However, social skills such as empathy and objectivity, which were the focal points of this study, exhibited enhancement in the VR/HMD condition. These findings suggest that immersive 360° devices may facilitate greater learning and social skill development compared with other conditions.

Additionally, the type of social skills acquired may vary not only based on the device utilized but also on whether participants successfully complete the assigned task within the time limit. Therefore, choosing the appropriate device type is crucial depending on the specific skills one aims to cultivate in VR cooperative learning environments.

In Experiment 2, VR cooperative learning was compared with VR competitive learning utilizing collaborative VR learning materials, while also examining the sex composition of cooperative learning pairs (opposite-sex and same-sex pairs). These findings suggest that different learning conditions and pair compositions foster distinct sociality. Consequently, tailoring learning environments to desired sociability outcomes or manipulating conditions strategically may be meaningful. These setups are feasible because of the versatile application of VR technology in creating varied and controlled learning environments.

This study examined the conditions for learning with VR technology that promote targeted sociality and learning outcomes. The results emphasize the importance of considering the type of device (VR/HMD, VR/desktop), gender of the paired avatars, learning conditions (cooperative learning, competitive learning), and task achievement (completed, incomplete) when using VR learning materials.

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Chapter # 18

INVESTIGATING EARLY SIGNS OF DEVELOPMENTAL DYSLEXIA AT THE PRESCHOOL AGE: THE ROLE OF STRESS AND SYSTEMATIC INTERVENTION

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ABSTRACT

Developmental dyslexia (DD) is a multifactorial, specific learning disorder characterized by dysfunctions of biological, neurophysiological, cognitive, and psychomotor factors. This study investigated the association between the early signs of DD and stress. Variants and methylation levels of genes involved in stress response were studied along with mitochondrial DNA copy number (mtDNAcn), a stress-related indicator. From 306 preschool-age children (5.0–6.0 years) recruited, 10 typically developing and 20 identified ‘at risk’ of dyslexia were tested. Of the latter group, 10 underwent a systematic intervention program, and the rest constituted the control group. Two screening tests for early identification of DD were administered, while a developmental history and the CBCL 11/2–5 form of the ASEBA were completed. Genotyping was performed along with mtDNAcn and methylation levels estimation before and after the intervention. Statistically significant differences were observed within the DD group that underwent intervention on cognitive, psychomotor, and linguistic factors, before and after the intervention. Differences in methylation were observed before and after the intervention, and in mtDNAcn only after the intervention. Stress could be involved in the onset of DD, so early detection may contribute to the implementation of effective interventions, thereby reducing or preventing negative effects in later life.

Keywords: developmental dyslexia, early identification, early intervention, multifactorial phenotype, stress.

1. INTRODUCTION

Developmental dyslexia (DD) is a multifactorial, specific learning disorder characterized by multiple dysfunctions of one or more, biological, neurophysiological, psychomotor, cognitive, and socioemotional factors (Livingston, Siegel, & Ribary, 2018). The onset of symptoms of DD, while systematically recorded and addressed during the school age, becomes apparent from the preschool age onwards (Zakopoulou, Christodoulou, Kyttari, Siafaka, & Christodoulides, 2023). Children ‘at risk’ of DD meet difficulties in a wide range of domains in a complex framework of interactions, shaping an early DD phenotype, such

as: phonological awareness (Hand, Lonigan, & Puranik, 2022; Kastamoniti, Tsattalios, Christodoulides, & Zakopoulou, 2018), psychomotor development (Treiman et al., 2019; Zakopoulou et al., 2021b), memory, visual and auditory perception, speech perception and selective attention (Kellens, Baeyens, & Ghesquière, 2024; Zakopoulou et al., 2021b), and socio-psycho-emotional development (Jordan, McRorie, & Ewing, 2010).

Several independent studies support that frustration, failure, and difficulties caused by learning difficulties, create a constant fear of failure or real failure, sadness, inadequacy, reduced happiness and self-esteem, stress, anxiety, emotional vulnerability (Exarchou, Simos, Siafaka, & Zakopoulou, 2020; Peterson & Pennington, 2015; Zakopoulou et al., 2019). All these matters can influence an individual's predisposition to DD, regardless of the presence or absence of genetic variations in risk genes (Romeo et al., 2018). In the context of DD etiopathogenesis, stress is considered as important factor (Theodoridou, Christodoulides, Zakopoulou, & Syrrou, 2021), presumably underlying a dysregulation of the Hypothalamus-Pituitary-Adrenal (HPA) axis (Kershner, 2020).

2. BACKGROUND

The HPA axis and the serotonergic system are involved in stress response. The HPA axis is a key element in neuroendocrine stress response and its activation leads to glucocorticoid (cortisol) secretion, which in turn exerts its effects in many biological pathways (Mifsud & Reul, 2018; Stratakis & Chrousos, 1995). Serotonin is a neurotransmitter whose levels influence a variety of behaviors, including the response to stress (Canli & Lesch, 2007; Ehli, Hu, Lengyel-Nelson, Hudziak, & Davies, 2012; Steiger et al., 2007). The serotonin transporter (SERT) regulates serotonin levels and is associated with many neurobiological (mainly psychiatric) stress-associated disorders (e.g. PTSD) and HPA axis dysregulation (Ehli et al., 2012; Iurescia, Seripa, & Rinaldi, 2016). The *FKBP5* gene encodes a co-chaperone of the glucocorticoid receptor, where glucocorticoids bind after their secretion, and participates in the regulation of HPA axis activity (Klengel et al., 2013). A single nucleotide variation (SNV) located in the second intron of the gene, rs1360780, leads to overexpression of the *FKBP5* gene and has been implicated in HPA axis dysregulation (Paquette et al., 2014). The *SLC6A4* gene encodes SERT, the main regulator of the serotonergic system that dynamically influences serotonin action and has been implicated in many neuropsychiatric disorders. The 5-HTTLPR polymorphic region, as well as the rs25531 SNV, inside the gene's promoter region influence SERT expression levels, SERT availability and serotonin reuptake, influencing the organism's response to stress. (Ehli et al., 2012; Iurescia et al., 2016). The gene x environment (GxE) interaction also plays an important role in the emergence of diseases and exposure to stress during early developmental stages can influence the epigenetic profile of an affected individual (Berretz, Wolf, Gunturkun, & Ocklenburg, 2020; Mascheretti et al., 2013; McEwen & Gianaros, 2011; Short et al., 2024). Early life stress exposure can influence the methylation levels of the *SLC6A4* gene and lead to increased methylation of CpGs in the gene's promoter region, both at early and later life stages (Chau et al., 2014; Lesch, 2011; Philibert et al., 2007). Mitochondrial DNA copy number (mtDNAcn) is a sensitive stress biomarker, and increased levels have been associated with maltreatment in children and adults. It has also been associated with internalizing behaviors in children and has been proposed as a marker of abuse and life adversities in preschoolers (Ridout et al., 2019). All these multidimensional difficulties are expected to impact both the child's life and the functioning of the family and/or the school environment (Exarchou et al., 2020; Peterson, 2021; Zuk et al., 2021). As a result, in order to support each individual in the long term, early diagnosis should be a priority for

each family and education system (Colenbrander, Ricketts, & Breadmore, 2018). Early identification of DD focuses on timely and accurate diagnosis, with the goal of preventing later learning and socioemotional difficulties, during the school age.

However, in terms of studying the existence of an early interactive relationship between stress and DD, as well as the importance of this interaction in a multifaceted understanding of the endophenotype and phenotype of DD, a critical literature gap is highlighted.

3. OBJECTIVES

In continuation of our research on the early identification of the complex structure of DD (Zakopoulou et al., 2021a, 2021b; Theodoridou et al., 2021), the purpose of this study is to investigate the early role of stress in this network of strongly interrelated difficulties, through an innovative research protocol.

Aiming to this, we discuss the results of investigating the question whether there is an association between the early signs of DD and stress-related biological factors (HPA axis and serotonergic system genes, mtDNAcn) and if a systematic intervention even from preschool age, can influence these associations.

4. MATERIALS & METHODS

In this chapter we present the results of the analysis investigating the association between early DD signs and the frequency of polymorphisms/variants affecting the expression levels of HPA axis and serotonergic system genes, involved in the regulation of stress response, while also evaluating the mitochondrial DNA copy number (mtDNAcn), a sensitive stress biomarker, in a population of young preschoolers at risk of developing DD and matched controls.

4.1. Data Acquisition

306 Greek preschoolers aged 5.0 to 6.0 years (mean 66.87 months, SD: 4.34) participated in this study, and 8% (24 preschoolers) were found to be ‘at risk’ of DD. All participants were recruited in the wider area of Ioannina and Athens in Greece, through public kindergartens. The study was approved by the Ethics Committee of the Greek ministry of Education (Φ15/121206/ΑΛ/125659/Δ1/13-10-2022). Written consent forms were obtained from all parents and the kindergarten teachers of the children to participate in the initial evaluation. In total, three test groups were formed, as follows: 10 preschoolers identified as ‘at risk of DD with intervention’ were randomly selected to undergo a 3-month systematic intervention program, while 10 did not undergo an intervention program, constituting the control group (‘at risk of DD without intervention’). For comparison, 10 typically developing preschoolers were also involved (see table 1). Co-occurrence with other neurodevelopmental disorders was not recorded in any of the subjects. 20 parents of children ‘at risk’ of DD and 10 parents of typically developing children consented to their child participating in a 3-month intervention program in all assessment and intervention procedures, following initial assessment.

Table 1.
Demographics of the preschool children participating in the study.

Groups	Number of Preschoolers			Mean Age		Parents' Age			
	Male	Female	N	Mean	SD	F		M	
						Mean	SD	Mean	SD
Without DD	3	7	10	66.4	4.01	40.00	5.98	36.60	5.56
At risk of DD with intervention	9	1	10	64.8	3.68	42.40	2.59	36.40	2.59
At risk of DD without intervention	8	2	10	68.5	6.60	42.30	4.50	40.30	4.08
Total	152	154	306	66.87	4.34				

4.1.1. Assessment of Learning Difficulties and Developmental History

Towards early identification of DD, the test of Early Dyslexia Identification (EDIT) (Zakopoulou, 2003) and the ATHINA test (Paraskevopoulos, Kalantzi-Azizi, & Giannitsas, 1999) were administered. Through the EDIT test three sectors (including 8 tasks) were examined, considering: (i) Visual-spatial Abilities (*Sketching, Copying shapes, Visual discrimination / Laterality / Left-right Discrimination*), (ii) Grapho-phonological Awareness (*Phonemes Composition; Phonemes Discrimination; Name Writing*) and (iii) Working Memory (*Phonemes Discrimination, Name Writing, Copying shapes, Visual-verbal Correspondence*). Through the ATHINA test one sector (including 3 tasks) was examined: Short-term Sequence Memory (*Numbers Memory, Pictures Memory, Shapes Memory*). All measurements were administered individually in the kindergarten, without the presence of parents or kindergarten teachers. Seeking to compare indicative early signs of DD with early signs of behavioral stress, a developmental history and the Greek edition of the Child Behavior Checklist for Ages 1½ to 5 (CBCL 1½–5) of the Achenbach System of Empirically Based Assessment (ASEBA) (Roussou, 2009), were implemented, through which internalizing and externalizing problems such as Emotionally Reactive, Anxious, Depressed, Aggressive Behavior, Attention Problems, Somatic Complaints, and Withdrawn, were tested.

4.1.2. Intervention Method

ProAnaGraPho (Zakopoulou & Tsarouha, 2009) is guided to support children between 5-7 years old with early occurrence of neurodevelopmental disorders, including DD. It consists of 79 exercises through which the child is supported to acquire skills from three domains, such as: (a) Visuo-spatial Abilities (six sub-sectors are included: Body Shape, Spatial Orientation, Temporal Sequences, Right-left Discrimination, Ordering, and Visuo-motor coordination); (b) Working Memory (three sub-sectors are included: Visual Working Memory, Audio Working Memory, and Sequence Working Memory); and (c) Grapho-phonological Awareness (two sub-sectors are included: Phonological Awareness and Phoneme-grapheme Correspondence).

Taking into consideration the diagnostic profile of the 10 preschoolers identified as ‘at risk of DD with intervention’, a series of combined exercises of the *ProAnaGraPho* method were selected for implementation. The intervention program was implemented in the 2nd semester of the 2nd year of kindergarten in a 3-month individualized intervention program, four times a week.

4.1.3. Genetic, Epigenetic and Mitochondrial DNA Copy Number Analysis

To examine the role of the stress at the molecular level, DNA from buccal cell swabs was extracted from all subjects (all parents were present during the sampling process): (a) mtDNAcn was evaluated by qPCR, using primers to target the nuclear DNA and mtDNA. One sample from the “*at risk of DD with intervention*” group was considered an outlier and removed from the analysis; (b) rs1360780 was genotyped using a TaqMan assay (Thermo Assay ID: C_8852038_10, #4351379, Applied Biosystems, Foster City, CA), while 5-HTTLRP and rs25531 were analyzed using a polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) assay; (c) methylation analysis was performed using pyrosequencing CpG assay with primers that targeted 16 CpG sites in the promoter region of the *SLC6A4* gene.

4.2. Statistics

Multivariate analysis was applied between all variables between the three groups. Data were examined for normality distributions, and non-parametric tests were used in cases where data did not follow Gaussian distribution. Results are presented after correcting for and excluding outliers with the ROUT method. Statistical significance was considered for $p < 0.05$ with 95% confidence intervals (CI).

5. RESULTS

The data provided reflects One-Way ANOVA tests on the changes in developmental skills within each group before (Time 0) and after the intervention (Time 1) (Table 2) and the changes among the three groups of children after the intervention (Time 1) (Table 3), as follows:

(i) Statistically significant differences were observed within the group ‘*at risk of DD with intervention*’ in Time 0 and in Time 1 on specific tasks of the domains of Visual-spatial Abilities (*Sketching, Copying Shapes*), Grapho-phonological Awareness (*Phonemes Discrimination; Name Writing*), and Working Memory (*Phonemes Discrimination, Name Writing, Copying Shapes*). Within the group ‘*at risk of DD without intervention*’ (Time 0 and Time 1) statistically significant differences were observed on specific tasks of the domains of Visual-spatial Abilities (*Copying Shapes*), Grapho-phonological Awareness (*Name Writing*), and Working Memory (*Name Writing, Copying Shapes*). No statistically significant differences were observed within the typically developed group (see table 2).

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Table 2.
Differences between Time 0 and Time 1 within the groups of children at risk of DD with intervention, at risk of DD without intervention, and children without early signs of DD.

Tested Skills	Groups														
	At risk of DD with intervention					At risk of DD without intervention					Without DD				
	Mean	SD	Median	Range	p	Mean	SD	Median	Range	p	Mean	SD	Median	Range	p
Sk_time 0	2.90	2.51	2.50	6.00	0,007	5.10	1.73	6.00	6.00	0,759	8.90	3.41	9.50	12.00	1,000
Sk_time 1	6.80	2.70	8.00	7.00		5.60	3.50	6.50	10.00		8.90	3.41	9.50	12.00	
CSh_time 0	2.80	2.44	2.00	8.00	0,012	4.20	1.87	4.00	5.00	0,020	7.50	.97	8.00	3.00	1,000
CSh_time 1	6.30	1.34	6.00	4.00		6.50	1.58	6.50	4.00		7.50	.97	8.00	3.00	
VD_time 0	5.70	.48	6.00	1.00	0,317	5.00	2.16	6.00	6.00	0,285	5.90	.32	6.00	1.00	1,000
VD_time 1	5.90	.32	6.00	1.00		5.80	.63	6.00	2.00		5.90	.32	6.00	1.00	
L_time 0	5.20	2.57	6.00	8.00	0,227	5.40	2.72	6.00	7.00	0,753	5.90	2.96	6.00	10.00	1,000
L_time 1	6.00	2.91	5.50	8.00		5.80	3.29	6.00	10.00		5.90	2.96	6.00	10.00	
L-R_time 0	2.50	1.18	2.50	4.00	0,238	2.30	.48	2.00	1.00	0,414	2.00	.82	2.00	3.00	1,000
L-R_time 1	2.50	1.18	2.50	4.00		2.30	.48	2.00	1.00		2.00	.82	2.00	3.00	
NW_time 0	2.80	1.93	3.50	5.00	0,007	2.60	1.90	2.50	5.00	0,005	7.70	.48	8.00	1.00	1,000
NW_time 1	5.90	1.85	6.00	5.00		5.90	1.60	6.00	5.00		7.70	.48	8.00	1.00	
PhD_time 0	6.50	.71	7.00	2.00	0,005	7.00	1.25	7.00	5.00	0,022	9.50	.71	10.00	2.00	1,000
PhD_time 1	8.90	.74	9.00	2.00		8.70	.95	9.00	3.00		9.50	.71	10.00	2.00	
V-VC_time 0	1.60	2.32	.00	6.00	0,068	1.20	2.53	.00	6.00	0,157	.00	.00	.00	.00	1,000
V-VC_time 1	.00	.00	.00	.00		.00	.00	.00	.00		.00	.00	.00	.00	

Notes. Sketching=Sk; Copying Shapes=CSh; Visual discrimination=VD; Laterality=L; Left-right discrimination=L-R; Name Writing=NW; Phonemes Discrimination=PhD; Visual-Verbal correspondence=V-VC

(ii) With regard to the changes between the three groups (see table 3), we see that interventions targeting children at risk of DD can lead to significant improvements in the developmental skills of sketching, name writing, and phoneme discrimination. In particular, they recorded substantial improvement with intervention, as their low p-values indicated. However, the intervention did not appear to affect all skills equally, like visual discrimination and laterality, as children performed highly in these even before the intervention, showing no significant change across the groups.

Table 3.
Changes within the groups of children at risk of DD with intervention, at risk of DD without intervention, and children without early signs of DD.

Tested Skills	Groups												p
	At risk of DD with intervention				At risk of DD without intervention				Without DD				
	Mean	SD	Median	Range	Mean	SD	Median	Range	Mean	SD	Median	Range	
Sk Change	3.20	3.22	3.00	10.00	.20	2.74	1.00	9.00	.00	.00	.00	.00	0,011
CSh Change	2.60	2.84	2.50	9.00	1.50	3.24	.00	9.00	.00	.00	.00	.00	0,081
VD Change	.40	.84	.00	3.00	.80	2.35	.00	8.00	.00	.00	.00	.00	0,472
L Change	2.60	3.27	2.50	11.00	1.80	3.49	1.50	12.00	.00	.00	.00	.00	0,117
L-r Change	.80	2.15	1.50	6.00	.20	1.55	1.00	4.00	.00	.00	.00	.00	0,486
NW Change	2.80	2.20	3.00	6.00	1.70	2.41	1.50	7.00	.00	.00	.00	.00	0,009
PhD Change	2.40	1.07	3.00	3.00	1.00	1.25	1.50	3.00	.00	.00	.00	.00	<0,001
V-VC Change	-.30	.95	.00	3.00	.00	.00	.00	.00	.00	.00	.00	.00	0,381

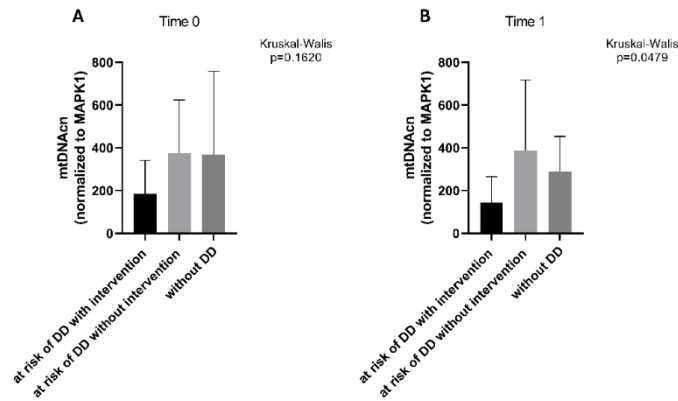
Notes. Sketching=Sk; Copying Shapes=CSh; Visual discrimination=VD; Laterality=L; Left-right discrimination=L-R; Name Writing=NW; Phonemes Discrimination=PhD; Visual-Verbal correspondence=V-VC

From the buccal DNA analysis, the following results were recorded:

I. mtDNA copy number: although no statistically significant difference were observed at Time 0 in mtDNAcn between the three groups, at Time 1, a statistically significant difference in mtDNAcn levels was recorded between the 3 groups, (Kruskal Wallis, $p=0.048$) (see figure 1). The main statistically significant difference recorded was between the ‘*at risk of DD with intervention*’ group and the ‘*at risk of DD without intervention*’ group (Dunn’s post-hoc test, $p=0.0465$). Specifically, as we see in the figure, the measurements are based on groups but also on time. The changes that were observed across time are in all cases non-significant even though the central tendency expressed by the median is indicative of differences.

Figure 1.

mtDNA copy number differences between the three groups at A. the initial (Time 0) and B. final testing state after 3 months (Time 1).



II. Genotyping of variants of stress related genes: Although the “risk” alleles are more common in the dyslexia group, no statistically significant difference is observed (see table 4).

Table 4.

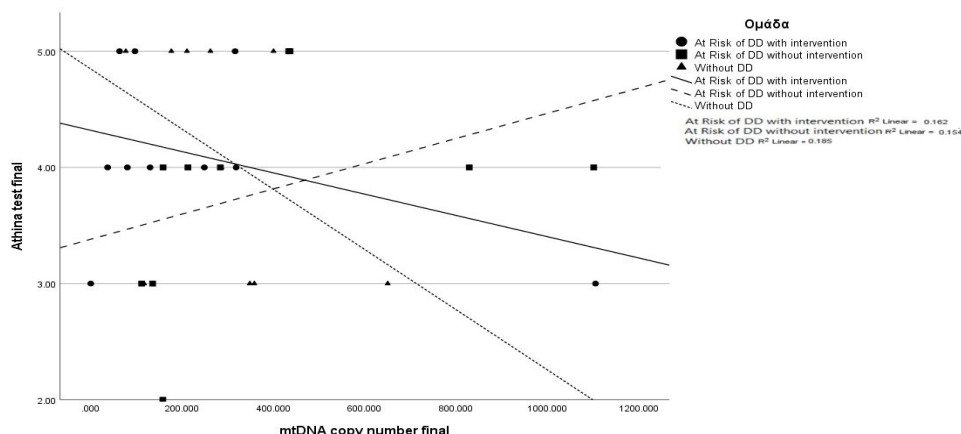
Allelic frequencies of genotyped variants (risk alleles are in bold).

Variant / Polymorphism	Genotype Frequency			Allele Frequency		
	Dyslexia (n=20)	Controls (n=10)	p	Dyslexia (n=40)	Controls (n=20)	p
<i>FKBP5</i> rs1360780	CC (8/20 - 40%) CT (11/20 - 55%) TT (1/20 - 5%)	CC (6/10 - 60%) CT (4/10 - 40%) TT (-)	0,6331	C (27/40-67,5%) T (13/40-32,5%)	C (16/20-80%) T (4/20-20%)	0,4783
<i>SLC6A4</i> 5-HTTLRP	SS (5/20 - 25%) SL (9/20 - 45%) LL (6/20 - 30%)	SS (1/10 - 10%) SL (5/10 - 50%) LL (4/10 - 40%)	0,7751	S (19/40-47,5%) L (21/40-52,5%)	S (7/20-35%) L (13/20-65%)	0,5190
<i>SLC6A4</i> rs25531	AA (17/20 - 85%) AG (3/20 - 15%) GG (-)	AA (9/10 - 90%) AG (1/10 - 10%) GG (-)	1	A (37/40 - 92,5%) G (3/40 - 7,5%)	A (19/20 - 95%) G (1/20 - 5%)	1

III. Furthermore, the effect of several indices was examined on these differences. Specifically, the observed mtDNAcn measurements were examined for differences depending on the presence of internalizing and externalizing problems, according to the answers on CBCL 1½–5. None of these had a statistically significant effect on mtDNAcn values, before or after the intervention or to their change.

IV. A series of correlations were also examined between scores at the EDIT and ATHINA test with the mtDNAcn values and the mtDNAcn observed changes. A statistically significant and positive correlation was observed for the group ‘at risk of DD without intervention’ highlighting a positive correlation between the persistence of the difficulties and an increase in stress. Regarding the mtDNAcn changes no statistically significant correlations were observed in any group (see figure 2).

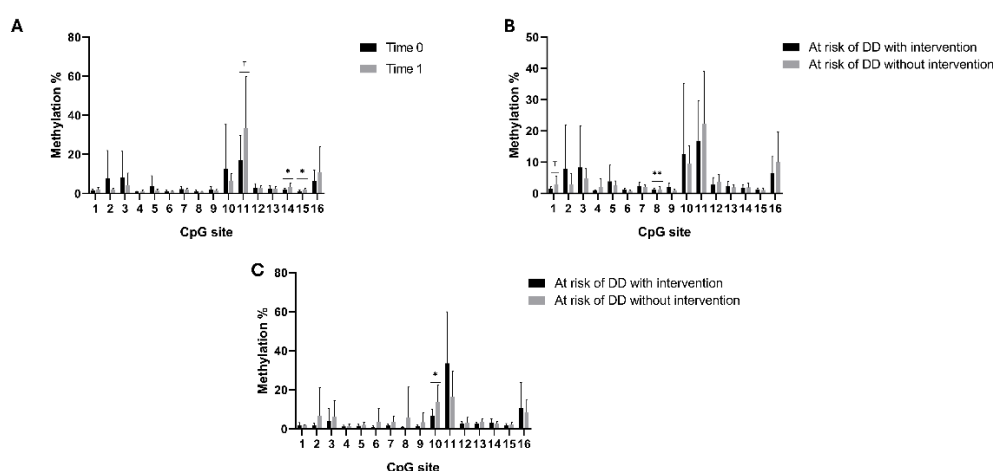
Figure 2.
Correlations between ATHINA scores and mtDNAcn values at the final testing stage.



V. The methylation profile of 16 CpG sites in the promoter region of *SLC6A4* was analyzed at Time 0 and Time 1 the 3-month systematic intervention took place. The methylation analysis was performed for the 20 children belonged to the “at risk of DD” group and 3 comparisons were made: 1. methylation levels of the “at risk of DD group” at Time 0 and Time 1, 2. methylation levels of the “at risk of DD group with intervention” and “at risk of DD group without intervention” at Time 0 and 3. methylation levels of the “at risk of DD group with intervention” and “at risk of DD group without intervention” at Time 1 (see figure 3). The first comparison showed a trend (T) for higher average methylation at CpG11 after the intervention ($p=0.0874$) and a statistically significant increase in CpGs 14 and 15 ($p=0.0156$ and $p=0.0295$, respectively), although it must be noted that the methylation levels in these two CpGs were extremely low both at Time 0 and Time 1. The second comparison showed that a trend (T) for higher average methylation of CpG1 in the “at risk of DD group without intervention” ($p=0.0873$) and a statistically significant higher methylation in CpG8 ($p=0.0074$), although it should be highlighted that in both cases the methylation percentage is very low. The third comparison showed a statistically significant lower methylation percentage in CpG10 for the intervention group ($p=0.0216$), and it should be noted that at Time 0 this CpG showed higher methylation in the “at risk of DD group with intervention” group.

Figure 3.

Methylation percentages of 16 CpG sites in the promoter region of the *SLC6A4* gene. A. Comparison between the “at risk of DD with intervention” group before (Time 0) and after (Time 1) the intervention program. B. Comparison between the “at risk of DD with intervention” and the “at risk of DD without intervention” groups at Time 0. C. Comparison between the “at risk of DD with intervention” and the “at risk of DD without intervention” groups at Time 1. Trend (T) indicates a p -value < 0.1 , asterisk (*) indicates a p -value < 0.05 and double asterisk (**) indicates a p -value < 0.01 .



6. FUTURE RESEARCH DIRECTIONS

The small sample size of the study and lack of sufficient statistical power do not allow us to draw firm conclusions regarding the association between stress and DD. Future studies should implement a prospective design and include a much larger number of participants, have a balanced sex ratio, take into account factors such as various types of dyslexia, interventions, educational and examination systems, psychological support, as well as assessment of the parents along with their children. These studies could provide valuable insights to elucidate the complex interaction network between stress and DD.

7. CONCLUSION/DISCUSSION

The main aim of the current study was to investigate the role of stress in the early DD phenotype.

Contributing to the multifaceted investigation of the early structure of DD, the results of this study, consistent with the findings of other studies (Jordan & Dyer, 2017; Parhiala et al., 2015; Sheehan, 2017; Zakopoulou et al., 2023; Zakopoulou et al., 2021b) emphasize that stress tends to be a component of an ‘at risk’ for DD clinical entity, without however confirming a cause-effect relationship between them. Specifically, Jordan and Dyer (2017) argued that before school entry, children later diagnosed with dyslexia did not present psychological impairments, but only mild conduct problems, while psychological problems

became more evident when children entered school. Adding to this, the significant correlation observed between stress and the persistence of difficulties in specific domains, such as working memory, rather confirms the Horbach, Mayer, Scharke, Heim, and Günther (2020) statement that internalizing problems increase numerically during the transition from kindergarten to elementary school.

Furthermore, it was found that the children who were diagnosed ‘at risk’ for DD at the first testing stage, showed a statistically significant improvement in all the domains that initially had recorded low scores, after the implementation of the intervention (Hebert, Kearns, Hayes, Bazis, & Cooper, 2018). As it has been reported (Clark et al., 2014; Fuchs et al., 2012; Lyytinen, Erskine, Hamalainen, Torppa, & Ronimus, 2015), children with DD who attend intervention programs started in preschool and first grade of school, achieve better learning development.

Importantly, the findings underscored that the stress-related risk alleles are more common in children at risk of DD, while mtDNAcn displayed lower levels in the “at risk of DD with intervention” group, without showing statistically significant differences with typically developing children before the intervention. Despite these low levels of mtDNAcn, a reduction in mtDNAcn was observed after the intervention, indicating that early intervention programs contribute positively to minimizing stress levels, confirming relevant research findings (Buchweitz et al., 2023; Smythe, Zuurmond, Tann, Gladstone, & Kuper, 2020; Stein, Hoeft, & Richter, 2024) and highlight the modulatory role of mitochondria in stress-related outcomes (Filiou & Sandi, 2019; Papadopoulou et al., 2019; Thomou et al., 2024). Also, while differences in methylation levels were observed both before and after the intervention between the two groups (at risk of DD with and without intervention), the majority of those statistically significant results concerned CpG sites with very low methylation percentages, making those results uninformative. The only CpG site that had high methylation percentage (>10%) and whose average methylation was significantly different between the two groups was CpG10. Before the intervention this site did not have any significant difference between the two groups, and the “at risk of DD with intervention” group had a higher average methylation than the “at risk of DD without intervention” group. This relationship was reversed after 3 months of the systematic intervention program, indicating that the intervention could have an impact on the epigenetic profile of the participating children, as early childhood is a sensitive period where environmental stimuli are biologically embedded through epigenetic changes (Zhou & Ryan, 2023).

In light of these findings, a stress-related DD phenotype is strongly suggested, indicating the existence of powerful mechanisms that negatively influence the reduction or prevention of multiple later school age difficulties and personality effects in individuals with DD.

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KEY TERMS & DEFINITIONS

Chaperones: proteins that participate in the folding, unfolding and translocation of other proteins.

Co-chaperone: protein that assists in the function of other chaperones.

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Cortisol: steroid hormone, produced and released by the adrenal glands, that exerts several effects, including the organism's response to stressful situations.

CpG site: region of DNA where a cytosine nucleotide is followed by a guanine nucleotide. Cytosines in CpG sites can be methylated.

Genotyping: laboratory process through which the presence of certain variants in an individual's DNA is determined.

Glucocorticoid receptor (GR): nuclear receptor protein in which glucocorticoids are bound to exert their actions.

Hypothalamus-Pituitary-Adrenal (HPA) axis: communication system between three organs: the hypothalamus, the pituitary gland and the adrenal glands that acts

Methylation: biological process in which a small molecule called a methyl group gets added to DNA, proteins, or other molecules. The addition of methyl groups can affect how some molecules act in the body without changing the DNA sequence.

mtDNA copy number (mtDNAcn): measure of the number of mitochondrial genomes per cell that acts as a correlate of mitochondrial function and number.

Single Nucleotide Variant (SNV): a DNA sequence variation of a single nucleotide in a population's DNA sequence, or genome.

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Chapter # 19

DESCRIPTIVE NORMATIVE BELIEFS AS PREDICTOR OF SMOKING AND ALCOHOL CONSUMPTION AMONG YOUNG ADOLESCENTS

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ABSTRACT

The aims of this study were to explore (i) the effect of the Unplugged program and gender over time on adolescents' descriptive normative beliefs about smoking (DNB^S) and alcohol consumption (DNB^{AC}), and (ii) the effect of the Unplugged program and descriptive normative beliefs on smoking (S) and alcohol consumption (AC) before (T1), immediately (T2), and one year after program implementation (T3). Method: A cluster randomized control trial using a Solomon four-group design was carried out (1420 adolescents in total, the mean age = 13.5 years, SD = 0.59; 47.5% girls). To increase the effect of Unplugged, booster-sessions called nPrevention were carried out (EG+) after T2. Results: DNB^S and DNB^{AC} increased over time and were positively associated with smoking and alcohol consumption. The results showed (i) that descriptive normative beliefs about alcohol consumption increased in all groups, but this increase was more pronounced only in control group and experimental group, and (ii) a decline of descriptive normative beliefs about alcohol consumption in girls in experimental group with nPrevention. Conclusion: The implementation of Unplugged with booster sessions and without pretesting could be an important factor for prevention of alcohol consumption.

Keywords: descriptive normative beliefs, young adolescents, alcohol consumption, smoking, unplugged.

1. INTRODUCTION

Key findings of the European School Survey Project (ESPAD Group, 2020) and Health Behaviour in School-aged Children international report (Charrier et al., 2024) underline the need to enhance the evidence-based universal and targeted initiatives. These are aimed at prevention and provide support to young people who are already using substances by increased efforts to reduce the attractiveness of substance use to young people. Correcting misconceptions about the normativity of drug use is an important component of the most effective preventive programs (Maina et al., 2020, Botvin & Griffin, 2007).

Peer descriptive normative beliefs, age, and intentionality emerged as key the predictors of alcohol, cigarette, and marijuana use (Hansen, Saldana, & Ip, 2022). Descriptive norms are defined as social norms that refer to what is considered to be a typical or usual behavior within certain social groups (Stok & de Ridder, 2019). Descriptive peer norms refer to perceptions about friends' behaviors, typically assessing the perceived prevalence of use among peers (Hansen et al., 2022). In adolescence, as Hansen et al. (2022) noted, these norms have been found to be the most important predictors regarding smoking initiation, smoking, alcohol use, and the use of other drugs (Hansen et al., 2022).

Studies focusing on social norms within the school context showed that social norms in schools, normative beliefs about the prevalence of drinking (descriptive norms), and availability of alcohol were linked to increases in adolescent substance use (Dimova et al., 2023, Lombardi, Coley, Sims, & Mahalik, 2019, Sanchez et al., 2019). A systematic review of literature (Yamin, Fei, Lahlou, & Levy, 2019) provided evidence for the effectiveness of interventions based on the social norm approach. Particularly, descriptive norm education was found to be an effective method in changing adolescents' inaccurate perceptions of self-confirming assumptions about others' alcohol use (François, Lindstrom Johnson, Waasdorp, & Bradshaw, 2017). Therefore, the EU-Dap Unplugged program emphasizes normative education, with a particular focus on normative beliefs as potential mediators. It consists of 12 lessons and is primarily designed for 12–14-year-old adolescents. In this program, correct information about peer group norms and behaviours is expected to diminish normative misperceptions and enhance health-promoting beliefs and attitudes. The Unplugged prevention program has been frequently adopted in different countries in Europe showing reasonable effectiveness (Vadrucci, Vigna-Taglianti, van der Kreeft, & EU-Dap Study Group, 2016).

2. DESIGN

This study was a randomized control trial adopting the Solomon four-group design which enabled testing for the presence of pretest sensitization (Campbell & Stanley, 1963).

3. OBJECTIVE

To explore (i) the effect of the Unplugged program and gender over time on adolescents' descriptive normative beliefs about smoking (DNB^S) and alcohol consumption (DNB^{AC}), and (ii) the effect of the Unplugged program and descriptive normative beliefs on smoking and alcohol consumption immediately and one year after program implementation. A moderation effect of the program on the association between descriptive normative beliefs (DNB) and smoking / alcohol consumption was also explored.

4. METHODS

4.1. Sample and Procedure

A randomized control trial using the Unplugged program was carried out among young adolescents 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 based on their geographical locations in the Eastern, Central and Western Slovakia with six clusters based on population size.

The data collection was carried out immediately before implementing the Unplugged program (T1, experimental and control group with a pretest), immediately after implementing the Unplugged program (T2) and one year after implementation (T3). Twelve schools were assigned to the experimental group and twelve schools were assigned to the control group (Table 1). The sample consisted of 1420 adolescents in total (the mean age = 13.5 years, SD = 0.59; 47.5% girls). In this design, both the experimental group and control group had two subgroups: a pretested group^{PT} and a non-pretested^{PT} group. In order to increase the effect of Unplugged, booster-sessions called nPrevention (neuroPrevention,

Department of Addictology, First Faculty of Medicine, Charles University) were carried out (EG+) after T2. The aim of nPrevention was to strengthen the preventive effect of Unplugged.

Table 1.
The description of the sample size (n).

	Pretest		Total
	no	Yes	
Control group	289	333	622
Experimental group	183	191	374
Experimental group with nPrevention	218	206	424
Total	690	730	1420

The data collection was carried out after obtaining the informed consent of Parents/guardians and questionnaires were filled in during a lesson in the presence of a trained research team member, without the presence of a teacher. All collected data 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

Descriptive normative beliefs were measured by two items: “According to your estimation, how many of the pupils at your school use alcohol/smoke cigarettes?” (Elek, Miller-Day, & Hecht, 2006). Each item was rated on a 4-point scale with the scale from 1 = almost none to 4 = most.

Smoking and alcohol consumption were assessed using single-item measures: “How often (if ever) have you smoked cigarettes/drank alcohol during the last 30 days?” Responses were recorded on a 4-point scale: 1-not at all; 4-5 or more times (Hibbel, et al., 2012). For the purposes of analysis in this study, the items were dichotomized into 0=not used and 1=used.

4.3. Statistical Analyses

Outcome variables were examined with GLM repeated measure analyses and with binary logistic regression (BLR) to assess the impact of group and DNB on the likelihood that adolescents would report smoking / alcohol consumption, controlling for smoking / alcohol consumption^{T1 / T2} and gender. The BLR models contained one interaction group x DNB. In cases when moderation effect was not confirmed, the interaction was excluded from the analysis and the analysis was repeated. Firstly, the adolescents were compared based on the number of waves they participated in both with and without a pretest. Firstly, the descriptive analysis showed that 32.8 %^{without pretest} and 19.2 %^{with pretest} of the adolescents participated only in one wave, 67.2 %^{without pretest} and 27.2 %^{with pretest} in two waves, 53.6%^{with pretest} in three waves. There were no significant differences in descriptive normative beliefs about smoking and alcohol consumption between the respondents who took part in different waves.

5. RESULTS

Table 2 and Table 3 show smoking and alcohol consumption prevalence, the descriptive normative beliefs scores about smoking and alcohol consumption among adolescents in groups without, as well as with pretesting. Only one statistically significant value of the

chi-square tests was found, the lowest percentage of adolescents in experimental group with nPrevention (EG+) reported alcohol consumption one year after implementing the program (T3), $\chi^2 = 8.06$, $p < 0.05$.

Table 2.
Smoking (n / %) and descriptive normative beliefs about smoking (M, (SD))
in groups without and with pretesting.

Without pretesting						With pretesting								
	T2 / S			T3 / S			T1 / S			T2 / S			T3 / S	
Group	No	yes	Group	no	yes	Group	no	yes	Group	no	yes	Group	no	yes
CG	203 / 89.80%	23 / 10.20%	CG	179 / 84.80%	32 / 15.20%	CG	228 / 96.60%	8 / 3.40%	CG	212 / 93.00%	16 / 7.00%	CG	185 / 83.00%	38 / 17.00%
EG	288 / 88.90%	36 / 11.10%	EG	100 / 79.40%	26 / 20.60%	EG	296 / 93.40%	21 / 6.60%	EG	284 / 94.70%	16 / 5.30%	EG	123 / 84.80%	22 / 15.20%
			EG+	147 / 87.00%	22 / 13.00%							EG+	121 / 77.10%	36 / 22.90%
	T2 / DNB ^s			T3 / DNB ^s			T1 / DNB ^s			T2 / DNB ^s			T3 / DNB ^s	
CG	2.72 (0.92)		CG	2.91 (0.79)		CG	2.50 (0.89)		CG	2.57 (0.88)		CG	2.88 (0.81)	
EG	2.85 (0.84)		EG	2.95 (0.89)		EG	2.42 (0.88)		EG	2.61 (0.87)		EG	2.62 (0.85)	
			EG+	2.95 (0.72)								EG+	2.96 (0.83)	

Notes: T1 = baseline measure, T2 = immediately after Unplugged implementation, T3 = one year after implementing the program, Group = control group (CG), experimental group (EG), experimental group with nPrevention (EG+), S = smoking, DNB^S = descriptive normative beliefs about smoking

Table 3.
Alcohol consumption (n / %) and descriptive normative beliefs about alcohol consumption
(M, (SD)) in groups without and with pretesting.

Without pretesting						With pretesting								
	T2 / AC			T3 / AC			T1 / AC			T2 / AC			T3 / AC	
Group	no	yes	Group	no	yes	Group	no	yes	Group	no	yes	Group	no	yes
CG	178 / 79.50%	46 / 20.50%	CG	136 / 64.80%	74 / 35.20%	CG	194 / 82.90%	40 / 17.10%	CG	183 / 80.30%	45 / 19.70%	CG	158 / 71.20%	64 / 28.80%
EG	240 / 74.50%	82 / 25.50%	EG	87 / 69.60%	38 / 30.40%	EG	243 / 77.10%	72 / 22.90%	EG	237 / 79.30%	62 / 20.70%	EG	99 / 68.30%	46 / 31.70%
			EG+	132 / 78.10%	37 / 21.90%							EG+	112 / 72.30%	43 / 27.70%
	T2 / DNB ^{AC}			T3 / DNB ^{AC}			T1 / DNB ^{AC}			T2 / DNB ^{AC}			T3 / DNB ^{AC}	
CG	2.66 (0.86)		CG	2.90 (0.80)		CG	2.25 (0.78)		CG	2.43 (0.87)		CG	2.72 (0.79)	
EG	2.77 (0.85)		EG	2.86 (0.91)		EG	2.30 (0.82)		EG	2.54 (0.82)		EG	2.65 (0.81)	
			EG+	2.86 (0.79)								EG+	2.96 (0.76)	

Notes: T1 = baseline measure, T2 = immediately after Unplugged implementation, T3 = one year after implementing the program, Group = control group (CG), experimental group (EG), experimental group with nPrevention (EG+), AC = alcohol consumption, DNB^{AC} = descriptive normative beliefs about alcohol consumption

5.1. Unplugged, Descriptive Normative Beliefs about Smoking, and Smoking Among Adolescents

Firstly, the effects of prevention program and gender across time on adolescents' DNB^S was explored. There was a significant main effect of time^{with pretesting}, times: T1 and T2 and T3 on DNB^S and contrasts revealed significantly higher level of DNB-smoking at T2 $F(1, 456) = 8.365$, $p < 0.01$, and significantly higher level of DNB^S at T3 $F(1, 387) = 25.750$, $p < 0.001$. There was a significant main effect of time^(without pretesting) $F(1, 411) = 4.827$, $p < 0.05$, on DNB^S and contrasts revealed significantly higher level DNB^S at T3 (one year after implementing the program). The interaction effects group (CG, EG, as well as CG, EG, EG+) x time, group x time x gender on DNB^S were not significant.

Secondly, BLR was performed to assess the impact of the group^{CG, EG} and DNB^{S_T2} on the likelihood that adolescents would report smoking^{T2}, controlling for smoking^{T1} and

gender. The BLR model^{with pretesting} for smoking^{T2} contained one interaction group x DNB^{S_T2}. The results can be found in Table 4. The model explained 19.7% of the variance in smoking^{T2} and correctly classified 94.6% cases. The effect of the group and DNB^{S_T2}, as well as the moderation effect of the group on the association between DNB^{S_T2} and smoking^{T2} was not found.

Thirdly, BLR was performed to assess the impact of group^{CG, EG, EG+} and DNB^{S_T3} on the likelihood that adolescents would report smoking^{T3}, controlling for smoking^{T2} and gender. The BLR models for smoking^{T3} (without and with pretesting) contained also one interaction group x DNB^{S_T3}. Descriptive analyses and BLR results can be found in Table 2 and Table 4. The model^{without pretesting} explained 32.3% of the variance in smoking^{T3} and correctly classified 89.4% cases. The effects of the group and DNB^{S_T3}, as well as the moderation effect of the group on the association between DNB^{S_T3} and smoking^{T3} was not found. The model^{with pretesting} explained 31.9% of the variance in smoking^{T3} and correctly classified 81.5% cases. DNB^{S_T3} made a unique, statistically significant contribution to the model. Adolescents with a higher level of DNB^{S_T3} were three times more likely to report smoking at T3, controlling for all other factors in the model. The effect of the group, as well as the moderation effect of the group on the association between DNB^{S_T3} and smoking^{T3} was not found.

Table 4.
Logistic regression predicting likelihood of reporting smoking.

With pretesting Smoking at T2				Without pretesting Smoking at T3				With pretesting Smoking at T3		
		95% C.I. for EXP(B)				95% C.I. for EXP(B)			95% C.I. for EXP(B)	
	OR	Lower	Upper		OR	Lower	Upper	OR	Lower	Upper
Smoking ^{T1}	14.711***	5.173	41.834	Smoking ^{T2}	21.116***	9.825	45.381	63.444***	13.305	302.519
Gender	0.457	0.183	1.142	Gender	1.455	0.751	2.816	1.373	0.74	2.544
Group (CG, EG)	0.676	0.275	1.661	CG	Ref.			Ref.		
DNB ^{S_T2}	1.565	0.924	2.652	EG	1.227	0.567	2.655	1.055	0.504	2.209
				EG+	0.742	0.346	1.591	0.829	0.414	1.657
				DNB ^{S_T3}	1.448	0.961	2.181	3.044***	1.96	4.727

Notes: T1 = baseline measure, T2 = immediately after Unplugged implementation, T3 = one year after implementing the program, DNB^S = descriptive normative beliefs about smoking, group = control group (CG), experimental group (EG), experimental group with nPrevention (EG+), ***p < 0.001

5.2. Unplugged, Descriptive Normative Beliefs about Alcohol Consumption, and Alcohol Consumption

Firstly, the effects of prevention program and gender across time on adolescents' DNB^{AC} was explored. There was a significant main effect of time (with pretesting, times: T1 and T2) on DNB^{AC} and contrasts revealed significantly higher level DNB^{AC} at T2 $F(1, 453) = 25.112, p < 0.001$. The interaction effects of group (CG, EG) x time, group x time x gender on DNB^{AC} were not significant.

Secondly, BLR was performed to assess the impact of group^{CG, EG} and DNB^{AC_T2} on the likelihood that adolescents would report alcohol consumption^{T2}, controlling for alcohol consumption^{T1} and gender. The BLR model for alcohol consumption^{T2} contained one interaction group x DNB^{AC_T2} (Table 5). The model explained 22% of the variance in alcohol consumption^{T2} and correctly classified 79.7% cases. DNB^{AC} at T2 made a unique statistically significant contribution to the model. Adolescents with a higher level of DNB^{AC} at T2 were almost 2 times more likely to report alcohol consumption at T2, controlling for all other factors in the model. The effect of group, as well as moderation effect of group on the association between DNB^{AC_T2} and alcohol consumption^{T2} was not found.

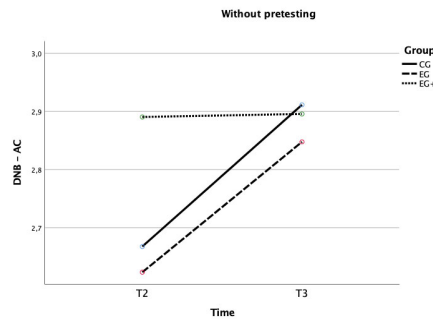
Thirdly, the effects of prevention program and gender across time on adolescents' DNB^{AC} at T3 was explored. There was a significant main effect of time (without pretesting $F(1, 412) = 12.081, p = 0.001$) on DNB^{AC} and contrasts revealed significantly higher level of DNB^{AC} at T3. There was a significant interaction effect between DNB^{AC} and group. The effect indicates that DNB^{AC} differed in Control^{CG}, Experimental^{EG}, and Experimental group with booster sessions^{EG+}, $F(2, 412) = 3.071, p < 0.05$. The interaction graph shows (Figure 1) that DNB^{AC} increased between T2 and T3 among adolescents of all groups, but this increase from T2 to T3 was more pronounced for adolescents of CG and EG than EG+.

Table 5.
Logistic regression predicting likelihood of reporting alcohol consumption.

	With pretesting Alcohol consumption at T2				Without pretesting Alcohol consumption at T3			With pretesting Alcohol consumption at T3		
		95% C.I.for EXP(B)				95% C.I.for EXP(B)			95% C.I.for EXP(B)	
	OR	Lower	Upper		OR	Lower	Upper	OR	Lower	Upper
Alcohol consumption ^{T1}	6.045***	3.579	10.21	Alcohol consumption ^{T2}	8.232***	4.774	14.194	6.749***	3.85	11.831
Gender	0.801	0.481	1.333	Gender	0.94	0.574	1.539	0.927	0.563	1.526
Group (CG, EG)	0.907	0.544	1.512	CG	Ref.					
DNB ^{AC, T2}	1.635**	1.203	2.221	EG	0.427**	0.228	0.802	1.081	0.603	1.939
				EG+	0.357***	0.2	0.637	0.589	0.329	1.053
				DNB ^{T3}	1.487*	1.086	2.036	1.965***	1.397	2.764

Notes: T1 = baseline measure, T2 = immediately after Unplugged implementation, T3 = one year after implementing the program, DNB^{AC} = descriptive normative beliefs about alcohol consumption, control group (CG), experimental group (EG), experimental group with nPrevention (EG+), * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 1.
Changes in descriptive normative beliefs about alcohol consumption (DNB-AC).



Notes: CG = control group, EG = experimental group, EG+ = experimental group with booster-sessions, T2 = immediately after implementing the program, T3 = one year after implementing the program

The interaction DNB^{AC} x Group x Gender was significant. This indicates that the DNB^{AC} x group interaction described previously was different in boys and girls $F(2, 412) = 3.648, p < 0.05$. The interaction graphs (Figures 2, 3) show that DNB^{AC} increased from T2 to T3 among boys in all groups, but DNB^{AC} increased from T2 to T3 only in girls of CG and EG in contrast to girls of EG+. The decline of DNB^{AC} in girls of EG+ was found from T2 to T3.

There was a significant main effect of time (with pretesting $F(1, 387) = 47.188, p = 0.001$) on DNB^{AC} and contrasts revealed significantly higher level DNB^{AC} at T3. There was a significant interaction effect between DNB^{AC} and Gender. This effect indicates that

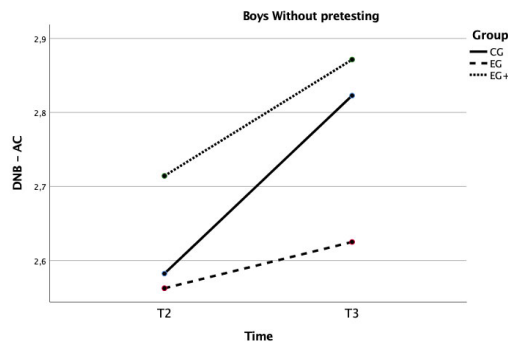
Descriptive Normative Beliefs as Predictor of Smoking and Alcohol Consumption Among Young Adolescents

DNB^{AC} differed in boys and girls $F(1, 387) = 4.917, p < 0.05$. DNB^{AC} increased between T2 and T3 among boys and girls, but this increase was more pronounced for girls.

Fourthly, BLR was performed to assess the impact of group^{CG, EG, EG+} and DNB^{AC_T3} on the likelihood that adolescents would report alcohol consumption^{T3}. The BLR models for alcohol consumption^{T3} (without and with pretesting) contained one interaction group $\times$ DNB^{AC_T3}. Descriptive analyses and BLR results can be found in Table 3 and Table 5.

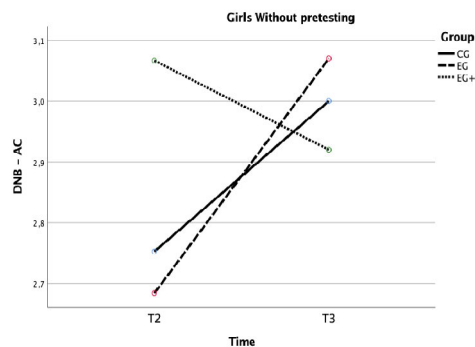
The model^{without pretesting} explained 27.1% of the variance in alcohol consumption^{T3} and correctly classified 71.8% cases. The effect of group and DNB^{AC_T3} on alcohol consumption at T3 was found. A lower percentage of adolescents in the Unplugged group (30.4%), as well as in the Unplugged+ group (21.9%), reported alcohol consumption at T3, compared to adolescents in the control group (35.2%) (Table 2). The moderation effect of group on the association between DNB^{S_T3} and alcohol consumption^{T3} was not found.

Figure 2.
Changes in descriptive normative beliefs about alcohol consumption (DNB-AC) among boys.



Notes: CG = control group, EG = experimental group, EG+ = experimental group with booster-sessions, T2 = immediately after implementing the program, T3 = one year after implementing the program
p, EG = experimental group, EG+ = experimental group with booster-sessions, T2 = immediately after implementing the program, T3 = one year after implementing the program

Figure 3.
Changes in descriptive normative beliefs about alcohol consumption (DNB-AC) among girls.



Notes: CG = control group, EG = experimental group, EG+ = experimental group with booster-sessions, T2 = immediately after implementing the program, T3 = one year after implementing the program

The model^{with pretesting} explained 22.6% of the variance in alcohol consumption^{T3} and correctly classified 70.8% of cases. DNB^{AC-T3} made a statistically significant contribution to the model. Adolescents with a higher level of DNB^{AC} at T3 were almost two times more likely to report alcohol consumption at T3, controlling for all other factors in the model. The moderation effect of group on the association between DNB^{S-T3} and alcohol consumption^{T3} was not observed.

6. DISCUSSION

We found a significant positive main effect of time on descriptive normative beliefs about smoking and alcohol consumption at both follow-up measurements: immediately and one year after program implementation. The non-significant interaction effects on DNB^S do not support the expected effect of Unplugged based on normative education (Vadrucci et al., 2016). DNB^{AC} increased between T2 and T3 in all groups, but the rise was more pronounced in CG and EG in comparison to EG+.

Adolescents with a higher level of DNB^{S-T3} were three times more likely to report smoking one year after the program implementation. As for alcohol consumption, DNB^{AC} served as a predictor of adolescents' alcohol consumption immediately (T2) and one year after the program implementation (T3). Adolescents with a higher level of DNB^{AC} were almost two times more likely to report alcohol consumption at T2, as well as T3, controlling for all other factors in the model, with respect to the Solomon four-group design of this study. Our results are consistent with the findings of Hansen et al., (2022) which combined data from 25 longitudinal studies and found, that peer descriptive normative beliefs and age were the primary predictors of use.

This study showed that the effect of the group on smoking was not found at either T2 or T3. The effect of group on alcohol consumption at T3 was found but only in the group without pretesting. A lower percentage of adolescents in the Unplugged group, as well as in the Unplugged+ group, reported alcohol consumption at T3, compared to adolescents in the control group. Our findings align with the conclusions of the systematic review on effective components of school-based drug prevention programs, which confirmed that incorporating booster sessions or additional components aimed at strengthening the program's effects can enhance its effectiveness (Cuijpers, 2002).

The findings of this research study contribute to the important investigation of pretesting effects (Peter, Sobowale, & Ekeanyanwu, 2013, LavanyaKumari, 2013, De Villiers & Van den Berg, 2012).

Firstly, it is important to consider whether the effect of the intervention using the pretest and post-test design is explored with the focus on behavioural or non-behavioural outcomes (McCambridge, Butor-Bhavsar, Witton, & Elbourne, 2011). For example, the effect of a suicide awareness program was explored and the confirmation of pretest sensitization effects in high school students' suicide awareness was confirmed (Spirito, Overholser, Ashworth, Morgan, & Benedict-Drew, 1988). The effect of a pretest in terms of cognitive learning results was explored and it was found that the pretest effect on an educational intervention depended on the type of instruction that was administered and the importance of pretesting regarding prior knowledge related to educational intervention aims could influence the results (All, Castellar, & Van Looy, 2016). Pretest sensitization was confirmed for acceptance of risky behaviour and institutional bond as core constructs of D.A.R.E. (*Drug Abuse Resistance Education*) evaluation (Ullman, Stein, & Dukes, 2000). These studies were in line with the meaning of a pretesting sensitization as a factor which increases participants' sensitivity to the experimental intervention (Huck & Sandier, 1973

in Braver & Braver, 1988). However, another study confirmed the effects of an infertility prevention psycho-educational program on infertility knowledge and attitudes among university students free from the pre-post-test sensitivity (Öztürk, Siyez, Esen, & Kağnici, 2020). No pretest sensitization was found in the investigation of the effectiveness of the Selective Problem Solving Model on the development of students' creativity skills in mathematics (Kirisçi, Sak, & Karabacak, 2020). Despite the findings of the lastly presented studies, it seems that the pretest sensitization can be important especially for non-behavioural outcomes. The need of school-based studies and assessment of pretest sensitization on non-behavioural, as well as behavioural outcomes of interventions is a factor which should be taken in to account (McCambridge et al., 2011).

Secondly, All et al. (2016) interpret the pretest sensitization through the combination of the motivational paradigm of some kind of intervention / education (the level of interactivity, the level of attention during the activities, etc.) and Deci and Ryan's Self-determination theory (the level of autonomy). In investigating the effectiveness of Unplugged, an interactive drug use prevention program based on the comprehensive social influence approach, our results suggest that adolescents in the experimental groups without pretesting showed expected positive effects. This may be attributed to a higher level of intrinsically motivated trends in behaviour and behaviour change, emphasizing the need for skill development. In contrast, pretesting experimental groups, possibly supported external regulation and lead to less favourable outcomes, possibly due to a certain sense of obligation as proposed by All et al. (2016).

It is important to highlight both the limitations and strengths of this study. The most significant limitation was the reliance on self-reported measures. However, a notable strength was the use of a cluster randomized controlled trial with a Solomon four-group design, which helped to mitigate the impact of pretest sensitization effects.

7. CONCLUSION

DNB^S and DNB^{AC} increased over time and were positively associated with smoking and alcohol consumption. Interaction effects showed (i) that DNB^{AC} increased in all groups, but this increase was more pronounced only in the control group and experimental group, and (ii) a decline of DNB^{AC} only in girls in experimental group with nPrevention.

The effect of Unplugged and Unplugged with nPrevention on alcohol consumption was found one year after program implementation. The moderation effect of Unplugged on the association between DNB^{T3} and smoking^{T3}, as well as alcohol consumption^{T3}, was not found.

These results suggest that implementing Unplugged with booster sessions and without pretesting, could be an important factor in preventing alcohol consumption by reducing DNB^{AC}. This approach proves effective in fostering intrinsic motivation, particularly among girls who participated in the prevention program.

However, the research results did not show the anticipated impact of the Unplugged program among Slovak adolescents within the expected range. To achieve the desired effectiveness, the program would need to be better adapted to the conditions of Slovak schools, with a comprehensive teacher preparation and training for program instructors to ensure the highest possible fidelity in its implementation.

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Chapter # 20

FACILITATORS AND BARRIERS IN THE USE OF DIGITAL TOOLS FOR ADOLESCENTS AND YOUNG ADULTS WITH DISABILITIES OR TROUBLES, AN EXPLORATORY STUDY

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ABSTRACT

Digitalization changes in many ways how we connect to other people and how we live in society. Information and communication technology (ICT) carry a risk of marginalization, especially for people with disabilities or troubles. Also, ICT can mediate the relationship to other people and extend social ties. The study aimed to identify the psychological barriers and facilitators to the use of ICT by adolescents and young adults with disabilities or troubles. Participants were asked about their use of ICT and how they feel when they use it. Three major themes emerged: *Representation of ICT*, *Perception of available resources* and *Individual and environmental component*. For participants, using ICT makes their everyday life easier and provides moments of pleasure. For some, ICT are seen as a means of overcoming disabilities. Social support is a key facilitator to reduce the difficulties of ICT. The main difficulties were risk and lack of knowledge. This study shows that for adolescents and young adults with disabilities or troubles, ICT are important for their sociability and autonomy. It is therefore necessary to support them and facilitate their learning of ICT to encourage their use, so that they feel confident and secure.

Keywords: adolescent, digital divide, disabilities, qualitative study, ICT, troubles.

1. BACKGROUND

In France, as elsewhere in the world, digitization has made great strides in recent decades, increasing the use of information and communication technology (ICT). Although equipment rates are rising every year, particularly for smartphones, the difficulties associated with using ICT are also increasing (Conseil Général de l'Economie [CGE], Autorité de Régulation des Communication Electronique et des Postes [ARCEP], Agence Nationale de la Cohésion des Territoires [ANCT], 2021; CGE, ARCEP, Autorité de Régulation de la Communication Audiovisuelle et Numérique [Arcom], ANCT, 2022). A major risk of digitalization is therefore the marginalization of those who do not master ICT.

The difficulties associated with using ICT are known as the digital divide. The digital divide is generally described at three levels. The first represents the geographical and infrastructural limits of access to ICT. The second encompasses access to skills, while the third on how ICT impacts people offline (Van Deursen & Helpser, 2015). An alternative conceptualisation of the third-level digital divide is proposed by Drouard, Erhel, Jacob,

Lumeau, and Suire (2021), which considers problematic uses of ICT not as a matter of distance, but of proximity. Those most affected by the digital divide are those who are most vulnerable to discrimination in society, including those with low socioeconomic status, advancing age and disabilities (Scholz, Yalcin, & Priestley, 2017; Wilson-Menzfeld et al., 2024).

Younger people may be seen as more competent with ICT, it is the myth of “Digital Natives” and may underestimate their difficulties (Kirschner & De Bruyckere, 2017). What is more, digital technology is a means of connection, socialization and autonomy, all of which are necessary for the development of adolescents and young adults (Borca, Bina, Keller, Gilbert, & Begotti, 2015). Its involvement in the development of adolescents, both in terms of its positive aspects and in terms of problematic use (addiction, exposition to inappropriate content, etc.), is the subject of scattered studies and needs to be developed (Borca et al., 2015; Stavropoulos, Motti-Stefanidi, & Griffiths, 2022; Samhel, Wright, & Cernikova, 2022). While there does not appear to be a link between personality traits and the use of ICT, psychological troubles seem to encourage problematic use of ICT (Williams, Sindermann, Yang, Montag, & Elhai, 2023). More than the risk of marginalization, the use of ICT is a double-edged sword: on the one hand, it can promote the development of adolescents and their well-being, but on the other, it can also become a conduit for harm if misused (Lai et al., 2022). To manage the stress associated with ICT difficulties, Schmidt, Frank, and Gimpel (2021) noted the coping strategies implemented by teenagers in secondary schools in Germany. Understanding these strategies allows us to better understand the relationship with ICT, the adaptive capacities of adolescents and their limit beyond which they risk abandoning their use.

Disabilities digital divide corresponds to the specific digital divide (Dobransky & Hargittai, 2016; Scholz et al., 2017). Most adolescents with disabilities report daily access to the internet, but don't feel digitally included, especially women (Johansson, Gulliksen, & Gustavsson, C, 2021). Scanlan (2022) shows that, despite the utilisation of ICT by individuals with disabilities, some applications are less prevalent than in the general population (e.g. e-mail, shopping, hiring services). They also found a strong interest in online confidentiality and worries about being followed online after cyberbullying experiences. However, for certain activities, people with disabilities use ICT just as much or even more, such as using social networks, blogging or creating online content. (Dobransky & Hargittai, 2016; Scanlan, 2022).

For adolescents with disabilities, Caron, Maltais, Corriveau, and Rassy (2024) also find the double-edged aspect of ICT: it serves as a distraction, peer support or learning about their disorder, but can also expose them to inappropriate content that may exacerbate their difficulties. Adolescents with disabilities or trouble seem to have become accustomed to using ICT, yet they remain at risk of digital exclusion (Johansson et al., 2021; Scanlan, 2022; Caron et al., 2024). Understanding their use of ICT is one way of preventing this exclusion and enabling them to make the best use of ICT.

To the best of our knowledge, no study has used the psychological angle to study the relationship between ICT and adolescents with disabilities or troubles in France. This is the aim of the first phase of the NuméVie project. In this study, we will look at the relationship between adolescents and young adults with disabilities or troubles and ICT through a qualitative study. Our research forms part of the understanding of the second and third level digital divide among adolescents and young adults with disabilities or troubles. The aim of this exploratory study is to understand, through semi-structured interviews, the psychological barriers and facilitators of the use of ICT.

2. METHOD

2.1. Participants

Participants were recruited in Institute for Motor Education (IME) and Medical-Psycho-Pedagogical Centres (MPPC) in Tours, France. Inclusion criteria were: (1) being aged between 14 and 25, (2) being French speaker since minimum 5 years, (3) taking care in MPPC or IME. Exclusion criteria were (1) minor participant without parental or legal tutor authorization and (2) completion of the entire interview, with missing information excluding the participant. The interviewer presented the subject of the study to the participant and their rights. A consent form was read and signed by them, and they were informed about their rights and given the contact information of the search responsible in case they wanted to withdraw from the study. This approach was approved by the Tours-Poitiers ethics committee.

2.2. Procedure

We used individual face-to-face semi-structured interviews with participants, either at the university of Tours or in a quiet place in the institute (MPPC or IME) that remained undisturbed during the interview to maximize comfort. At the end of the interviews, participants provided sociodemographic information. The interview guide was drawn up by the research team which consisted of experts and researchers with expertise in psychology and qualitative design.

The interview guide consisted of three parts. The first was to understand the representation and use of ICT by participants (*"When you hear the term 'digital tools,' what do you think of?"*, *"Which digital tools do you personally use?"*), and then we asked them to detail their usage with each ICT they mentioned (frequency, context, perceived mastery, etc.). The second part asked them about the difficulties they encounter with ICT and the emotions generated in these situations (*"What difficulties have you already encountered with digital tools?"*, *"How do you experience this situation?"*, *"What emotions does it arouse?"*) or the reasons for not using certain ICT (*"Why don't you use this ICT?"*). The third part was interested in the facilitator who encourage or maintain use of ICT. This part asked participants about their ways of overcoming the difficulties encountered (*"In these situations, what could have helped you?"*), and what enabled them to take ownership of ICT (*"What made the use of (mention what is used) possible for you?"*). Once the interview had begun, the order of the questions could vary according to what the participant was saying. The interview was considered complete once the integrality of the interview guide had been reviewed and the participant felt that there was nothing to add. To ensure accurate understanding of the terms in French for all the population considered in the study, the interview guide used the term "digital tools" (*outils numériques* in French) to refer to "ICT" and the latter is the term used systematically in the writing of this chapter. Interview were recorded on dictaphone and transcribed by two engineers (FH and DT).

2.3. Analysis

Content analysis was carried out by the first author (FH, engineer and expert in qualitative methodology) following a method proposed by Braun and Clarke (2013) using NVivo 12-QSR International software. The analysis focused strictly on the data that derived from the verbatim transcriptions.

3. RESULTS

3.1. Descriptive

Present sample included 9 adolescents and young adults (4 men and 5 women, from 14 to 22 years, Mean=17.1 years old; SD=2.3): 5 treated in MPPC for behavioural and learning troubles, 4 treated in IME for cerebral palsy and associate troubles. The interviews took place between June and October 2022. The interviews ranged in length from 30 minutes to 1 hours (Mean=45min). The ICT used by participants are smartphones, computers and tablets. The main uses were for communication, entertainment, and school. *Table 1* presents participants characteristics in terms of age, gender and institution.

Table 1.
Participants.

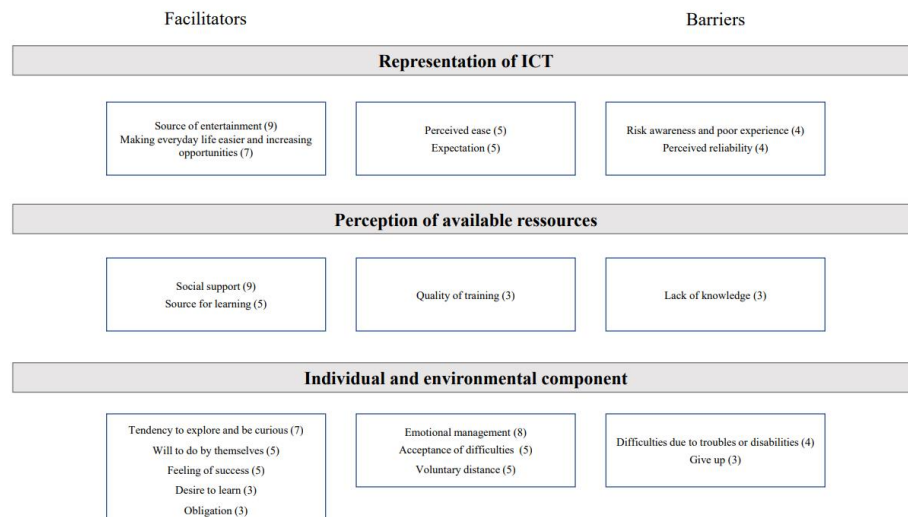
Participant	Institution	Age	Gender
P1	IME	18	Man
P2	IME	18	Woman
P3	IME	22	Man
P4	IME	18	Man
P5	MPPC	17	Woman
P6	MPPC	15	Man
P7	MPPC	16	Woman
P8	MPPC	15	Woman
P9	MPPC	14	Woman

3.2. Thematic Analysis

In our sample, 3 majors themes emerged. *Figure 1* represents the themes and sub-themes identified in our analysis. The main themes are shown in grey boxes, and in the white boxes, the sub-themes related to the said main themes. The white boxes on the left are the sub-themes identified as facilitators, on the right the ones identified as barriers, and in the middle, either facilitators or barriers, depending on the individual or the context. For each of the three themes, sub-themes are facilitators, barriers or both. The facilitators group together the sub-themes that the participants perceive to promote and maintain their use of ICT. Barriers, on the other hand, group together sub-themes that they perceive as limiting or preventing their use. For each sub-theme, we have illustrated them verbatim in the following paragraphs, particularly those that may be facilitators or barriers, to give an idea of the contradictions they may represent in the participants' experience of ICT.

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Figure 1.
Thematic map of psychological facilitators and barriers that influenced the use of ICT.



Note: In brackets the number of interviews where the theme is mentioned (N=9).

The first theme was the *representation of ICT*, understood as the perception of ICT linked to their experiences and expectations regarding ICT. The facilitators were considered as *making everyday life easier and increasing opportunities*, increasing the ability to communicate with family and friends, particularly for teenagers with disabilities, with devices such as voice assistance (“I write a bit better than when I was at primary school, by hand. (...) I'm dyslexic anyway, I can't write straight, that's why I got a computer.” P3; “I think it's great that we're dematerializing everything because it's much more practical.” P5). ICT were also seen as a *source of entertainment*, providing moments of pleasure and escape (“For me, what motivates me is watching videos, going on the Internet, seeing what interests me.” P1; “To watch videos on YouTube, that sort of thing. I use digital tools mainly for entertainment purposes.” P9; “I play a lot of Assassin's Creed, (...) a game based on adventure and old moments in history, which I think is wonderful.” P3).

For this theme, the factors that could be a facilitator and a barrier were *perceived ease* and *expectations of ICT*, respectively. *Perceived ease* varies according to the intuitiveness of ICT and their accessibility, but also their perceived complexity and therefore the effort required to master them (“I know how to use it, so now it's easy to search on Google or something.” P9; “It's a bit complicated to do the research and so on.” P7). *Expectations of ICT* represented the gap between what they perceived it would be possible to do and the tools currently available to them. These expectations ranged from simple improvements in the performance of existing equipment to the introduction of new equipment, in particular to overcome difficulties linked to disabilities (“I'd like, like, what I'm looking for in the future, I'd really like better voice recognition software that can, that can overcome my speech difficulties.” P4 “Tools that recognize requests and that, for example, I want to go, I want to go to a yoga class, what is the best way if I have to, if I can't walk or... what do you think is the best way to get there?” P4).

Lastly, the barriers linked to the first theme were *risk awareness and poor experience* and *perceived reliability* of ICT. ICT and online spaces are at risk of problematic behaviour, exposure to inappropriate content and cyberbullying. These negative experiences were a source of alienation from ICT (“You become too addicted. I know that social networking in general is very addictive.” P5; “Boys coming up to me when I’m not even their age (...) they’re always coming up to me when I say ‘no, I don’t want to’ and all that, and they don’t really understand.” P9). Finally, *perceived reliability* was related to the risk of malfunctioning, which limited the confidence placed in the ICT (“Fear because, well, if it crashes, well, I’m afraid of losing my phone or of losing what’s inside it, and even phones in general have value.” P7).

The second theme was the *perception of available resources*. The facilitators mentioned by the participants were the *social support*, provided a link with those around them to pass on knowledge, and the help they can give each other on the various ICT (“If I’m still discovering things today, that my father, he shows me little subtleties.” P7). Participants who reported a *willingness to learn*, which often translates into the possibility for ICT to provide sources for personal learning (“I’m going to help my Internet problems via the Internet (laughs).” P3).

The *quality of training* was a sub-theme that can act as both a facilitator and a barrier. For some, the training they received is comprehensive and enables them to make good use of ICT (“We have technology classes, so it’s true that that helps a lot.” P8), while for others it was superficial, limiting their use (“I know we’d had very quick lessons on it, but pfft, it never goes into any depth.” P5).

The barrier mentioned for the second theme was the difficulties linked to their *lack of knowledge* (“I know I can do the basics, but other than that I don’t necessarily know my way around.” P5).

The third theme was the *individual and environmental component*, which surrounds and influences their use of ICT. The facilitators were the *will to do by themselves*, the *tendency to explore and be curious*, the *desire to learn*, the *feeling of success* and the *obligation* to use ICT. The *will to do by themselves* and the *tendency to explore*, corresponded to a desire for autonomy, understanding and individual experimentation with ICT (“I like to be alone in my digital mastery.” P4; “I can do it, but you have to give me a bit of time, you can’t force me to do it. The more you force me, the less I’m going to do it.” P9). Then, the *desire to learn* was a driving force for those who want to improve their ICT skills (“When there’s the slightest thing that could be exciting, I go straight to it without necessarily thinking.” P3). Finally, the *feeling of success* was evoked by the participants when they manage to master ICT and overcome the difficulties they have encountered, which maintains their desire to use them (“Sometimes I discover things on my computer that I didn’t know were possible and then I’m happy because I’ve discovered something, and I’ve made it work.” P7). Finally, for the participants, *obligations* correspond to the widespread presence of ICT, which makes them necessary in their daily lives, in their discourse, these obligations were not described negatively (“Because if I don’t need it tomorrow, I’m not going to say today I’m going to take a spreadsheet course. Well, it’s really, if I have them, I’m going to need them, well I’m going..., I’m going to learn how to use them.” P5; “Well, it’s something we need in high school because to do homework and research (...). So, the computer, it’s true that it’s a bit essential now and in higher education too anyway.” P7).

Subthemes that could be both facilitators and barriers, we identified *emotional management*, *acceptance of difficulties* and *distance from ICT*. *Emotional management* is how they handle their frustrations, annoyance, and irritation when the ICT don’t work as they want it to (“Well, I don’t get sad. Or stuff like that. Just sometimes I’m a little frustrated or

curious but that's all.” P7; “I experienced it with a little difficulty and frustration sometimes, but when I succeeded, I was proud of myself.” P4). *Acceptance of difficulties* comes from the attitude of recognizing one's own limits (“There are things that I might not always understand at first glance, but that's how it is. I said to myself “it doesn't matter, I'll do it better next time”.” P3). And *distance from ICT*, a voluntary distancing from ICT to reduce the stress linked to use (“There were many times where I said to myself, “It's better to cut and come back calmly afterwards, and even stronger.” And right now, I can't do it.” P9). These three sub-themes refer to ways of managing and coping with the difficulties presented by ICT, but also entail a risk of detachment (“I will stop, or I will carry on and go even more crazy.” P6).

Finally, for the third theme, the barriers were *difficulties due to troubles or disabilities*, which require specific support to overcome (“I still can't handle a mouse.” P4; “It depends on my mood too. Whether I'm tired or not. Well, I'm tired all day anyway so.” P8) and *give up* in the face of the difficulties encountered (“I will stop and move on. Or I give up for good and come back in a few months.” P6).

4. DISCUSSION

The aim of this exploratory qualitative study was to identify the psychological facilitators and barriers to the use of ICT by adolescents with disabilities or troubles. Through thematic analysis, three major themes emerged, namely (1) *Representation of ICT*, (2) *Perception of available resources* and (3) *Individual and environmental component*. The majority of adolescents perceived ICT as beneficial for them, as it fosters a bond with their loved ones and could compensate for their difficulties. These ideas were expressed by the subthemes *source of entertainment* and *making everyday life easier*. For participants treated in IME, ICT are seen as a means of overcoming disabilities, but it makes them dependent on good performance from the ICT. These ideas are expressed by the subthemes of *expectation* and *perceived reliability*.

However, they were not unaware of the risks associated with ICT. These results support the idea of the double edge-sword (Lai et al., 2022; Caron et al., 2024). ICT is seen as a means of sharing and communicating with peers, which is necessary for the development of adolescents. The downside was that ICT can expose people to risks such as piracy or cyberbullying, leading them to move away from or abandon ICT, as expressed in the subtheme *risk awareness and poor experience* and *distance from ICT*. People with disabilities are more at risk of bullying and cyberbullying than the average person (Rose et al., 2015), so other users could become actors in their digital exclusion.

Social support from family and friends was one of the most important facilitators. Help from family and peers was a way of learning and coping with difficulties encountered with ICT. These results are consistent with those found in the literature, where people with disabilities are more involved in social media (Johansson et al., 2021; Scanlan, 2022). Support from adults, not only parents, with good digital literacy reduces the risks associated with ICT (Wright, 2017; Adigwe & Van der Walt, 2020; Schmidt et al., 2021). To facilitate the use of ICT by adolescents with disabilities or troubles, it is necessary to consider their difficulties and specific needs linked to their disabilities or troubles to provide them with appropriate help, and therefore consider the digital skills of the surroundings. Also, one obstacle mentioned was the *lack of knowledge* of ICT and the need to learn more, which links in with the generally positive view of ICT and the need to develop their digital literacy.

Finally, the development of autonomy is a feature of the transition from adolescence to adulthood (Noom, Deković, & Meeus, 2001). The adolescents interviewed expressed a desire for autonomy and self-sufficiency in mastering ICT as expressed in the subthemes *tendency*

to be curious and will do by themselves. Our results are in line with those of Borca et al. (2015) on the use of internet by Italian adolescents. They also identified that adolescents maintain their links with peers and their autonomy via ICT. It can therefore be said that supporting the proper appropriation of ICT by adolescents is a way of fostering their development and well-being (Borca et al., 2015; Smahel, Gulec, Lokajova, Dedkova, & Machackova, 2022).

In general, these results are consistent with those identified by Caron et al (2024) in their scope review in terms of benefit (distraction, social support, obtaining information) or risk (inappropriate content, cyberbullying). In addition, we were also able to identify ways in which adolescents with disabilities or trouble maintain or distance themselves from ICT. Supporting autonomy, arousing curiosity and developing adapted courses would seem to be ways of ensuring that people with disabilities continue to make good use of ICT. Finally, even though Scanlan (2022) notes that efforts to reduce digital exclusion seem to be working, we have shown that there are barriers that can be overcome with the right support and design, hence the need to maintain these efforts to continue to promote digital inclusion.

The limitation of this study was the interview sample. There is no consensus on the number of interviews to conduct to obtain a correct sample. It appears that sampling between 7 and 12 can yield the maximum amount of information (Guest, Bunce, & Johnson, 2006; Hennink, Kaiser, & Marconi, 2017). While more interviews would have been ideal, the current number can be considered acceptable for an exploratory study. The age gap between participants can be questioned, but studies on adolescents with disabilities or troubles are still few and far between, and there is no uniformity of samples in the literature (Caron et al., 2024). Another limitation of this study is the diversity of disability profiles in our sample, as the literature shows that use varies according to disability. (Tsatsou, 2019; Johansson et al., 2021). However, we can temper those limitation by the desire to illustrate psychological attitudes to ICT with qualitative method. Thematic analysis permits to show a range of psychological barriers and facilitators faced by adolescents with disabilities or troubles. The strength of this approach is that it allows us to understand the meaning given by individuals with a small sample. These limitations put our results into perspective and should be taken into account in future studies.

5. CONCLUSION

This study provides new knowledge on the relationship between ICT and adolescents with disabilities or troubles. We did not focus on the diagnostic criteria for disabilities or troubles to include them in this study. Adolescents in the IME all spoke of ICT as a concrete way of improving their daily lives and their expectations of more effective and better adapted ICT. Future research could explore adolescents' relationship with ICT using more precise diagnostic criteria to refine our knowledge and encourage the development of appropriate and effective tools.

In conclusion, the aim of this exploratory study was to initiate further studies to gain a deeper understanding of the relationship between adolescents with disabilities or troubles and ICT. We have shown that ICT are an important factor in the development and lives of today's adolescents with disabilities or troubles. We have shown, even that adolescents were interested in using ICT. Although there were risks involved, with the right support and the possibility of developing their digital skills, the use of ICT could be complete and more beneficial.

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Chapter # 21

TEACHERS, PARENTS, AND MENTAL HEALTH PROFESSIONALS COLLABORATE: PROMOTING CHILDREN'S WELLBEING AND SCHOOL READINESS

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ABSTRACT

This qualitative longitudinal study focused on pedagogical and curricular practices of teachers during children's preschool through kindergarten formative years during and following the COVID-19 pandemic. The purpose was to explore how teachers supported students in developing school readiness skills in all domains of learning (cognitive, language, physical, social, emotional) over four years during and following the outbreak of COVID-19. Data were collected via semi-structured audio-recorded interviews from 10 teachers in three sessions from 2020 to 2023. Coding was used to reveal patterns, categories and emerging themes. Findings revealed that teachers: (1) modified their pedagogical practices and implemented new curricula to meet students' needs; (2) were faced with challenges in response to COVID-19 outbreak, isolation, and reestablishment periods; (3) expanded roles as they advocated and collaborated with other professionals to increase students' resilience and wellbeing; (4) created communities of practice for peer mentoring and coaching supports to expand their repertoire; (5) strengthened relationships with other teachers and students' parents through parent education, collaboration, and co-teaching. Research implications include adaptations of practices to promote school readiness. Recommendations include further research on communities of practice and collaborative practices between teachers and mental health professionals that further the wellbeing of students and their families.

Keywords: school readiness, Covid-19, developmental domains, co-teaching, mentoring, wellbeing.

1. INTRODUCTION

This study aimed to uncover how teachers of young children in preschool (PS), prekindergarten (PK), transition kindergarten (TK), and kindergarten (K) supported the development of students' school readiness skills and fostered their successful transitions into formal schooling during and following the COVID-19 pandemic. Researchers suggested that teachers were challenged to contribute to children's readiness for formal schooling during and following the pandemic (Franchino, 2020; Holod, 2020). Researchers noted that strategies and approaches used by early childhood teachers to address their students' school readiness skills during the 2020-2023 period were not known and needed to be investigated (Brown, Englehardt, & Barry, & Ku, 2018; McNally & Slutsky, 2018; Smith & Glass, 2019) especially during and following the COVID-19 pandemic (Kufi, Negassa, Melaku, & Mergo, 2020; LaVigne, 2023; Lewis & Kuhfield, 2023; Poletti, 2020; Purtell et al., 2020), suggesting a gap in the current literature, which is relevant to current teacher practice.

2. BACKGROUND

Early childhood teachers play critical roles in supporting their students' development of formal school readiness skills (Cadima, Doumen, Verschueren, & Buyse, 2015; Downer, Goble, Myers, & Pianta, 2016; Pianta et al., 2017). There was insufficient data about how PK-K teachers supported the development of school readiness skills in their students (Brown et al., 2018; Smith & Glass, 2019; Welchons & McIntyre, 2017) at the onset of this study. As universal pre-kindergarten was adopted in the state in 2021, TK teachers took on a more prominent role in kindergarten readiness (Wang, Leung-Gagne, Melnick, & Wechsler, 2024). In addition, this was compounded during 2020-2021 due to restrictions imposed by school districts. Restrictions were placed on PK and K programs in the Pacific Southwestern region of the United States in response to the global COVID-19 pandemic. COVID-19 presented PK-K teachers with new challenges in developing formal school readiness skills to support their students' successful transition into formal school (Franchino, 2020; Holod, 2020). The researcher aimed to explore how PK-K teachers developed their students' school readiness skills to support their successful transitions into formal schooling during the COVID-19 pandemic during the pandemic and following (2020-2023). The follow-up studies in 2022 and 2023 with ten of the original participants in the 2020 interviews, indicated the overarching findings from the original study remained the same, as follows: (1) teachers modified their pedagogical practices and implemented new curricula to meet their students' needs; (2) teachers were faced with continuous challenges that arose in response to the COVID-19 outbreak, isolation, and reestablishment periods; (3) teachers expanded roles as they advocated and collaborated with mental health and behavioral experts to provide interventions and increase students' resilience and wellbeing; (4) teachers created communities of practice for peer mentoring/coaching support that resulted in expansion of their repertoire in pedagogy/curriculum; (5) teachers strengthened relationships with other teachers and students' parents while engaging in parent education and co-teaching strategies. Attempts to gather additional data from the 10 original participants in 2024 did not yield sufficient participation or significant changes in the data to report on the outcomes of interviews.

3. OBJECTIVES

Early childhood educators are essential in helping their students acquire the formal school readiness skills they need (Cadima et al., 2015; Downer et al., 2016; Pianta et al., 2017). However, insufficient data about how PS/PK/TK/K teachers supported the development of school readiness skills in their students was available at the outset of this study (Brown et al., 2018; Smith & Glass, 2019; Welchons & McIntyre, 2017). School districts' restrictions during and following the pandemic placed limitations on the programs, which made it imperative that teachers support students in making a transition to formal schooling (Franchino, 2020; Holod, 2020; Lewis & Kuhfield, 2023). During and following the COVID-19 pandemic and its variants, researchers of this study set out to investigate how teachers of young children fostered their students' school readiness for formal education. Objectives for subsequent years remained the same.

3.1. Research Questions

Two research questions guided this study, as follows:

RQ1: How do PK-K teachers support the development of school readiness skills in their students during or following the COVID-19 pandemic (and its variants)?

RQ2: How do PK-K teachers foster their students' successful transition to formal schooling during or following the pandemic (and its variants)?

4. REVIEW OF THE LITERATURE

4.1. Conceptual Framework

Two theories served as the foundation for this study's conceptual framework: Winter and Kelley's (2008) theory of school readiness, which was derived from Bronfenbrenner's (1979, 1989) theory of bioecological systems, and Vygotsky's (1962) theory of social development. These theories align with the responsibilities of teachers to follow curricula and use strategies to ensure students acquire skills necessary for formal school readiness. Subsections that follow include information on social development theory and school readiness theory that grounded this study.

4.1.1. Social Development Theory

The zone of proximal development (ZPD), the more knowledgeable other (MKO), and social interaction make up the three main themes of Vygotsky's (1962) theory of social development. According to Vygotsky, social interaction development is guided by learning (Demirbaga, 2018). A person who is more knowledgeable than the child—a teacher, parent, older sibling, or peer—is known as the MKO. One could classify technology as an MKO (Eun, 2017). According to Eun (2017), the ZPD plays “a critical role in offering principles of effective learning in both formal and informal contexts in various domains of human functioning” (p. 18). A child's development happens within the three elements of social development theory (Demirbaga, 2018; Eun, 2017; Vygotsky, 1962).

4.1.2. School Readiness Theory

Winter and Kelly (2008) acknowledged Bronfenbrenner's bio-ecological theory as having a significant influence on school readiness theory. Researchers emphasized how each child's development was interrelated to contextual factors in the home, school, community, and nation, including political and governmental influences. Caregivers, family members, educators, community members, and city and national governmental entities were considered important influencing factors.

4.2. Defining School Readiness

According to Bernstein, Barnett, and Ackerman (2019), school readiness includes knowledge and social-emotional development skills that students acquire and need before entering kindergarten. Slutzky and Debruin-Parecki (2019) highlighted a need for practitioners in the field of early childhood education to identify a more universal and complex definition of school readiness for students entering formal schooling because it encompasses roles played by both the environment and the student. Jarrett and Coba-Rodriguez (2019) surveyed teachers from different school settings and found that teachers' perceptions of skills needed for school readiness differ based on the type of the school, the curriculum followed in the school, and teachers' ethnicities, as well as teachers' years of teaching experience.

4.3. Impact of Children's Experiences on Formal School Readiness

Researchers have stressed that formal school readiness policies and programs should be implemented before K (Bernier, Beauchamp, & Cimon-Paquet, 2020; Williams & Lerner, 2019). Children's readiness for formal schooling is influenced by their experiences and not just the level of a children's inherent physical development (Bernier et al., 2020; Williams & Lerner, 2019). Williams and Lerner (2019) found that children's early learning experiences matter in their preparation for school.

5. METHODOLOGY

This longitudinal qualitative interview study was carried out between mid-2020 and mid-2023, which was during and following the worldwide COVID-19 pandemic with its variants. In 2024 all 10 teachers from the original and follow-up studies were sent emails requesting their participation. Interview data from a total of 16 teachers were collected; 10 teachers were volunteer participants throughout the 2020-2023 duration of the study. Three teachers responded, however, due to the limited number of respondents and no changes in the data, details were not included. Data were coded and analyzed to identify recurring themes related to teacher practices for the development of student school readiness skills (see Creswell & Poth, 2017). The foundation of qualitative research involves people's opinions, and the interview and member-checking processes followed during each of the three phases of data collecting revealed PK-K teacher practices to support the development of student school readiness skills during the COVID-19 pandemic (see Creswell & Poth, 2017).

5.1. Setting

Email addresses for potential participants in mid-2020 were obtained from publicly available websites, which included campuses for PS/PK/K teachers from private and public school districts. All volunteers were teachers working in preschools, elementary schools, or other early childhood programs. In the first phase, volunteers were screened to ensure that they met the criteria. Thirty-six invitations and consent forms were emailed to recruit volunteers for the first phase of the study. The invitation emails elaborated on the method of data collection (audio-recorded phone interviews, transcription of the audio recordings, summarization of data, and member checking). The email also included information about the intent of the study and volunteer/participant rights. In phase one, consent from 16 volunteer participants was received. Audio-recorded telephone interviews lasting between 45 and 130 minutes were conducted during all three phases. For phases two and three, only teachers who were volunteer participants for phase one were contacted for interviews and participation in the member-checking processes.

5.2. Participants

Volunteers met criteria (teaching the PS/PK/K at the time of interviews, having a minimum of 3 years teaching PS/PK/K, being certified by the early childhood program of the school district and state) were interviewed. At the time of phase one interviews, participants were three PS/PK teachers, seven TK teachers, and four K teachers. Data saturation was reached at each phase (see Creswell & Poth, 2017). The second (2022) and third (2023) set of interviews with ten of the original 14 teachers included representation from the PS/PK, TK, and K teachers.

5.3. Instrument

For data collection and retention an audio recording application was used. Interviews were conducted using an open-ended interview protocol. To address the two research questions, the problem statement, and the goal of this study, interview questions and prompts were created and used that aligned with the framework. To ensure clarity and ease of understanding for all participants, all interview questions were composed in a formal, straightforward style devoid of any acronyms or vague terminology. A child development specialist with over 35 years of experience in the field of child development and education, certification expertise, and higher education early childhood faculty in a state university in the United States was consulted as an expert to review the interview protocol during each phase for the purpose of validity.

5.4. Procedure

The collected data were analyzed using Braun and Clarke's six-step guide for thematic analysis and Saldaña's (2015) steps for coding were followed. Phase 1 of the analysis was to become familiar with data. At this point, recordings and transcripts of the interviews were reviewed. Phase 2 of the analysis focused on using a priori and open codes to organize the data into initial codes (see Saldaña, 2015). Coding is the process of identifying pieces of data that are of interest to the researcher and were relevant to the phenomenon under study (Braun, Clarke, & Rance, 2017). Using the conceptual framework as a guide, a priori coding, coding data segments that were relevant were used. A priori coding was used with each transcript to code other relevant pieces of data. A codebook was created to track codes as they expanded and collapsed to become categories and themes to answer the research questions. A visual representation on a Microsoft document was created to organize data pertinent to each code and category. Phase 4 was the review and refinement of themes by looking at data points to ensure they were relevant and create a discernible pattern for that theme. The second level reviewed the entire data set to ensure that the identified themes accurately reflected meanings uncovered within the data analysis. Phase 5 involved defining and naming the emerging themes. A detailed analysis for each theme, identifying the meaning behind each theme and how the themes related to each other were performed. Subthemes were identified within themes. Phase 6 was reporting the data. The story of the data was written to convince the reader about the longitudinal qualitative study's importance, reliability, and/or validity; and to ensure that reporting contained evidence of themes identified within data and that an analytic narrative answered the research questions.

6. RESULTS

Five themes that answered the research questions are included in this section. Themes reflect teacher practices related to the development of student school readiness skills.

6.1. Teachers Modified their Pedagogical Practices and Implemented New Curricula to Meet Their Students' Needs at Each Phase

Teachers mentioned that during the isolation period of the pandemic, they had to modify their curricula and practices to keep children engaged during virtual learning sessions. Part of the modification was to help young children learn how to navigate the Zoom virtual platform. Another modification was to keep children focused while their parents and siblings were in the same physical space with them during their virtual school hours. Teachers had to become creative to help students with their manipulative activities. During the second phase,

when students returned to school with many physical restrictions, teachers had to modify their practices to accommodate every child with necessary learning tools while keeping a 6-foot distance among students and continuously sanitizing toys and teaching tools. In the second phase, teachers stressed that they had to attend to students' social-emotional learning needs more than before, because when children returned to school, there were increased fears of infections from the coronavirus and its variants. Teachers reported that this group of students was more underdeveloped in their socialemotional skills because of isolation. Teachers created more opportunities for students to work with other students even within the 6 feet distance to focus on social-emotional development. Teachers noted an increased dependence on technology. During phase three, teachers mentioned that students were less ready for school than before the pandemic in all domains. They believed that COVID-19 and its variants had contributed to student underdevelopment in domains of learning. Teachers discussed that the parents of children who were infants or born within the isolation period of COVID-19 did not have support from teachers and caregivers to learn how to help their children develop school-readiness skills. Teachers' priorities became helping students progress toward reaching their developmental milestones.

6.2. Teachers Were Faced with Continuous Challenges that Arose in Response to the COVID-19 Outbreak, Isolation, and Reestablishment Periods

During the first phase of this research, early childhood teachers were faced with challenges that were specific to young students. They were challenged by helping first-time students follow directions on a screen for a few hours each day, while there were others present in their house. Teachers reported being challenged by having parents or caregivers present in their virtual classroom, whom they viewed as depriving students of opportunities to learn and discover. Teachers faced challenges virtually teaching students to hold and use a pencil and scissors virtually. During the second phase, teachers were faced with challenges that arose due to social distancing and wearing masks. Teachers' roles changed from an educator to becoming health inspectors, caregivers, parenting consultants, technology experts, teachers, and mentors. Teachers accommodated students by co-teaching with colleagues and parents, using the teaching tools, by taking turns while attending to student and parent fears and individual needs. Teachers supported parents who had feelings of fear and guilt. In phase three, teachers were challenged by having students who had not been achieving their developmental milestones. Some students were not potty trained or able to eat independently. Students at this phase had been infants during the isolation period. When these students started school, teachers reported they were delayed in demonstrating the abilities of typically developing children for their chronicle age. Students social-emotional and motor skills were delayed. During the 2024 year, variants of COVID were prevalent in communities in the greater metropolitan area of the Pacific southwestern state; however, mandates to convert to virtual environments were not in place. At this time, early childhood programs were prepared to switch to virtual learning as needed.

6.3. Teachers' Roles Expanded as they Advocated for Children and Collaborated with Mental Health and Behavioral Experts (School Psychologists and Counselors) for Interventions to Promote Children's Wellbeing and Resilience on Behalf of Students who Experienced Trauma or Developmental Delays

Isolation and fear of the unknown caused by the outbreak of the coronavirus resulted in overprotective behavior of parents. In some cases, mental health professionals in order to help them with their anxiety, teachers became advocates for children and collaborated with behavior specialists, school psychologists, and counselors. Some students' families were facing more traumatic situations, having lost a loved one. Advocating and collaborating with behavior specialists began in the first phase and continued during all phases. Teachers collaborated with specialists to learn new interventions and practices to help students and their families.

Children's well-being, encompassing emotional, social, and physical health, has been disrupted by prolonged periods of social isolation, changes in routine, and heightened family stress. Teachers' responses to interview questions indicated that resilience in young children is not only a protective factor against immediate stressors but also a predictor of long-term wellbeing. During the pandemic, children with protective factors and higher levels of resilience were better able to maintain positive mental health, engage in adaptive behaviors, and sustain social connections, even in the face of restricted interactions.

ECE environments that emphasized social-emotional learning (SEL) and created a safe, nurturing atmosphere have been shown to buffer the negative impacts of the pandemic on children's wellbeing (Thompson, 2023). Interventions that integrate SEL into the curriculum helped children develop emotional regulation, problem-solving skills, and a sense of agency, all of which contribute to resilience.

The reestablishment period, as schools transitioned back to in-person learning, introduced another set of challenges. Teachers had to address learning gaps that had widened during remote education, while simultaneously adhering to new health and safety protocols. This period also required teachers to be sensitive to the varied experiences of students during the pandemic, as many returned to school with different levels of school readiness, academic progress, and emotional resilience.

6.4. Teachers Created Communities of Practice to Avail Themselves and Other Staff of Peer Mentoring and Coaching Support, which Resulted in the Expansion of their Repertoire in Pedagogy and Curriculum

Teachers were faced with unforeseen situations and formed communities of practice with collaborative mentorships with other teachers and school staff to support each other and share practices. In phase one, teachers and staff developed novel creative ways to support each other with technology and their students in learning, social-emotional learning, and physical development. Collaborative mentoring continued throughout phases two and three. School districts in the greater metropolitan areas required professional development supported by coaches and mentors in technology and SEL. Schools and programs prepared for reoccurrence of mandates requiring teachers and children to quickly implement online teaching and learning.

6.5. Teachers Strengthened Relationships with Other Teachers and Students' Parents While Engaging in Parent Education and Co-Teaching Strategies

Teachers engaged parents in their classrooms, developed teamwork, conducted parent education, and used co-teaching strategies with parents, siblings, and caregivers to support student school readiness skill development. These practices began at phase one and continued through phases two and three. Teachers expressed appreciation for having opportunities to use technology for effective and flexible communication with parents.

Teachers' mutually beneficial relationships with others strengthened. In stages two and three, kindergarten students converted much of their content learning, literacy development, and assessment of skills to tablets. Tablets were provided by most students in K and TK. As many families put their children in public TK and K, fewer 3- and 4-year old children were enrolled in PS/PK programs.

7. FUTURE RESEARCH DIRECTIONS

Authors recommend that similar studies be conducted around the world and that further studies to be conducted comparing distant learning and on-campus learning with social distancing restrictions, since this study did not compare the two. An additional recommendation would be to further compare the public school and private school practices and teacher experiences during and following the pandemic. Further research on the benefits of shared leadership in promoting PS/PK/TK/K students' readiness skill development and fostering successful transitions to formal schooling is also needed. Although the participants of this study were from the diverse socio-economic backgrounds, the study did not compare the experiences of teachers from different socio-economic communities. Therefore, a comparison study be conducted on teachers' experiences during and following the pandemic in addressing their student's school readiness skills development within different socio-economic communities. This study focused on PK/TK/K teachers, we would recommend that a similar study be conducted with family members and school leaders. Further studies are needed to explore the preparedness of PK/TK/K teachers' readiness for a future pandemic and teachers' experiences with the increased use of technology for young children for teaching, learning, and conducting assessment; as well as the effectiveness of tablet assessments in contributing to students' school readiness skills.

8. CONCLUSION/DISCUSSION

Darling-Hammond and Cook-Harvey (2018) suggested requirements to attend to the needs of the whole child include healthy nutrition, appropriate physical activities, and a positive learning environment. Policymakers are encouraged to create a unified and organized vision for educational establishments to meet the needs of children as a whole and to develop and maintain safe and healthy environments (Temkin et al., 2020). Teachers (TPK2, TK4, TK3) emphasized that school readiness has less to do with academic skills and more to do with fundamental skills such as social-emotional skills, sense of community, the ability to communicate within a group, and self-regulation. "The health and wellbeing of the learner, including the physical, social, and emotional safety, is a requirement for learning" (Soskil, 2021; p. 99). TTK4 expressed their view that school readiness is more to do with student's ability to feel safe and secure, sit and focus on one task for a sustained period, listening and following directions, taking turns, and being patient.

Teachers stressed the importance of delivering an emergent and prepared curriculum to create safety and trust within the uncertainty of the pandemic. Teachers mentioned that it was more important during the pandemic to use an emergent and prepared curriculum that could be delivered virtually than any other time. Participants shared that they tried to create the traditional classroom environment in their virtual classrooms with varying levels of success. All teachers provided children with the stationery and material that they needed for learning called “grab and go.” Teachers TK5 and TTK5 shared that they used a whole child philosophy and evaluated their own practices to make sure students understood their teachings. Comprehensible content involved the use of realia and manipulatives. TTK1 and TPK3 explained how they tried to recreate the on-campus classroom online, by providing their students with materials and kits with explanations/directions for parents to facilitate their use in the virtual classroom.

Principals who entrusted teachers with shared decision making through open and honest communication, support teachers’ development and built a community of teachers are effective in establishing and maintaining a successful learning environment (Graham, 2018). Teachers (TTK6 and TTK1) shared that one of the teachers who had more knowledge of technology took the lead in teaching the other teachers on how to teach online and navigate the system. Shared leadership promotes a sense of community, responsibility, and trust among teachers as well as collaboration, shared purpose, and shared ownership (Daniëls, Hondeghem, & Dochy, 2019). TTK8, TK2, and TK5 mentioned that they all work as a team in their schools to help each other overcome challenges, exchange ideas, and keep students engaged and safe.

Participants shared that at the beginning of the pandemic they had to learn how to use the technology, and some had to teach their very young students how to navigate their virtual classroom. Teachers mentioned that they tried to bring traditional classrooms feel and activities into their virtual classrooms. They used technology to communicate with parents, assess students’ learning, evaluate their own practices, and create a community of students and families. Under the best of circumstances, online learning presented both challenges and opportunities for skill development in cognitive, social-emotional, and physical domains of learning for young children (Holod, 2020). TTK1 Stated that she used technology to invite experts to talk in the classroom. TPK2 Said she used the technology to assess children’s improvement and her own practice’s effectiveness.

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Section 5

Environmental Psychology

Chapter # 22

AN EXPLORATION OF ECO-ANXIETY AND ENVIRONMENTAL ENGAGEMENT IN MALTA

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ABSTRACT

The ecological crisis has triggered emotional, cognitive, and behavioral reactions. One such response, eco-anxiety, arises from concerns about environmental degradation, and can drive individuals to take action or otherwise. This study explored eco-anxiety and environmental engagement among a Maltese sample using an explanatory sequential mixed methods design, drawing on Appraisal Theory and the Campbell Paradigm of Attitudes. The 13-item Hogg Eco-Anxiety Scale assessed eco-anxiety levels in 243 Maltese adults via an online questionnaire, which also investigated pro-environmental intentions, behaviours, and climate change news exposure. Findings revealed positive correlations between eco-anxiety and both pro-environmental intentions and behaviours, though the latter was less pronounced. Eco-anxiety significantly correlated with climate change news exposure. In the second phase, four qualitative focus groups provided deeper insights into Maltese individuals' appraisals of the ecological crisis. Participants' negative emotions related to ecological degradation stemmed from feeling ineffective in addressing the crisis despite their intentions. They identified barriers, such as inconvenience, cost, and time, which outweighed their positive attitudes towards pro-environmental actions. The study highlights the need to reframe the ecological crisis to promote practical eco-anxiety and environmental engagement, with implications for environmental psychology, conservation and media reporting.

Keywords: eco-anxiety, environmental psychology, environmental engagement.

1. INTRODUCTION

Our world today is confronted with an array of urgent ecological challenges. These issues collectively give rise to what experts call the "triple planetary crisis" (United Nations, 2022). Such a crisis is rooted in three interconnected global predicaments, being: climate change, the loss of nature and biodiversity, and the pervasive issue of pollution and waste. Malta, a small island state in the middle of the Mediterranean Sea, has a dense population and is no exception to environmental challenges faced by larger countries (Environment and Resources Authority, 2020). These issues are being caused and perpetuated by human sources, mainly the widespread use of non-renewable fossil fuels, and extraction and abuse of natural resources (United Nations, 2022).

Meanwhile, such anthropogenic behaviours and their effects are posing imminent threats to Earth itself, and its human and non-human inhabitants. Indeed, nearly two-thirds of Maltese individuals acknowledge personal exposure to environmental and climate-related risks, highlighting a growing perception of climate change as a tangible personal threat (European Commission, 2023).

Besides physical threats, such as increased extreme weather and climate events, the ecological crisis also poses new psychological challenges, with eco-anxiety being a widely mentioned and studied phenomenon within the field of environmental psychology (Albrecht, 2011). Despite this, eco-anxiety, alongside resulting behaviours have not yet been explored within a Maltese context. Therefore, this study aimed to bridge this research and theoretical gap by exploring eco-anxiety among Maltese adults within the frameworks of Appraisal Theories (Arnold, 1970; Scherer, 2001) and the Campbell Paradigm of Attitudes (Kaiser, Byrka, & Hartig, 2010) using an explanatory sequential mixed methods research design.

2. BACKGROUND

Eco-anxiety has been classified as a non-pathological, inherent and natural response to the ecological crisis, rather than a mental health disorder that requires treatment. The appraisal of the ecological crisis as caused by anthropogenic actions, paired with its uncertain outcomes, is the main reason leading to eco-anxiety (Albrecht, 2011). Mathers-Jones and Todd (2023), while pointing towards the motivating effect of eco-anxiety on environmental engagement, also propose the possibility of eco-anxiety becoming maladaptive. Indeed, Hickman et al.'s (2021) study with 16-25 year-old participants exposed that nearly half of the participants thought that their emotions regarding the ecological situation were having an impact on their level of functioning, pointing towards eco-anxiety's potential of becoming severe in its effects (Kurth & Pihkala, 2022).

2.1. Eco-Anxiety and its Link to Environmental Engagement

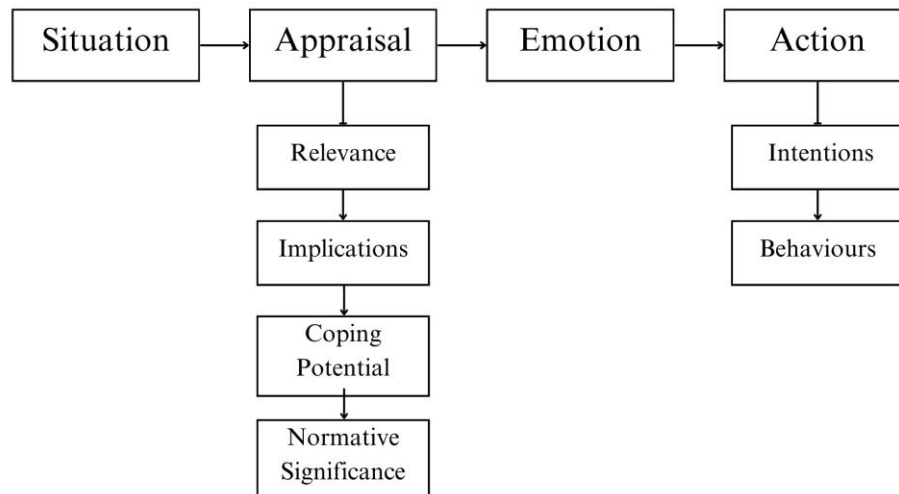
Kurth and Pihkala (2022) distinguished between practical and paralysing eco-anxiety that led to what Andrews and Hoggett (2019) called ecologically adaptive or maladaptive responses, respectively (Andrews & Hoggett, 2019). Practical eco-anxiety is characterised by self-reflection and concern, alongside eventual pro-environmental behaviours, such as information-seeking, regulating emotions and connecting with nature (Andrews & Hoggett, 2019). Meanwhile, fear and grief encompass paralysing eco-anxiety, that leads to defensive and withdrawal responses that characterise ecologically maladaptive responses. Indeed, several studies have exposed a positive correlation between eco-anxiety and pro-environmental behaviour, suggesting a practical form of eco-anxiety (Mathers-Jones & Todd, 2023; Verplanken, Marks, & Dobromir, 2020). Conversely, Stanley, Hogg, Leviston, and Walker (2021) found that eco-anxiety had no effect on personal environmental engagement, and a negative effect on environmental collective action. These conflicting findings point towards the necessity to explore the effects of eco-anxiety on environmental engagement further. Indeed, this study sought to test the correlation of eco-anxiety with pro-environmental behaviour.

Efficacy beliefs have been studied in relation to eco-anxiety and environmental engagement, being termed 'environmental efficacy' (Huang, 2016). Indeed, lack of efficacy in the face of ecological threats had been found to stimulate eco-anxiety (The Lancet Child and Adolescent Health, 2021). On the other hand, appraising one's capabilities to engage in pro-environmental behaviour, even when the ecological crisis is appraised as a threat, has been found to produce pro-environmental action, with high environmental self-efficacy also acting as a buffer for eco-anxiety's paralysing form (Mead et al., 2012). Building upon these findings, Innocenti et al. (2023), Maran and Begotti (2023) and Shao and Yu (2023) found that media and information on the ecological crisis were positively associated with both eco-anxiety, and individual and collective self-efficacy, pointing to the role of media in instigating practical eco-anxiety and subsequent environmental engagement.

2.2. Theoretical Framework

This study was framed within Magda Arnold's four-step Appraisal Theory of Emotion (Arnold, 1970), Scherer's Sequential Check Theory of Emotion (Scherer, 2001) and the Campbell Paradigm of Attitudes (Kaiser et al., 2010). Arnold (1970) proposed a four-step sequential process of responses triggered by exposure to a situation, which in the case of this study, is the ecological crisis. This process unfolds in the following sequence: 1) Situation, 2) Appraisal, 3) Emotion, and 4) Action (see Figure 1). Meanwhile, Scherer (2001) breaks Arnold's 'appraisal' step into four dimensions, being the appraisal of a situation's relevance, implications, normative significance and one's coping potential. The outcomes of the appraisal of the ecological crisis influences the resulting emotion and action taken, which can be both ecologically adaptive and maladaptive in nature.

Figure 1.
Theoretical Framework.



As seen in Figure 1, the last step of Arnold's Appraisal Theory of Emotion, being 'Action', has been framed within the Campbell Paradigm of Attitudes, making a distinction between pro-environmental intentions and pro-environmental behaviours (Kaiser et al., 2010). This paradigm contends that whether one's intentions translate into behaviour depends on their attitudes towards the ecological crisis, mitigating actions, and the appraised costs of behaving pro-environmentally (Kaiser et al., 2010). Therefore, having positive attitudes toward the environment does not necessarily mean that people would behave pro-environmentally. As an example, the Special Eurobarometer survey found that the majority of Maltese respondents were willing to adopt lifestyle changes for environmental improvement, suggesting the presence of pro-environmental intentions that are supported by positive attitudes (European Commission, 2023; Kaiser et al., 2010). Conversely, considering one's carbon footprint when planning vacations was the least reported behaviour performed by Maltese respondents, suggesting perceived difficulty in changing one's travel-related behaviours (European Commission, 2023; Kaiser et al., 2010).

Considering the above, this research aimed to explore eco-anxiety, environmental engagement, being operationalised as pro-environmental intention and behavior, and climate change news exposure, within the Maltese context through the collection and analysis of both quantitative and qualitative data within an explanatory sequential mixed methods research design.

3. OBJECTIVES

The objectives of this study, enabled through its mixed methods design, were to answer the following research questions:

- 1) How do participants appraise the ecological crisis?
- 2) Is there a relationship between eco-anxiety and pro-environmental intentions and behaviours?
- 3) Is there a relationship between eco-anxiety and climate change news exposure?
- 4) What are the perceptions of participants regarding the barriers to environmental engagement?

4. DESIGN AND METHODS

Coffey, Bhullar, Durkin, Islam, and Usher (2021) highlighted the need for research using mixed methods to study eco-anxiety. Hence, this study employed an explanatory sequential mixed methods research design (Creswell & Plano Clark, 2010). A quantitative survey was followed by focus group discussions, with the latter's question guide being influenced by the quantitative results obtained from the first phase. Subsequently, the quantitative and qualitative results were triangulated to enable an exploration of eco-anxiety and environmental engagement.

Participants of both the quantitative and qualitative phase consisted of Maltese adults aged 18 years and above recruited via convenience sampling methods.

4.1. Quantitative Phase

Phase 1 involved the administration of an online questionnaire through the social media platforms of Facebook, Instagram and LinkedIn. Data was collected between September 2022 and January 2023. The questionnaire was made up of 4 demographic items, followed by the 13-item Hogg Eco-Anxiety Scale (Hogg, Stanley, O'Brien, Wilson, & Watsford, 2021). This scale was chosen due to its ease of administration, brevity, and established validation across diverse populations (Hogg et al., 2021; Uzun et al., 2022). In addition, two other subscales were used. One subscale consisting of four items from the Willingness to Mitigate Scale (Evans, Milfont, & Lawrence, 2014) was used to measure pro-environmental intentions, and one subscale including nine items from the Ecological Behaviour Scale (Casey & Scott, 2006) to measure pro-environmental behaviours. Additionally, one self-constructed item gauging exposure to climate change news was included.

At the end of the questionnaire, participants were asked to contact the researchers via email should they wish to participate in the second qualitative phase of this study, assuring them that their correspondence would not be linked to their questionnaire responses.

4.2. Qualitative Phase

Four qualitative focus groups were conducted. Two groups comprised 9 and 7 participants aged 18-45, and two other groups of 5 each aged over 45 years. Focus group discussions were held between March and May 2023. Participants may or may not have completed the questionnaire in Phase 1. In all, 26 persons participated in the focus groups. The inclusion of four focus groups, two per demographic group, is in line with a guideline in conducting focus group research to achieve meaning saturation, being “the point at which we fully understand the issues identified and when no further insights or nuances are found”, that is to include at least two focus groups per demographic group (Hennink, Kaiser, & Weber, 2019; Krueger & Casey, 2015; Barbour, 2007; Fern, 2001; Greenbaum, 2000; Morgan, 1997).

The focus group guide was shaped by the theoretical framework, and informed by quantitative data results. The focus group discussions were recorded and transcribed verbatim. These texts were analysed utilising abductive thematic analysis, enabling themes to be both guided by the theoretical framework and open to emerging insights (Thompson, 2022).

4.3. Ethics and Verification Strategies

Ethical clearance was obtained from the Faculty Research Ethics Committee at the University of Malta. Informed consent was secured from all participants.

Validity, reliability and trustworthiness were ensured through the utilisation of standardised scales aligned with research objectives, reflexivity, audit trails, and triangulation of data, theory, and methodology (Creswell & Clark, 2010).

5. RESULTS

5.1. Quantitative Results

The online survey was filled in by 243 Maltese individuals aged 18 or over, following the exclusion of those participants who did not fill in more than 20% of the survey.

Eco-anxiety scores were measured using the Hogg Eco-Anxiety Scale (Hogg et al., 2021) between 1 (rarely/not at all) and 4 (almost always). The mean eco-anxiety score was 1.56 (SD = 0.52). Table 1 displays the demographic information of participants alongside each group's eco-anxiety mean score.

Table 1.
Demographic Information of Sample Participants and Cross-Tabulation of Eco-Anxiety Scores with Demographics.

Demographics	<i>n</i>	%	Eco-Anxiety Score	
			<i>M</i>	<i>SD</i>
Gender				
Female	185	76.1	1.56	0.50
Male	54	22.2	1.52	0.59
Age				
18-30 years	123	50.6	1.55	0.52
31-45 years	52	21.4	1.54	0.54
46-60 years	54	22.2	1.59	0.50
61+ years	14	5.8	1.62	0.61
Highest educational level				
Secondary education	34	14	1.53	0.56
Tertiary education	209	86	1.57	0.52
Work in Environment Field				
Yes	44	18.1	1.76	0.69
No	184	75.7	1.51	0.47
Unsure	15	6.2	1.54	0.38
Total	243		1.56	0.52

More than half of the participants in the sample (56.6%) reported watching or reading climate change-related news once a week or less, while 11.1% do so at least once a day. The percentages of participants within each demographic category who watched or read news related to climate change between less than once a week and several times a day are displayed in Table 2.

Table 2.
Percentages of Demographic Categories and Climate Change News Exposure.

Demographics	<i>Climate Change News Exposure</i>				
	Less than once a week	Once a week	Several times a week	Once a day	Several times a day
	%	%	%	%	%
Gender					
Male	18.9	30.2	30.2	11.3	9.4
Female	39.0	21.4	31.3	4.4	3.8
Age					
18-30 years	33.6	28.7	24.6	7.4	5.7
31-45 years	43.1	19.6	27.5	2.0	7.8
46-60 years	23.1	23.1	44.2	5.8	3.8
61+ years	42.9	0.0	50.0	7.1	0.0
Highest Education					
Secondary	50.0	23.5	23.5	2.9	0.0
Tertiary	31.2	23.9	32.2	6.3	6.3
Work in Environment					
Yes	31.8	11.4	25.0	13.6	18.2
No	34.4	27.8	31.1	4.4	2.2
Unsure	33.3	13.3	46.7	0.0	6.7
Total %	33.9	23.8	31.0	5.9	5.4
<i>n</i>	81	57	74	14	13

Additionally, a Kruskal Wallis H test was carried out to find whether there were any differences in eco-anxiety scores among participants with varying frequencies of climate change news exposure. This test showed that there were significant differences between the eco-anxiety score rank totals of 87.43 (less than once a week), 107.04 (once a week), 146.72 (several times a week), 151.11 (once a day) and 177.04 (several times a day), ($H(4) = 43.466$, $p < .001$). More so, by comparing mean ranks, it can be estimated that the scores for eco-anxiety significantly increased the more often one watched or read news related to climate change. The effect size of this difference was 17% ($\eta^2 = .17$), fitting in the large effect size interpretation value bracket. From this effect size, it can be said that 17% of variance in participants' eco-anxiety scores was due to climate change news exposure.

Pro-environmental intentions were measured on a 4-point Likert scale (1 = 'never', 2 = 'occasionally', 3 = 'often', 4 = 'always'; $M = 2.30$, $SD = 0.60$), in which participants were asked how often they think they would be performing four behaviours in the future. It was found that participants reported being most likely to proactively choose green electricity products and services ($M = 2.62$, $SD = 0.81$), followed by carpooling, walking, cycling or using public transportation for commutes less than 5 kilometres long ($M = 2.57$, $SD = 0.93$), and avoiding eating meat ($M = 2.17$, $SD = 0.98$). The behaviour participants stated that they intended to perform the least is cutting down on the amount they fly ($M = 1.84$, $SD = 0.89$).

A moderately significant positive correlation between eco-anxiety and pro-environmental intentions was found ($rs(238) = .413, p < .001$). Meanwhile, a very weak positive correlation between eco-anxiety and pro-environmental behaviour ($M = 3.35, SD = 0.45$) was found ($rs(236) = .190, p = .003$). The pro-environmental behaviour that participants reported performing the most was reusing plastic bags ($M = 3.72, SD = 0.57$). The behaviour performed the least was buying products with minimal packaging ($M = 2.81, SD = 0.86$).

5.2. Qualitative Results

The ecological crisis was described as being “precarious”, with “deforestation”, “lack of greenery”, “construction”, and a high “population density” being a few local ecological events mentioned by focus group participants.

In terms of their appraisal of the ecological crisis, focus group participants expressed that they view its outcomes as uncertain: “I don’t know what is going to happen in the future” (Female, 57 years), with this same participant stating that they experience “fear” resulting from this. Fear was also an emotion mentioned by another participant in relation to the lack of immediate action taken by people to combat the ecological crisis despite its urgency: “My fear is that we are converting people slowly and the damage will still be done” (Male, 56 years).

Most participants reported not feeling hopeful about the ecological crisis: “the level of apathy doesn’t lead me to feel any kind of hope” (Female, 25 years). Nonetheless, a few participants expressed feeling hopeful: “There is hope, through the skin in our teeth, but we can get through” (Male, 24 years), and “What I can do I will do” (Female, 59 years). Nonetheless, the latter female participant professed that she found herself “in between helplessness and hope”. Although the situation makes her feel “helplessness”, she stated that it is “useless feeling helpless”, that she wishes to learn more about the issue, and “if there is a small fraction of what I can do, then I will do it”, with such an outlook leading to “hope”.

Whether participants reported feeling hopeful or hopeless was linked to their perceived environmental efficacy, which was said to be influenced by the negativity of the media, politicisation of the ecological crisis, view of individual actions as “redundant” and “in vain” (Female, 21 years), and other people’s lack of pro-environmental action: “someone does something, the media continues as it was before, and it reinforces the idea that we’re getting worse, so they lose hope” (Male, 24 years). On the other hand, reasons for feeling hopeful included the perceived potential of the younger generation to propel “things [to] change” (Male, 24 years). This reasoning was also professed by other participants (Male, 24 years; Female, 41 years; Female 57 years; Male, 60 years). Meanwhile, some participants passed neutral comments on their predicted outcomes of the ecological crisis, with one stating that they are “not too hopeful”, continued by stating “But who knows? We’ll see.” (Male, 24 years). This is also echoed by another participant (Female, 59 years), who said “anything can happen”.

Felt hopelessness, together with other factors, such as convenience, comfort, efficiency, money and time, were mentioned as barriers to behaving pro-environmentally despite having pro-environmental intentions. Indeed, there was some incongruence between participants’ attitudes and their behaviour. For example, several focus group participants spoke about their desire to use public transportation and discussed how important this behaviour is to reduce carbon emissions. However, they also admitted that they found it very difficult to opt to use public transport instead of their car. Another ecologically-friendly transportation behaviour, being the bike, was mentioned, although safety and health issues were mentioned as barriers to adopting this behaviour. The impact of low environmental efficacy on pro-environmental behaviour also contributed to the incongruence between attitudes and behaviours, with one

focus group participant who appraised the urgency of the ecological crisis expressing their intention to adopt a vegetarian diet, only to later abandon the idea due to low self-efficacy and the belief that this individual action would have little impact.

6. DISCUSSION

The findings of this study show that eco-anxiety scores in survey respondents were relatively low. Similar findings of eco-anxiety levels were found in studies that used the HEAS to measure eco-anxiety in Germany (Heinzel et al., 2023), Argentina and Spain (Rodríguez Quiroga et al., 2024) and Turkey (Çimşir, Şahin, & Akdoğan, 2024). Nonetheless, focus group participants in this study predominantly expressed experiencing negative emotions towards the ecological crisis, such as anxiety and fear. The discrepancy between quantitative measures and qualitative insights of eco-anxiety and environment-related emotions calls for a deeper examination of the methodologies used to assess eco-anxiety and related emotions. Quantitative scales, such as the HEAS, may not fully capture the complexity or intensity of individuals' emotional responses, particularly when those emotions are tied to personal appraisals and lived experiences of the ecological crisis. The qualitative insights reveal that eco-anxiety may manifest in ways that are not easily quantified, such as through narrative expressions of fear, guilt, or helplessness. This suggests that eco-anxiety could be more context-dependent and situationally nuanced than standardised measures can reflect.

When framing focus group participants' emotions within the theoretical framework of the study (Arnold, 1970; Scherer, 2001; Kaiser et al., 2010), these emotions stemmed from their appraisal of the ecological crisis as being relevant to themselves while having negative implications, alongside their appraisal of their own coping potential as low. Indeed, participants stated that their low environmental efficacy and environment-related coping potential acted as barriers to behaving pro-environmentally, despite having pro-environmental intentions. Innocenti et al. (2023) found that low environmental efficacy acted as a moderator in the relationship between risk perception and ecologically adaptive behaviour performance. This highlights the importance of feeling environmentally efficacious, as well as appraising one's coping potential positively in order to transform pro-environmental intentions into behaviours. This points to the link of appraising the ecological crisis with behavioural plans and actions, in line with the theoretical framework of this study. More so, low environmental efficacy has been said to lead to paralysing eco-anxiety, subsequently resulting in defence mechanisms and ecologically maladaptive responses (Andrews & Hoggett, 2019; Kurth & Pihkala, 2022).

The quantitative phase exposed a moderately significant positive correlation between eco-anxiety and pro-environmental intentions, coinciding with findings of Gao, Zhao, Wang, and Wang (2020). With reference to the theoretical framework, this indicates that eco-anxiety may stem from appraising the ecological crisis in a way that instills the intention to behave pro-environmentally. Meanwhile, a very weak positive correlation between eco-anxiety and pro-environmental behaviour was found, contrasting to the stronger correlation found by Verplanken et al. (2020) between habitual worry about environmental issues and pro-environmental behaviour. The weaker relationship of eco-anxiety with pro-environmental behaviour may suggest a paralysing form of eco-anxiety that hinders environmental engagement, as proposed by Kurth and Pihkala (2022). This also highlights appraisal processes that lead to paralysing eco-anxiety as an emotional response to the ecological crisis. However, the difference in the correlation strength between habitual worry

and pro-environmental behaviour observed in Verplanken et al.'s (2020) study, compared to this study's finding, could be the result of variations in the definition of constructs.

Additionally, eco-anxiety levels significantly and positively correlated with news exposure on climate change. This finding is congruent with the findings of Innocenti et al. (2023), Shao and Yu (2023), and Maran and Begotti (2023). Shao and Yu (2023) also found that climate change news exposure increased pro-environmental behaviour. However, focus group participants raised concerns about the media's negativity and its effects on their pro-environmental intentions and behaviours. Media was identified as a factor reinforcing participants' belief in the futility of individual actions. It also led to appraising their coping potential as being low, resulting in feelings of hopelessness and eco-anxiety. Perceived lack of efficacy points to the dual nature of eco-anxiety, being either practical or debilitating. The difference is determined by the situation one is exposed to (e.g., type of news on climate change), the antecedent appraisal processes, which then influence subsequent ecologically adaptive or maladaptive behaviour.

Survey participants reported being more likely to carpool, walk, cycle or use public transportation, than avoiding eating meat or cutting down on flying, suggesting the relative easiness of more environmentally-friendly means of transportation when compared to changing one's diet and travel plans. Similarly, the Special Eurobarometer Survey found that considering one's carbon footprint of one's transport when planning a holiday was the least performed pro-environmental behaviour in both the Maltese and general EU sample (European Commission, 2023). Applying the Campbell Paradigm of Attitudes (Kaiser et al., 2010) implies that Maltese people's positive attitudes towards using more environmentally-friendly ways of travelling for holidays were outweighed by the costs of and barriers to performing this behaviour. However, it is important to note that, given that Malta is an island, alternative means of travelling other than flying, such as trains and ferries, are limited when compared to mainland Europe. Also, Coates, Kelly, and Brown (2024) found that having low or high levels of climate anxiety, compared to moderate levels, led participants to give preference to options that take less time and cost less. Thus, the above results could also be explained in terms of participants' intensity level of eco-anxiety, with participants that reported performing more costly pro-environmental behaviours possibly having more moderate levels of eco-anxiety, while low ratings given to more costly pro-environmental behaviours indicate participants' low or high levels of eco-anxiety. This calls for further research that takes into account the intensity levels of one's eco-anxiety, the appraisal processes that influence the intensity, and their effects on environmental engagement (Coates et al., 2024).

Nonetheless, the vast majority of Maltese respondents in the Environmental Attitude Survey stated that they were willing to change their lifestyle in order to help improve the environment (Environment and Resources Authority, 2022). This points towards the need for a more nuanced understanding of the changes Maltese individuals are willing to make the perceived barriers to and costs of making such changes, as well as the stimuli that facilitate environmental engagement also require further investigation. Additionally, supplemental research is needed to find out how specific appraisal processes might trigger moderate levels of eco-anxiety. This could, in turn, motivate individuals to adopt more costly pro-environmental behaviours.

6.1. Limitations

There are several limitations to this study. Non-probability sampling restricted generalisability to the general Maltese population and beyond due to selection bias and external validity concerns (Trochim & Donnelly, 2008; Cook & Campbell, 1979; Jager, Putnick, & Bornstein, 2017). Additionally, unequal distribution of gender, age, and education levels in both quantitative and qualitative phases further impacted representativeness. Reliance on non-parametric tests limited statistical power (Siegel & Castellan Jr., 1988). Meanwhile, wide age ranges in focus groups diluted generational perspectives, making qualitative interpretation difficult (Krueger & Casey, 2015). Self-reported data posed risks of response and social desirability biases (Rosenman, Tennekoon, & Hill, 2011). To measure pro-environmental intentions and behaviours, subscales rather than full standardised scales were included in the study questionnaire, limiting construct validity. Eco-anxiety scores may have been influenced by time-sensitive ecological events. The exploratory nature of the study precluded causality or temporal insights, while qualitative thematic analysis risked reductionism and subjectivity, although mitigated through researcher reflexivity (Braun & Clarke, 2006). These findings highlight the need for follow-up studies to address these constraints (Creswell & Plano Clark, 2018).

7. CONCLUSION

The aim of this study was to explore the link between eco-anxiety and environmental engagement. Results showed positive and significant correlations of eco-anxiety with pro-environmental intentions, pro-environmental behaviour and climate change news exposure. The media was perceived as a barrier to environmental engagement. These findings are in line with some findings, such as those of Verplanken et al., 2020, while contradicting others, such as Shao & Yu's (2023) findings.

Despite valuable insights, the study's limitations, such as the use of a convenience sample, limit the generalisability of results to the broader Maltese population. Nevertheless, this research adds to the understanding of eco-anxiety and environmental engagement, and sets the stage for future investigations in Malta. By identifying facilitators of environmental engagement and promoting hopeful narratives in the media, more practical forms of eco-anxiety can be fostered that may inspire hopeful action and meaningful participation in addressing environmental crises and fostering resilience.

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Chapter # 23

UTILIZING THE IPIP6 CONSUMER PERSONALITY SCALE TO ANALYZE GREEN CONSUMER BEHAVIOUR IN AN EMERGING ECONOMY CONTEXT

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ABSTRACT

Daily habits and various antecedents play crucial roles in green consumer behaviour (GCB). Personality traits are significant for environmental engagement since they manifest in habitual green activities and infrequent high-cost decisions. Personality traits could be key in determining GCB. We correlated the relationship of consumer personalities with GCB as daily green habits in an emerging economy context. Our online survey using convenience sampling (N = 478) among South African respondents (≥ 18 years) was based on the International Personality Item Pool six factors (Mini-IPIP6) scale and daily green habits. The six personality dimensions are honesty-humility (H-H), agreeableness (A), extraversion (E), conscientiousness (C), neuroticism (N) and openness to experience (O). Descriptive statistics, exploratory and confirmatory factor analysis, and correlations were performed. Respondents generally showed personality traits conducive to GCB ($m_A = 4.02$; $m_O = 3.83$; $m_C = 3.78$; $m_{H-H} = 3.65$). Correlations ($p < .05$) were revealed between “C” and “conservation habits” ($r = .261$) and “O” and “wasteful habits” ($r = -.221$). “H-H” correlated with “personal effort habits” ($r = .230$) and “wasteful habits” ($r = -.252$). Respondents testing higher on C, H-H, and O may perform more habitual GCB, thus revealing the utility of personality dimensions in understanding consumers’ GCB.

Keywords: daily habits, consumer personalities, emerging economies, mini-IPIP6 consumer personality scale, green consumer behaviour.

1. INTRODUCTION

Consumers’ daily behaviour is shrouded in careless consumption, especially in Western culture, and although such behaviour is deeply ingrained and often challenging to alter, a curbed approach based on a culture of conservation is sorely needed (Thiermann & Sheate, 2021). Consumers’ daily behaviour contributes to the degradation of the environment (Jackson & Smith, 2018). Still, these daily behaviours can also entail green consumer behaviour (GCB), which includes any behaviour and decision-making that acknowledges the environment and impacts the environment with every action. The current study describes GCB as the frequency of everyday green behaviours/habits that consumers exhibit, i.e., preferring to use green products or recycle, reuse or refuse-to-use products, saving water, switching off lights, and using environmentally friendly transportation. GCB adds another level to the complexity of consumer behaviour (Jackson & Smith, 2018), presenting several challenges and often emphasising the disparity between consumers’ pro-environmental intentions and their failure to act accordingly, i.e., the

intention-behaviour gap (Zhuo, Ren, & Zhu, 2022). Bridging this gap requires more profound insight into various underlying dimensions, such as consumer personalities and potential links to GCB, particularly among culturally diverse and complex consumer populations such as emerging economies (Zhuo et al., 2022). Emerging economies are characterised by diverse consumer populations in which consumer personalities may manifest differently from those exhibited in more developed economies. Therefore, this study investigates daily habits relating to GCB and consumer personalities embedded in consumers' psychological decision-making realm to identify consumer personalities that might point towards increased GCB in an emerging economy.

2. BACKGROUND OF CONSUMER PERSONALITY – AN INTERNAL INFLUENCE ON CONSUMER BEHAVIOUR

Consumer personality constructs have immense potential to advance the understanding of consumers' behaviour and preferences (Abood, 2019; Kesenheimer & Greitemeyer, 2021). These personality traits reflect much about consumers' inner drives for behavioural patterns that demonstrate their actual or idealised selves (Palomba, 2021). Personality is also determined by the complex interaction between individuals' physical, mental, emotional, spiritual, social, and environmental contexts (Rakib, Chang, & Jones, 2022). Thus, reciprocal determinism is noted where personality influences behaviour and the environment, and vice versa. Therefore, personality traits are often applied to explicate consumers' behavioural patterns (Palomba, 2021), including correlations between certain personality traits and GCB (Soutter, Bates, & Mõttus, 2020). Personality traits are significant for environmental engagement since they manifest in habitual green activities and infrequent high-cost decisions motivated by reflective thinking (Busic-Sontic, Czap, & Fuerst, 2017). Hence, personality traits should be acknowledged as a potential determinant of GCB (Soutter et al., 2020). Given that personality traits distinguish similarities and differences among consumers (Palomba, 2021), assessing personality traits as a precursor of GCB in a diverse, multicultural emerging economy landscape such as South Africa may offer novel insight toward the pursuit of pro-environmental behavioural change and bridging the intention-behaviour gap. Many models are used to study consumers' personalities. We build on the well-known Five-Factor Model [FFM] (Costa & McCrae, 1992; Goldberg, 1990;1993; John & Srivastava, 1999) and HEXACO (Ashton & Lee, 2007; 2009) to apply the dimensions of the Mini-IPIP6 model (Sibley et al., 2011) to study the relation between consumer personalities and daily habits.

3. CONSUMER PERSONALITY MODELS AND GREEN CONSUMER BEHAVIOUR

3.1. The HEXACO Model

Ashton and Lee (2007; 2009) proposed the HEXACO (honesty-humility [H], emotionality [E], extraversion [X], agreeableness [A], conscientiousness [C] and openness to experience [O]) model, adapted from the FFM. The HEXACO model includes the sixth dimension of personality, namely Honesty-Humility (H-H), which refers to reciprocal altruism (fairness, sincerity, [low] entitlement, and [low] narcissism) and integrity-related behaviour (Sibley et al., 2011). The sixth H-H dimension emerged after some scholars indicated the need to acknowledge more traits to transcend the understanding and predictive nature of personality types and behaviour (Abood, 2019; Ashton & Lee, 2007; 2009).

Soutter et al.'s (2020) meta-analysis confirmed up-to-date personality research linking associations of the FFM personality traits with GCB but also extended the study of the HEXACO personality traits, supporting the addition of other personality traits to explain GCB.

Prior studies consistently linked high H-H to more self-reported GCB and pro-environmental attitudes (Ashton, Lee & de Vries, 2014; Brick & Lewis, 2016). Also, based on the HEXACO model, O and H-H are positively associated with consumers' pro-environmental attitudes (Soutter et al., 2020), willingness to act on their beliefs about climate change (Panno, De Cristofaro, Oliveti, Carrus, & Donati, 2021) and actual behaviour in favour of the environment (Kesenheimer & Greitemeyer, 2021).

The FFM personality and HEXACO personality dimensions differ mainly regarding adding the H-H factors, which are related to A and C in the FFM (Lee, Ashton, Choi, & Zachariassen, 2015). Also, E, C, and O of the HEXAO model are similar to their equivalents in the Big-Five, while A and N (i.e., emotionality in the HEXACO model) slightly differ from their Big-Five counterparts (Ashton et al., 2014; Lee et al., 2015).

3.2. Mini-IPIP6 Model

To unify the dimensions between a five-factor and six-factor model, Sibley et al. (2011) adapted the HEXACO personality scale (Ashton & Lee, 2007; 2009) and built on the adaptation of the Mini-IPIP5 (short form for the five-factor model International Personality Item Pool) (Donnellan, Oswald, Baird, & Lucas, 2006), to develop the Mini-IPIP6 personality scale. The six dimensions include Openness-to-experience (O), Conscientiousness (C), Extraversion (E), Agreeableness (A), Neuroticism (N) and Honesty-Humility (H-H). The items included in the Mini-IPIP6 scale could reliably predict consumers' personality traits and have been successfully applied in several fields, although it seems comparatively neglected in sustainability research (Panno et al., 2021). Some studies have explored the link between personality and environmental attitudes, beliefs and behaviours (e.g., Busic-Sontic et al., 2017; Farizo, Oglethorpe, & Soliño, 2016; Rothermich, Johnson, & Griffith, 2021; Sibley et al., 2011), but these remain sparse, especially in South Africa.

These six personality dimensions can differentiate between consumer personalities indicating environmental consciousness or other motivational factors such as attitudes, personal norms, perceived behavioural control, and perceived self-efficacy that may result in GCB (Busic-Sontic et al., 2017; Farizo et al., 2016; Milfont & Sibley, 2012). High A, O, C, and E levels generally predict more favourable environmental engagement and several dimensions of GCB (Busic-Sontic et al., 2017). In contrast, results regarding levels of N are more inconsistent (Fatoki, 2020; Hirsh, 2010).

The Mini-IPIP6 scale includes self-reported items that load onto the sixth H-H factor strongly associated with GCB, the belief that climate change is real and the willingness to adjust one's lifestyle to accommodate GCB. Thus, the Mini-IPIP6 model includes a direct measure of personality related to environmentally friendly behaviour. The H-H personality dimension is the strongest predictor for GCB; however, higher H-H in consumers is more associated with harm-reducing behaviour than benefit-promoting behaviour (Marcus & Roy, 2019).

Although the inclusion and application of the H-H construct have been neglected in previous research, especially in a South African context, it can reflect characteristics of consumers' inclination to perform GCB. Therefore, we deemed the Mini-IPIP6 model suitable for studying the relationship between consumer personality and GCB in this context.

4. METHODOLOGY

As part of a more extensive descriptive, cross-sectional survey, this paper only reports on the personality construct and its relationship with daily habits. We used convenience sampling to recruit respondents to participate in an online questionnaire distributed on social media platforms (Facebook, Instagram, WhatsApp) in South Africa. The advertisement of the research project and the invitation to take part were posted on these social media platforms. Furthermore, a social media expert assisted in advertising the research project with paid targeted advertisements, thus employing convenience sampling.

Respondents ($N = 478$) were mainly White (73%), female (84.7%), well-educated (tertiary = 69.2%), and young (<40 years = 53.1%), which limits the generalizability of the findings, but were nonetheless deemed appropriate for the exploratory purposes of this study.

The measures included the Mini-IPIP6 personality scale (Sibley et al., 2011; Sibley & Pirie, 2013) employing a 24-item Likert scale (1: Strongly disagree; 5: Strongly agree) to determine participants' personality dimensions profile. Additionally, we measured daily habits relating to GCB using an adapted version of the Recurring Daily Habits Scale (hereafter referred to as daily habits) (Understanding Society survey, 2018; Brick, Sherman, & Kim, 2017; Whitmarsh & O'Neill, 2010; Van der Werff, Steg, & Keizer, 2013) with an adapted 39-item Likert scale (1: Never; 5: Always) used to describe the frequency of consumers' actual everyday green behaviours/habits. Data analysis included descriptive statistics and Spearman's rank-order correlations using IBM SPSS version 25. We only reported correlation coefficients showing medium and large effect sizes (medium effect size: $r = 0.3$; large effect size: $r = 0.5$; $p < .05$).

We established construct validity using exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). For EFA, Principal Axis Factoring was applied to extract factors using direct Oblimin rotation with Kaiser normalisation. Convergent validity was determined by calculating the Average Variance Extracted (AVE) and the composite reliability (CR) (Fornell & Larcker, 1981). The CFA models' acceptability was measured against fit indices from three different classes (Hancock & Mueller, 2010): Chi-square statistic divided by the degree of freedom (χ^2/df), the root mean square error of approximation (RMSEA) and the comparative fit index (CFI). Cronbach's alpha showed internal reliability within factors.

5. RESULTS

For EFA, all Kaiser-Meyer-Olkin Measure of sampling adequacy (KMO) values (Table 1) exceeded a value of 0.6—only factors with eigenvalues higher than one were retained (Table 1). To confirm construct validity, the percentage variance explained was larger or acceptably close to 50% in the case of daily habits. Regarding convergent validity, the CR values indicate that all factors exceeded the minimum reliability of 0.70 (Fornell & Larcker, 1981). The AVE for each extracted factor in Table 1 shows that not all constructs have an AVE higher than the recommended level of 0.50, which is considered acceptable convergent validity. Those above 0.70 are considered good (Fornell & Larcker, 1981). The CFA models' goodness of fit showed two of the three fit indices measured within the parameters of a good fit, confirming an acceptable model fit.

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Table 1.
Summary of the exploratory and confirmatory factor analysis for the Mini-IPIP6
personality and daily habits scales.

Scale with Factors	¹ KMO	Explained variance (%)	² α	³ χ^2/df	⁴ CFI	⁵ RMSEA ⁶ [CI]	⁷ AVE	⁸ CR
⁹Personality	.713	55.13		2.790 *	.830	.061 [.052-.59] **		
Honesty			.740				.529	.817
Humility (H-H)								
Extraversion (E)			.756				.552	.831
Neuroticism (N)			.649				.466	.775
Conscientiousness (C)			.706				.528	.815
Openness to experience (O)			.674				.488	.792
Agreeableness (A)			.619				.434	.754
¹⁰Daily Habits	.867	48.50		2.453 *	.811	.005**		
Dedicated efforts			.866				.368	.845
Transportation			.744				.542	.824
Conservation			.751				.215	.718
Wasteful			.578				.319	.733
Personal effort			.844				.568	.855
Daily food necessities			.663				.382	.728

Bold print with an Asterix (*; **) indicates the fit indices with a good fit (at least two out of three fit indices should be acceptable)

Grey values indicate AVE ($\leq .50$) and CR values ($\geq .70$) within the acceptable range (Fornell & Larcker, 1981).

1 Kaiser-Meyer-Olkin Measure of sampling adequacy (KMO)

2 Cronbach alpha (α)

3* Chi square divided by degrees of freedom (χ^2/df); fit index; should be < 5 (Mueller, 1996).

4 The comparative fit index (CFI): fit index; should be $\geq .9$ (Mueller, 1996)

5**The root mean square error of approximation (RMSEA) should be beneath $\leq .1$ to confirm a good fit (Blunch, 2008).

6Confidence Interval (CI)

7Average variance extracted (AVE) computed by $\Sigma\lambda^2/\Sigma\lambda^2 + \Sigma(1 - \lambda^2)$

8Composite reliability (CR): computed by $(\Sigma\lambda)/(\Sigma\lambda)^2 + \Sigma(1 - \lambda^2)$, where λ = factor loadings.

9Likert Scale: 1: Strongly disagree; 2: Disagree; 3: Neutral; 4: Agree; 5: Strongly agree

10Likert Scale: 1: Never; 2: Rarely; 3: Sometimes; 4: Often; 5: Always

5.1. Mini-IPIP6 Personality Scale and the Daily Habits Scale

The items included in the Mini-IPIP6 personality scale yielded six factors (Table 1; Table 2). First, EFA was done, and six factors (containing four items each) emerged that coincide with those identified in the current literature (Sibley et al., 2011; Sibley & Pirie, 2013). CFA was also done for this standardised scale, which confirmed the constructs as valid.

Table 2.
Summary of the exploratory factor analysis of respondents' personality scale (Mini-IPIP6)
(N = 478).

Item	Factor loadings					
	Honesty-Humility (H-H)	Extraversion (E)	Neuroticism (N)	Conscientiousness (C)	Openness to experience (O)	Agreeableness (A)
Would like to be seen driving around in a very expensive car. (r)	.776					
Deserve more things in life. (r)	.750					
Would get a lot of pleasure from owning expensive luxury goods. (r)	.712					
Feel entitled to have more of everything. (r)	.666					
Keep in the background (r)		.774				
Talk to a lot of different people at parties.		.747				
I am the life of the party.		.719				
Don't talk a lot. (r)		.703				
Am relaxed most of the time. (r)			.747			
Get upset easily.			.740			
Have frequent mood swings			.696			
Seldom feel blue. (r)			.525			
Often forget to put things back in their proper place. (r)				.797		
Get chores done right away.				.761		
Make a mess of things. (r)				.758		
Like order.				.569		
Do not have a good imagination. (r)					-.750	
Have difficulty understanding abstract ideas. (r)					-.702	
Am not interested in abstract ideas. (r)					-.691	
Have a vivid imagination.					-.648	
Sympathise with others' feelings.						-.667
Am not really interested in others. (r)						-.661
Feel other's emotions						-.656
Am not interested in other people's problems. (r)						-.651
Mean factor score	3.65	2.81	2.87	3.78	3.83	4.02
Standard Deviation	(.79)	(.83)	(.71)	(.71)	(.66)	(.56)

(Likert Scale: 1: Strongly disagree; 2: Disagree; 3: Neutral; 4: Agree; 5: Strongly agree)

Pattern matrix: (r) reverse-scored item

Thus, we retained the names proposed in the literature: "*honesty-humility*" (H-H), "*extraversion*" (E), "*neuroticism*" (N), "*conscientiousness*" (C), "*openness to experience*" (O) and "*agreeableness*" (A). Respondents generally exhibited personality traits instrumental to benefiting GCB ($m_A = 4.02 \pm 0.56$; $m_O = 3.83 \pm 0.66$; $m_C = 3.78 \pm 0.71$; $m_{H-H} = 3.65 \pm 0.79$; $m_N = 2.87 \pm 0.71$; $m_E = 2.81 \pm 0.83$).

Personality trait A measures the quality of a person's relationships. Measuring high on "A" includes altruism, being reasonable, modesty and caring about others more than oneself, an underlying motivation for GCB (Busic-Sontic et al., 2017; Ojedokun, 2018).

O measures proactiveness, appreciation of new experiences, consideration of the unknown (McCrae, 1991; Sun, Kaufman, & Smillie, 2018), creativity, adventurousness, focus on tackling challenges, broad interests, and an inclination towards imagination and insight. Additionally, the O dimension represents flexible and non-concrete thinking (Brick & Lewis, 2016; Nekljudova, 2019).

C measures a person's preference for structured, persistent, and motivated behaviour to achieve specific goals within controlled conditions. High measures of C imply thinking about how one's behaviour affects others, promptly finishing essential tasks and the likelihood of being sensible and calm (Milfont & Sibley, 2012; Sun et al., 2018).

H-H relates to underlying materialism, narcissism, and exploiting others for personal benefit towards the lower end of the scale and reciprocal altruism or fairness towards the higher end (Sibley et al., 2011). Essentially, H-H measures mutual unselfishness, the true notion of one's abilities, self-promoting behaviours and likeliness to an accurate self-concept (Sibley et al., 2011). A high H-H may also show emotional maturity, tend to be honest, fair, and sincere, and have a better understanding of self-identity (Roberts, Walton, & Viechtbauer, 2006).

The two dimensions that had lower values were N and E. They have insightful underlying characteristics that should be noted. N measures how individuals manage change in their immediate environment and the stability of their emotions. It also implies emotional sensitivity, especially towards individuals' environmental or situational factors (Sosnowska, De Fruyt, & Hofmans, 2019). Respondents in the current study seemed neutral on this construct. Thus, on average, respondents were not remarkably emotionally stable or unstable. The higher measure agreeing to "C" may explain the neutrality towards "N" because respondents high in "C" should be calmer, more sensible and goal-orientated. Thus, they should be less neurotic or emotionally influenced by their surroundings or situational factors (Dammeyer, 2020).

Finally, E relates to participation in social endeavours (Sibley et al., 2011). This trait measures the number and strength of an individual's social interactions, the need to be motivated, and the ability to be happy. Respondents were leaning towards neutrality. Thus, we conclude that they were averagely motivated, had fewer social interactions, and were neutral towards their pursuit of happiness.

The adapted daily habits scale resulted in six reliable factors: "*dedicated effort*", "*transportation habits*", "*conservation habits*", "*wasteful habits*", "*personal effort*", and "*daily food necessities*" (Appendix).

5.2. Relationship of Personality with Daily Habits

Most correlations were of medium effect size (i.e., presenting tendencies), with some large, showing practical significance. Three constructs of the personality scale, namely "C", "H-H", and "O", correlated with GCB (Table 3).

Table 3.
Spearman's rank-order correlations between personality constructs and daily habits.

	Dedicated effort habits	Transportation habits	Conservation habits	Wasteful habits	Personal effort habits	Food habits
Extraversion	.046	.035	-.013	.037	.002	.023
Neuroticism	-.133	-.017	-.176	.095	-.109	.042
Agreeableness	.131	.019	.110	-.079	.080	-.003
Conscientiousness	.177	.018	.261	-.126	.091	-.085
Openness to experience	.141	-.050	.161	-.221	.142	-.112
Honesty-Humility	.030	-.193	.141	-.252	.230	-.112

Notes: bold print represents medium to high effect size correlations between personality and daily habits
Small effect size: $r = .1$; medium effect size: $r = .3$; large effect size: $r = .5$; $P < .05$

“C” correlated with “*conservation habits*” ($r = .261$), which aligns with “C”’s self-discipline facet, a positive predictor of GCB because this behaviour typically needs to be repeated daily (Markowitz, Goldberg, Ashton, & Lee, 2012), exercising conservation activities daily. “*Conservation habits*” are also often called curtailment behaviour and include daily (frequent and habit-forming) behaviour that reduces resource and energy use, which mainly include transportation, water and energy conservation, rarely involve additional costs but often result in some form of discomfort when performing the behaviour at an individual level (De Nardo, Brooks, Klinsky, & Wilson, 2017; Jansson, Marell, & Nordlund, 2010). In our study, all statements about transportation are grouped in one factor and not as part of conservation, hence the distinction between “*transportation habits*” and “*conservation habits*”. Some of the “*conservation habits*” included in this study are switching off lights when one leaves a room, turning off the heater/air-conditioner when leaving a room, putting on more clothes when cold rather than switching on a heater, printing on both sides of the paper and conserving water. Thus, they are easy to do but require some level of discomfort.

Personality “O” negatively correlated with “*wasteful habits*” ($r = -.221$), showing those higher in “O” less engaged in wasteful activities, confirming the findings of Thiermann and Sheate (2021). In previous studies, individuals testing higher on O were associated with more reasoning, flexibility, ecology, environmental concern and GCB (Pavalache-Ilie & Cazan, 2018). Additionally, Rothermich et al. (2021) confirmed that those higher on the O dimension more often believed in the reality of climate change and that it would harm them personally, which might explain the negative correlation in our study between “O” and “*wasteful habits*”. Some of these “*wasteful habits*” were littering, buying bottled water instead of using water in a recyclable bottle, using an appliance when not fully loaded or unnecessarily and letting the tap run when brushing teeth.

In the current study, “H-H” correlated positively with “*personal effort habits*” ($r = .23$) and negatively with “*wasteful habits*” ($r = -.252$). “*Personal effort habits*” encompassed active educational and personal effort in GCB and included underlying dimensions such as knowledge about recycling (reuse, reduce, recycle) and the effort to educate oneself about these aspects and then apply this knowledge by acting pro-environmentally. However, these actions often depend on situational factors critical in emerging economies. For example, individuals’ environmental support systems can assist with some of these actions and make them easier to perform (Cantú, Aguiñaga, & Scheel, 2021), such as recycling and separating glass and plastic. However, recycling stations are not readily available everywhere in an emerging economy country, inhibiting these actions

(Cantú et al., 2021; Patwa et al., 2021). Accordingly, “*H-H*” may increase “*personal effort habits*” and reduce “*wasteful habits*”, which makes “*H-H*” a probable indicator of possible GCB, echoing previous findings (Pavalache-Ilie & Cazan, 2018). Moreover, the H-H dimension measures mutual unselfishness, an individual's honest idea of the abilities and likeliness to have an accurate self-concept (Kähli, 2021), how a person endorses (or not) personal interests above those of others and the interest in wealth and external signs of status. These findings explain why “*H-H*” was associated with increased individual efforts to green behaviour as well as efforts to reduce wastage in the present study.

“*N*”, “*E*”, and “*A*” showed no practical significant correlations with daily habits. Most studies by other scholars also omit that “*E*” influences GCB, attitudes or environmental concerns (Markowitz et al., 2012; Milfont & Sibley, 2012), except for a South African study showing significant associations of A and E with green purchasing behaviour (Fatoki, 2020). In contrast to our research on daily green habits, former studies reported associations of N with environmental concern (Hirsh, 2010) and GCB (Kvasova, 2015). Yu and Yu (2017) confirm that findings may differ regarding personality dimensions when looking at environmental intentions and attitudes compared to actual behaviour, such as daily green habits.

Based on the literature, our respondents generally showed personality traits conducive to GCB, and this study highlights explicitly three consumer personality dimensions that are associated with GCB in an emerging economy context: “*C*”, “*H-H*”, and “*O*”. These findings can be interpreted that those respondents who test higher on these three personality dimensions may act more environmentally friendly and perform more pro-environmental daily habits.

6. CONCLUSION AND UNIQUE CONTRIBUTION

The timely application of the Mini-IPIP6 model revealed consumer personalities (C; O; H-H) that offer a better understanding of consumers' GCB, grouped as daily habits in our study. Although we cannot generalize the findings to the broader South African population, this research offers a valuable baseline for understanding the relationship between consumer personalities and daily habits in an emerging economy context. Ultimately, specific consumer personality dimensions rendered associations with certain groups of daily habits (“*conservation habits*”; “*wasteful habits*”; *personal effort habits*”). These results align with similar findings in developed countries, although the N and E dimensions did not render associations with GCB in our study. However, we confirmed that “*H-H*” is a probable indicator of possible GCB, as this dimension was associated with increased efforts to adopt green behaviour and reduce wastage. Thus, the practical applications of these findings highlight that the H-H personality dimension can help accomplish GCB when individuals acknowledge their destructive habits of conspicuous consumption. However, identifying interventive solutions should include multiple influencing factors due to the intricacy of GCB.

Future studies should consider studying consumer personality with other personal constructs such as pro-environmental self-identity, environmental consciousness, and perceived self-efficacy, which can broaden the understanding of consumers' GCB in an emerging economy context and acknowledge behavioural patterns among a more representative group of consumers. Furthermore, recent studies indicated that consumer personalities render better structural pathway results on GCB when a mediating factor is applied (i.e., environmental attitude or self-identity) (Kesenheimer & Greitemeyer, 2021; Liao et al., 2022). When these personal determinants are linked with daily habits

(behavioural determinants) and situational factors (external determinants), a new understanding of GCB may emerge, adding to consumer behaviour knowledge and, specifically, knowledge of consumers in emerging economies.

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APPENDIX

Summary of the six-factor exploratory factor analysis of scale 15, respondents' Recurring daily habits scale (REBS) (N = 441)

Item	Factor loadings					
	Dedicated effort	Transportation	Conservation	Wasteful	Personal effort	Daily food necessities
How often do you eat organic food?	.839					
How often do you buy food which is organic?	.826					
How often do you buy food which is locally grown or in season?	.690					
How often do you eat local food (produced within 150km)?	.586					
How often do you buy environmentally friendly products?	.579					
How often do you use environmentally friendly cleaning products?	.571					
How often do you buy Fairtrade groceries?	.494					
When you buy clothing, how often is it from environmentally friendly brands?	.488					
How often do you eat from a home vegetable garden (during the growing season)?	.478					
How often do you buy products that have reduced packaging?	.315					
How often do you walk, bicycle or carpool instead of driving a vehicle by yourself?		.826				
How often do you walk or cycle for short journeys less than 2 or 3 km?		.785				
How often do you use public transport (e.g., bus, train) rather than travel by car?		.672				
How often do you car-share with others who need to make a similar journey?		.645				
How often do you turn off the lights when no one is in the room?			.721			
How often do you turn off the heater/air-conditioner when you leave your room?			.656			
How often do you print on both sides of the paper (double-sided) when you print?			.445			
How often do you turn your personal electronics off or in low power mode when not in use?			.440			
How often do you put on more clothes when you feel cold, rather than switching on the heater?			.439			
How often do you act to conserve water when showering, cleaning clothes, dishes, watering plants, or other			.394			
How often do you wash clothes in the washing machine with cold water or at 30°C?			.357			
When you buy light bulbs, how often do you buy energy-efficient compact fluorescent			.349			

Utilizing the IPIP6 Consumer Personality Scale to Analyze Green Consumer Behaviour
in an Emerging Economy Context

Item	Factor loadings					
	Dedicated effort	Transportation	Conservation	Wasteful	Personal effort	Daily food necessities
(CFL) or LED bulbs?						
How often do you lower the element temperature for your geyser to between 50-55°C?			.347			
How often do you take shorter showers (one to two minutes; less than five minutes) instead of longer ones			.315			
How often do you use the washing machine when not fully loaded?				.645		
How often do you throw litter on the street?				.631		
How often do you use the dishwasher when not fully loaded?				.629		
How often do you use the tumble drier to dry clothes instead of using sunlight to dry the clothes?				.541		
How often do you keep the tap running while you brush your teeth?				.490		
How often do you buy bottled water instead of taking water with you in a reusable bottle?				.415		
How often do you separate paper from your waste?					.933	
How often do you separate all your waste (chemical, plastics, paper, glass, organic)?					.911	
How often do you take glass bottles to the recycling bin?					.901	
How often do you compost your household food garbage?					.626	
When you visit the grocery store, how often do you use reusable bags?					.435	
How often do you discuss environmental topics, either in person or with online posts (Facebook, Twitter, etc.)					.416	
How often do you buy products in glass bottles instead of plastic bottles?					.379	
How often do you eat dairy products such as milk, cheese, eggs or yoghurt?						-.783
How often do you eat meat?						-.730
Mean factor score	3.19	2.60	4.18	1.76	3.10	3.95
Standard Deviation	± .67	± 1.04	± .56	± .56	± .99	± .85

(Likert Scale: 1: Never; 2: Rarely; 3: Sometimes; 4: Often; 5: Always)

The highlighted columns indicate the daily habits that correlated with consumer personalities

Section 6

Health Psychology

Chapter # 24

JAPANESE TRANSLATION AND VALIDATION OF THE SHORT GRIT SCALE (GRIT-S)

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ABSTRACT

Grit has recently attracted the attention of researchers and practitioners. However, studies have reported inconsistent findings regarding its dimensionality and association with success outcomes. This study examined the reliability and construct validity of a new Japanese translation of the Short Grit Scale (Grit-S-J), a brief self-report measure of grit, in a sample of 276 Japanese college students (88 women, 188 men; mean age = 20.81 years, $SD = 0.89$). Exploratory and confirmatory factor analyses supported the two-factor structure comprising perseverance of effort and consistency of interests. The total Grit-S-J and its two subscales showed adequate internal consistency and 4-week test–retest reliability. Construct validity was supported by expected correlations with scores for personality traits (self-control, Big-Five personality traits, and vitality), hedonic and eudaimonic well-being, and mental health (psychological stress, depression, and anxiety). Meanwhile, discriminant validity of the Grit-S-J was suggested by partial correlations between scores on the Grit-S-J, well-being measures, and mental health measures, after controlling for scores for either self-control or conscientiousness. Overall, the findings preliminarily support the usefulness of the Grit-S-J in grit research in the Japanese population.

Keywords: grit, Grit-S, measure, Japanese version, reliability, construct validity.

1. INTRODUCTION

1.1. Grit: Definition and Research Findings

Grit is a personality trait that has received extensive attention over the last decade because of its potential association with optimal performance (Credé, Tynan, & Harms, 2017; Datu, 2021; Fernández-Martín, Arco-Tirado, & Hervás-Torres, 2020). This personality trait was originally defined as trait-level perseverance and passion for long-term goals. It was conceptualized to comprise two facets: perseverance of effort and consistency of interests (Duckworth, Peterson, Matthews, & Kelly, 2007; Duckworth & Quinn, 2009; Duckworth, Quinn, & Tsukayama, 2021). Perseverance of effort refers to the tendency to sustain effort toward long-term goals. Meanwhile, consistency of interests involves the tendency to maintain focus on and interest in the same goal for a long period (Eskreis-Winkler, Gross, & Duckworth, 2016). Grittier individuals persevere with challenging goals, maintaining effort and interest over the years despite obstacles, setbacks, and plateaus in progress (Duckworth et al., 2007; Duckworth & Gross, 2014). Although self-control and conscientiousness (one of the Big-Five personality traits) are described as traits similar to grit, some have argued that they are distinct from grit in stamina to sustain both effort and interest toward goals over the years despite setbacks (Duckworth et al., 2007; Duckworth & Gross, 2014; Duckworth & Seligman, 2017). Grit-related interventions have also received attention, because personality traits may be easier to enhance than intelligence or other

cognitive abilities (Gonzalez, Canning, Smyth, & MacKinnon, 2019; Duckworth & Gross, 2014; Eskreis-Winkler et al., 2016).

Early research found that grit predicted achievement outcomes in diverse contexts (Datu, 2021; Duckworth & Eskreis-Winkler, 2015; Eskreis-Winkler et al., 2016). For example, grit is associated with educational attainment (Duckworth et al., 2007; Duckworth & Quinn, 2009; Eskreis-Winkler, Shulman, Beal, & Duckworth, 2014), professional success (Duckworth et al., 2007; Duckworth & Quinn, 2009; Eskreis-Winkler, Shulman, & Duckworth, 2014; Eskreis-Winkler, Shulman, Beal et al., 2014; Robertson-Kraft & Duckworth, 2014), goal achievement (Duckworth, Kirby, Tsukayama, Berstein, & Ericsson, 2011; Eskreis-Winkler, Shulman, Beal et al., 2014), and positive personal outcomes (Eskreis-Winkler, Shulman, Beal et al., 2014). Grit also predicted life outcomes above and beyond talent, including general intelligence, physical aptitude, and conscientiousness (Duckworth et al., 2007; Duckworth & Eskreis-Winkler, 2015; Eskreis-Winkler, Shulman, Beal et al., 2014). It accounted for an average of 4% of the variance in individual success (Duckworth et al., 2007). Moreover, grit is considered a character or personality strength (Clark & Plano Clark, 2019; Kashdan, McKnight, & Goodman, 2022; Lam & Zhou, 2022). A study comparing 10 personality strengths (Sheldon, Jose, Kashdan, & Jarden, 2015) showed that grit was the only predictor of 6-month increases in goal attainment among these strengths, including gratitude, curiosity, and control beliefs.

Although grit has mainly been studied in the context of achievement and performance outcomes, research also suggests positive associations with well-being and mental health (Eskreis-Winkler et al., 2016; Datu, 2021; Fernández-Martín et al., 2020; Schimschal, Visentin, Kornhaber, & Cleary, 2021). For example, many studies have indicated its positive relationships with hedonic and eudaimonic well-being (Datu, McInerney, Żemojtel-Piotrowska, Hitokoto, & Datu, 2021; Disabato, Goodman, & Kashdan, 2019; Disabato, Goodman, Kashdan, Short, & Jarden, 2016; Hou et al., 2022; Vainio & Daukantaitė, 2016), physical health (Gray, Fettes, Woltering, Mawjee, & Tannock, 2016; Moore et al., 2018), and mental health, including reduced stress, depression, and anxiety (Disabato et al., 2019; Knauff, Holt, & Kalia, 2024; Musumari et al., 2018; Sharkey et al., 2018).

Furthermore, numerous studies suggest that grit plays an advantageous role in performance, success, and well-being (Allen, Kannangara, & Carson, 2021; Datu, 2021; Fernández-Martín et al., 2020; Schimschal et al., 2021). However, research on grit has been notable for its controversy and progress. Recent meta-analytic reviews (Credé et al., 2017; Lam & Zhou, 2019) and systematic reviews (Allen et al., 2021; Datu, 2021; Credé, 2018) have highlighted several theoretical and empirical challenges. A major debate has to do with construct redundancy with similar traits, such as conscientiousness and self-control (Berk, 2018; Gonzalez et al., 2019; Liang, 2021). Moreover, although the proponents (Duckworth & Quinn, 2009; Duckworth et al., 2021) presented a two-factor model or second-order factor model of grit, which is mathematically equivalent (Credé et al., 2017; Muenks, Wigfield, Yang, & O'Neal, 2017), the dimensionality of grit has been criticized owing to inconsistencies across studies (Duckworth et al., 2021). Some studies have found a one-factor model (e.g., Arco-Tirado, Fernandez-Martin, & Hoyle, 2018; Gonzalez et al., 2019; Stephen Lenz, Watson, Luo, Norris, & Nkyi, 2018) or a bifactor model (e.g., Disabato et al., 2019; Muenks et al., 2017; Li, Fan, & Leong, 2023). Additionally, the dimensionality differs between cultural groups (Bae, Kim, Park, Lee, & Park, 2024; Disabato et al., 2019; Li et al., 2023), including individualist and collectivist ones (Abu Hasan, Munawar, & Abdul Khaiyom, 2020; Datu, Yuen, & Chen, 2017; Li et al., 2023; Morell et al., 2021). Still, several studies support the two-factor model (e.g., Bae et al., 2024; Datu, Valdez, & King, 2016;

Nishikawa, Okugami, & Amemiya, 2015; Wyszynska, Ponikiewska, Karaś, Najderska, & Rogoza, 2017). As such, the conceptualization and measurement of grit need careful consideration (Allen et al., 2021; Credé, 2018; Credé et al., 2017; Datu, 2021).

1.2. Grit Measures

Self-reported questionnaires are typically used to measure grit (Abu Hasan et al., 2020; Eskreis-Winkler et al., 2016). Proponents of grit first developed a 12-item self-report measure, the Grit Scale (Duckworth et al., 2007), followed by its short form, the eight-item Short Grit Scale (Grit-S; Duckworth & Quinn, 2009). Both measures were designed to evaluate trait-level perseverance and passion for long-term goals. Although other measures have been developed (Clark & Malecki, 2019; Datu et al., 2017; Morell et al., 2021; Postigo et al., 2021; Singh, Chukkali, & Prete, 2021), most research has used either the Grit Scale or Grit-S (Abu Hasan et al., 2020; Disabato et al., 2019). Compared to the Grit Scale, Grit-S has better psychometric properties and fewer items that provide practical advantages, such as minimal respondent burden and easy administration. Translations of the Grit-S have been developed in various languages such as Spanish (Arco-Tirado et al., 2018), Polish (Wyszynska et al., 2017), Turkish (Haktanir, Lenz, Can, & Watson, 2016), Korean (Bae et al., 2024), and Japanese (Nishikawa et al., 2015).

Essentially, Grit-S removed two items from each subscale of the Grit Scale to eliminate its shortcomings. In initial validation study (Duckworth & Quinn, 2009), the Grit-S has shown adequate psychometric properties with different samples, including internal consistency reliability, test-retest reliability, predictive validity, and consensual validity with informant (friend and family member) report versions (Duckworth & Eskreis-Winkler, 2015). Furthermore, internal consistency reliability (α s = .73 to .84) and test-retest reliability over a 1-year period (r = .68) have been adequate. Factor analysis identified two factors reflecting perseverance of effort and consistency of interest. This two-factor structure, identical to that of the original Grit scale, is consistent with the theory that grit is a compound trait comprising stamina in effort and interest (Duckworth et al., 2007; Duckworth & Quinn, 2009). These two factors represent the subscales, Perseverance of Effort (e.g., “I am diligent”) and Consistency of Interest (e.g., “I often set a goal but later choose to pursue a different one”) subscales, comprising four items. The subscales have exhibited acceptable internal consistency reliability (α s = .60 to .78 and .73 to .79, respectively) and high intercorrelation (r = .59). Although the correlation between Grit-S and conscientiousness scores was high (r s = .70 and .77), Grit-S scores predicted educational attainment and career changes after controlling for scores for conscientiousness and other Big-Five personality traits. There were also high correlations between scores on the Perseverance of Effort, Consistency of Interest and conscientiousness scales (r s = .64 and .74, respectively). The Grit-S has shown predictive validity for various success outcomes, including educational attainment, grade point average, fewer career changes, military retention, and competitive attainment.

The Japanese version of the Grit-S (Nishikawa et al., 2015) comprises the same two factors as the original Grit-S, Perseverance of Effort and Consistency of Interest. The Japanese version and its subscales corresponding to these factors have shown adequate internal consistency reliability (α s = .74, .78, and .73, respectively). Scores on the version and subscales had moderate to high correlations with scores on the conscientiousness scale (r s = .60, .53, and .39, respectively) and self-control scale (r s = .54, .53, and .35, respectively). Results from the extant literature has provided preliminary support for the psychometric properties of the Japanese version. However, evidence supporting its reliability and validity, including test-retest reliability and construct validity has been insufficient. Finally, the Japanese wording of the items seems to be, in some parts, rigid, literary, outdated, and unclear.

1.3. Purpose of the Study

This study aimed to translate the Grit-S into Japanese and examined the reliability and construct validity of the translation (Grit-S-J). A more valid Japanese version of the Grit-S, which is a brief and efficient grit measure, can contribute to the development of grit research in Japan and cross-cultural comparisons of grit. The Grit-S-J was expected to have a two-factor structure similar to that of the Grit-S. A reliability and validity assessment was conducted for the total Grit-S-J and its subscales based on the confirmed factor structure. This study evaluated test–retest reliability over 1-month period due to the limitations of the survey conditions. Therefore, the test–retest correlation was expected to be above .70, which is higher than the 1-year test–retest reliability (Duckworth & Quinn, 2009).

To evaluate construct validity, correlations between scores on the Grit-S-J and related personality trait measures were examined based on previous findings. The Grit-S-J total and subscales scores were predicted to be highly correlated with scores for self-control and conscientiousness, which are closely related (Duckworth & Eskreis-Winkler, 2015; Roberts, Chernyshenko, Stark, Goldberg, 2005), because they have exhibited high correlations exceeding .60 (Credé, 2018; Credé et al., 2017; Duckworth & Quinn, 2009). Considering the previous findings (Duckworth et al., 2007; Duckworth & Quinn, 2009) of low to moderate correlations between scores for grit and the four Big-Five personality traits except conscientiousness (i.e., extraversion, agreeableness, neuroticism, and openness), this study would have similar correlations. In addition, the Grit-S-J scores were expected to positively correlate with scores for trait vitality, which refers to the tendency to have physical and mental energy, as a personality strength similar to grit (Ryan & Deci, 2008; Ryan & Frederick, 1997). This is because passion and perseverance for long-term goals require such energy.

Relationships with scores on outcome measures, including well-being and mental health measures, would also effectively support the construct validity of the Grit-S-J (Eskreis-Winkler et al., 2016; Datu, 2021; Fernández-Martín et al., 2020; Schimschal et al., 2021). The Grit-S-J scores were expected to moderately correlate with the scores for life satisfaction, positive affect, and negative affect, which are the three components of hedonic well-being (Deci & Ryan, 2008; Ryan & Deci, 2001). Scores for eudaimonic well-being and self-esteem, which are closely linked to well-being (Diener, Oishi, & Ryan, 2013; Michalos, 2004), were predicted to positively correlate with the Grit-S-J scores. Moreover, psychological stress, depression, and anxiety scores were expected to be negatively correlated with the Grit-S-J scores. Furthermore, considering the potential construct redundancy between grit, self-control, and conscientiousness (Berk, 2018; Datu, 2021; Duckworth & Seligman, 2017; Liang, 2021), partial correlations between scores on the Grit-S-J and outcome measures controlling for either self-control or conscientiousness scores were evaluated for discriminant validity of the Grit-S-J. Discriminant validity suggest a unique role of grit in well-being and mental health. The author declares no conflicts of interest for this study.

2. METHOD

2.1. Participants

A total of 276 Japanese college students participated in this study, comprising 88 women and 188 men, with a mean age of 20.81 ($SD = 0.89$) ranging from 20 to 23. All participants agreed to voluntarily participate in two test sessions with one month interval (Times 1 and 2) and complete the measures. The questionnaire at Time 2 comprised only the Grit-S-J. Ethical approval for the survey was obtained from the ethics committee of the author's institution.

2.2. Measures

(1) Japanese translation of the Short Grit Scale

The Grit-S was translated into Japanese based on the translational process conceived by referring to several guidelines (e.g., Beaton, Bombardier, Guillemin, & Ferraz, 2000; Brislin, 1986; Sousa & Rojjanasirirat, 2011) with permission from its author, Dr. Angela L. Duckworth (personal communication, October 2, 2021). During translation, special care was taken to ensure that the Japanese expressions were plain and natural. A bilingual professor translated the items from English to Japanese and the other back-translated them from Japanese to English. Two researchers compared the translation and back-translation in detail. This procedure was repeated until an acceptable degree of consistency was achieved. Six Japanese graduate and undergraduate students confirmed the final translation.

As in the original Grit-S, each item in the Japanese translation was rated using the same 5-point scale ranging from 1 (*not like me at all*) to 5 (*very much like me*). The Consistency of Interest subscale items were reverse scored. Scale or subscale scores were calculated as the average of the scores for all corresponding items. Higher scores indicated higher levels of grit.

(2) Self-control

The Japanese version of the Brief Self-Control Scale (Tangney, Baumeister, & Boone, 2004; Ozaki, Goto, Kobayashi, & Kutsuzawa, 2016) was used to assess self-control. This scale is a widely used 13-item measure to assess individual differences in self-control ability (e.g., “I refuse things that are bad for me”). Each item was rated on a 5-point scale ranging from 1 (*not at all like me*) to 5 (*very much like me*). The Japanese version showed good internal consistency reliability ($\alpha = .75$ to $.83$), test-retest reliability over a 2-week period ($r = .73$), and unidimensionality. Convergent validity was confirmed by the expected correlations with scores for trait self-control, daily experience of ego-depletion, time spent on independent study, and performance on a stop-signal task.

(3) Big-Five personality traits

The Japanese version of the Ten-Item Personality Inventory (Gosling, Rentfrow, & Swann, 2003; Oshio, Abe, & Cutrone, 2012) was used as a brief measure of the Big-Five personality traits. This scale consists of 10 items divided into five subscales to measure the Big-Five personality dimensions: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness. Responses to the items were scored on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Rather than directly translating the words of the original version, the Japanese version was produced to accurately convey the personality traits as expressed in the English original. The Japanese version showed adequate test-retest reliability over a 2-week period ($r_s = .64$ to $.86$). Convergent and discriminant validity were supported by correlations with scores on the other five Big-Five measures.

(4) Vitality

Vitality was assessed using the Japanese version of the seven-item trait scale of the Subjective Vitality Scale (Ryan & Frederick, 1997; Sumi, 2021), which is the standard measure of this trait (e.g., “I feel energized”). Items were rated on a 7-point scale ranging from 1 (*not at all true*) to 7 (*very true*). The Japanese version had good internal consistency reliability ($\alpha = .91$), test-retest reliability over a 4-week period ($r = .80$), factorial validity of the single-factor structure, and construct validity based on acceptable correlations with scores for life satisfaction, positive and negative affect, eudaimonic well-being, self-esteem, depression, and anxiety.

(5) Hedonic well-being

Life satisfaction, a component of hedonic well-being, was measured using the Japanese version of the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985; Sumi,

2020). The brief scale consisted of five items (e.g., “I am satisfied with my life”) rated on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The Japanese version showed good internal consistency reliability (α s = .94 to .95), test-retest reliability over a 1-month period (r = .87), and unidimensionality. Construct validity was indicated by the expected correlations with scores for positive and negative affect, and eudaimonic well-being (Sumi, 2020).

Positive and negative affect were measured using the Japanese version of the Scale of Positive and Negative Experience (Diener et al., 2010; Sumi, 2013, 2014). This measure assesses recent experiences of affect and comprises the positive and negative affect scales, which consist of six items worded as adjectives expressing affect (e.g., happy and sad). The items were rated on a 5-point scale ranging from 1 (*very rarely or never*) to 5 (*very often or always*). The Japanese versions showed good internal consistency reliability (α s = .86 to .93) and test-retest reliability over a 1-month period (r s = .60 and .57). The two subscales loaded on a separate factor, supporting factorial validity. Construct validity was supported based on acceptable correlations with scores for positive and negative feelings, life satisfaction, subjective happiness, dispositional optimism and pessimism, perceived stress, depression, and anxiety.

(6) Eudaimonic well-being

Eudaimonic well-being was assessed using the Japanese version of the Flourishing Scale (Diener et al., 2010; Sumi, 2013, 2014). The scale consists of eight items that tap into the broad and important aspects of psychological functioning (e.g., “I lead a purposeful and meaningful life”). These items were rated on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The Japanese version had good internal consistency reliability (α s = .94 to .95), test-retest reliability over a 1-month period (r = .87), and unidimensionality. Construct validity was supported based on correlations with scores for measures of positive and negative feelings, life satisfaction, subjective happiness, dispositional optimism and pessimism, perceived stress, depression, and anxiety.

(7) Self-esteem

Self-esteem was measured using a Japanese scale, the Two-Item Self-Esteem scale (Minoura & Narita, 2013). This scale includes items that assess two aspects of self-esteem: self-acceptance and self-evaluation (e.g., “I feel that I have various good qualities” in Japanese). Each item was rated on a 5-point scale ranging from 1 (*disagree*) to 5 (*agree*). The initial findings indicated that the scale had acceptable internal consistency reliability (α = .77) and unidimensionality. Good test-retest reliability was observed over both 3-week and 4-month periods (r s = .77 and .78, respectively). Convergent validity was indicated by the high correlations with other self-esteem scales scores. Additionally, construct validity was supported by reasonable correlations with scores for life satisfaction, positive and negative affect, depressive affect, and competence.

(8) Psychological stress

Psychological stress was assessed using the Japanese version of the 10-item form of the Perceived Stress Scale (Cohen, Kamarack, & Mermelstein, 1983; Cohen & Williamson, 1988; Sumi, 2007). The items were designed to assess the perception of psychological stress over the past month (e.g., “In the last month, how often have you felt that you were on top of things?”) and scored on a 5-point scale ranging from 0 (*never*) to 4 (*very often*). The Japanese version indicated acceptable internal consistency reliability (α = .71), test-retest reliability over a 3-week period (r = .72), and the same factor structure as the original version. Discriminant and predictive validity were supported by expected correlations with scores for daily hassles, depression, anxiety, and psychosomatic symptoms using longitudinal data over a 3-week interval.

(9) Depression and anxiety

Depression and anxiety were assessed using the Japanese versions of the two subscales of the Hopkins Symptom Checklist (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974; Sumi, 1997). The subscales contain 11 items (e.g., “Feeling no interest in things”) and seven items (e.g., “Feeling tense or keyed up”), respectively. They assess the frequency of symptoms during the past seven days on a 5-point scale ranging from 0 (*not at all*) to 4 (*extremely*). The Japanese versions indicated good internal consistency reliability ($\alpha = .84$ for both), test–retest reliability over a 4-week period ($r_s = .83$ and $.75$, respectively), separate factor structure, and construct validity through expected correlations with scores for perceived stress (Sumi, 1997, 2007).

3. RESULTS

3.1. Factor Structure

For the factor analysis of the Grit-S-J, participants were first randomly divided into two equal-sized samples at Time 1 ($n_s = 138$), Samples A and B. The samples had no significant differences by sex, $\chi^2(1, N = 276) = 0.02$, and age, $t(274) = 1.17$. For Samples A and B, the results of the Kaiser-Meyer-Olkin test of sampling adequacy were .76 and .79, respectively, and the Bartlett’s test of sphericity was 471.21 and 488.75, $dfs = 28$, $ps < .01$, respectively. These results indicated that the data collected were appropriate for factor analysis.

Exploratory factor analysis using principal axis factoring was performed on Sample A. The eigenvalues for the first four factors were 3.64, 1.62, 0.70, and 0.58, respectively. Based on eigenvalues greater than 1.0, scree test and factor interpretability, two factors were retained, accounting for 55.62% of the total variance. The promax rotation method was applied to the two extracted factors, which were expected to be interrelated. As shown in Table 1, all items had absolute factor loadings of .40 or higher on a single factor and .26 or lower on the other factor. The items loading highly on the first and second factors were the same as those previously hypothesized to constitute the corresponding subscales: the Perseverance of Effort and Consistency of Interest subscales, respectively.

Confirmatory factor analysis was conducted on Sample B to confirm the two-factor structure of the Grit-S-J. The results indicated acceptable goodness-of-fit indices, $\chi^2(19, n = 138) = 33.99$, $p < .05$, GFI = .942, AGFI = .890, CFI = .984, SRMR = .046, and RMSEA = .076. The correlation between factors was .57 ($p < .01$). As shown in Table 1, all standardized factor loadings exceeded .79 and significant ($ps < .01$). Therefore, the two-factor structure comprising perseverance of effort and consistency of interests was supported.

3.2. Reliability and Intercorrelations

Table 2 shows the means, standard deviations, range of scores, Cronbach’s alphas, and test–retest correlations for the Grit-S-J and its subscales (hereafter, “Grit scales”). No substantial differences were observed between Times 1 and 2. High Cronbach’s alphas (.80 or over) and test–retest correlations ($r_s > .66$, $ps > .01$) were observed. In addition, the Grit-S-J scores at Time 1 were correlated with scores on the Persistence of Effort and Consistency of Interest subscales at Time 1 ($r_s = .82$ and $.83$, $ps < .01$, respectively). The correlation between the subscales scores at Time 1 was .35 ($p < .01$).

3.3. Construct Validity

Tables 3 and 4 show the correlations between scores on the Grit scales and related constructs measures at Time 1 to assess construct validity, means, standard deviations, and

as of related constructs measures. All related constructs measures except the Big-Five personality traits subscales indicated acceptable Cronbach's alphas (.77 to .93). Although the Big-Five personality traits subscales showed low Cronbach's alphas (.53 to .65) in Table 3, those of the original English measure were also low to the same degree (Gosling et al., 2003) partly because each subscale comprises only two items (DeVellis & Thorpe, 2021; Nunnally & Bernstein, 1994).

Table 1.
Factor Loadings for Exploratory and Confirmatory Factor Analyses.

Item	Exploratory Factor Analysis of Sample A		Confirmatory Factor Analysis of Sample B	
	Factor 1	Factor 2	Factor 1	Factor 2
Perseverance of Efforts				
2	.74	-.01	.86	
4	.94	-.14	.93	
7	.49	.20	.80	
8	.83	.01	.91	
Consistency of Interest				
1	-.08	.79		.90
3	.01	.76		.85
5	.01	.70		.90
6	.26	.40		.87

Note. Standardized factor loadings are shown for confirmatory factor analysis. All standardized factor loadings are significant at $p < .01$.

Table 2.
Means, Standard Deviations, Ranges, Cronbach's Alphas, and Test-Retest Correlations.

Grit Scale	<i>M</i>	<i>SD</i>	Range	α	Test-retest <i>r</i>
Time 1					
Grit-S-J	2.98	.66	1.25–4.63	.82	.77
Grit-S-J-PE	3.15	.79	1.00–5.00	.84	.70
Grit-S-J-CI	2.81	.81	1.00–5.00	.80	.67
Time 2					
Grit-S-J	2.99	.69	1.00–5.00	.89	
Grit-S-J-PE	3.16	.89	1.00–5.00	.89	
Grit-S-J-CI	2.82	.79	1.00–5.00	.87	

Note. Grit-S-J-PE = Persistence of Effort subscale. Grit-S-J-CI = Consistency of Interest subscale. All test-retest correlations are significant at $p < .01$.

The results in Tables 3 and 4 support the expected magnitude and direction of the correlations with some exceptions. The Grit-S-J scores were significantly correlated with the scores on related construct measures, except for self-esteem. Both the Grit-S-J and Persistence of Effort subscale scores showed similar correlations with most related construct measure scores. The Consistency of Interest subscale scores showed low correlations ($|r|s < .24$), including no significant ones, with scores for related constructs except for self-control and conscientiousness. Both self-control and conscientiousness scores had moderate to high correlations with scores on the Grit scales ($rs = .33$ to $.52$). There were weaker correlations than expected between the Persistence of Effort subscale scores and

self-control scores, and between Consistency of Interest subscale scores, self-control scores, and conscientiousness scores ($r_s = .34, .44$, and $.33$, respectively). The Grit-S-J and Persistence of Effort subscale scores showed low to moderate correlations with scores for the Big-Five personality traits, except for conscientiousness ($|r|s = .15$ to $.34$), and moderate correlation with scores for vitality ($r_s = .32$ and $.42$). The Consistency of Interest subscale scores were not significantly correlated with scores for extraversion, agreeableness, openness, and vitality ($r_s < .09$). Although the Grit-S-J and Persistence of Effort subscale scores also presented low to moderate correlations with well-being scores ($|r|s = .10$ to $.46$), the Consistency of Interest subscale scores showed low correlations with well-being scores ($|r|s = .06$ to $.22$). Scores on all three Grit scales had significant but low negative correlations with mental health scores ($r_s = -.30$ to $-.17$).

Table 3.
Correlations between Scores on the Grit Scales and Other Trait Measures.

Grit Scale	Trait Measure						
	Self-control	Conscientiousness	Extraversion	Agreeableness	Neuroticism	Openness	Vitality
Grit-S-J	.49**	.52**	.24**	.15*	-.24**	.24**	.32**
Grit-S-J-PE	.34**	.52**	.34**	.18**	-.19**	.31**	.42**
Grit-S-J-CI	.44**	.33**	.05	.07	-.20**	.09	.07
<i>M</i>	35.93	6.66	7.33	10.09	8.65	7.82	30.99
<i>SD</i>	8.70	2.26	2.77	2.13	2.42	2.51	8.26
α	.84	.55	.65	.52	.54	.53	.89

Note. Grit-S-J-PE = Persistence of Effort subscale. Grit-S-J-CI = Consistency of Interest subscale.

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

Table 4.
Correlations between Scores on the Grit Scales and Well-Being and Mental Health Measures.

Grit Scale	Well-Being and Mental Health Measure							
	Life Satisfaction	Positive Affect	Negative Affect	Eudaimonic Well-Being	Self-Esteem	Psychological Stress	Depression	Anxiety
Grit-S-J	.37**	.26**	-.20**	.38**	.10	-.30**	-.25**	-.26**
	.32**	.24**	-.14*	.31**	.08	-.22**	-.20**	-.22**
	.30**	.23**	-.15**	.29**	.09	-.19**	-.18**	-.23**
Grit-S-J-PE	.40**	.37**	-.21**	.46**	.20**	-.26**	-.25**	-.24**
	.35**	.32**	-.16**	.40**	.19**	-.19**	-.19**	-.20**
	.33**	.36**	-.17**	.39**	.19**	-.14*	-.18**	-.20**
Grit-S-J-CI	.22**	.06	-.12*	.16**	-.06	-.23**	-.17**	-.19**
	.16**	.08	-.09	.13*	-.06	-.17**	-.13*	-.18**
	.15*	.02	-.08	.08	-.05	-.15*	-.11	-.16**
<i>M</i>	19.46	22.25	15.50	36.94	7.08	19.64	26.33	14.24
<i>SD</i>	5.69	4.59	4.83	7.45	1.98	6.47	9.08	6.05
α	.77	.93	.84	.82	.89	.79	.88	.86

Note. Grit-S-J-PE = Persistence of Effort subscale. Grit-S-J-CI = Consistency of Interest subscale. For each Grit scale, the upper, middle, and bottom rows present a simple correlation coefficient, partial correlation coefficient controlling for scores on the Brief Self-Control Scale, and partial correlation coefficient controlling for scores on the conscientiousness scale, respectively.

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

Table 4 also shows partial correlations between scores on the Grit scales and outcome measures controlling for either self-control or conscientiousness scores. Overall, compared to the simple correlations, most correlations between them decline only slightly even after controlling for self-control or conscientiousness scores. The overall pattern of these partial correlations was largely consistent with the simple correlations. Therefore, self-control and conscientiousness scores may only have a weak influence on the correlations between scores on the Grit scales, well-being measures, and mental health measures, supporting discriminant validity of the Grit-S-J.

4. DISCUSSION

This study examined the reliability and construct validity of the Grit-S-J, which was the Japanese translation of the Grit-S, using data from a Japanese college student sample. The results provide preliminary support for the psychometric properties of the Grit-S-J. Moreover, the findings supporting the discriminant validity of the Grit-S-J suggest that some part of grit's role in well-being and mental health was independent of the role of self-control and conscientiousness.

The two-factor structure with Persistence of Effort and Consistency of Interest factors underlying the Grit-S-J was supported by exploratory and confirmatory factor analyses. Previous research has identified distinct factor structures for the Grit-S (Duckworth et al., 2021). The results of this study supported the two-factor model, which has been supported by other studies (e.g., Bae et al., 2024; Datu et al., 2016; Li et al., 2023). In addition, the influence of culture on the distinction between factor structures was discussed (e.g., Datu et al., 2017; Morell et al., 2021). The present results are consistent with previous findings on Japanese people (Nishikawa et al., 2015), who typically value collectivism (Hirota, Nakashima, & Tsutsui, 2023; Matsuo & Brown, 2022; Sugimura, 2020).

Good internal consistency reliability was obtained for the two subscales as well as the Grit-S-J with Cronbach's alphas exceeding .80 (DeVellis & Thorpe, 2021; Nunnally & Bernstein, 1994). As expected, test-retest reliability of the total Grit-S-J during the 1-month period exceeded that of the original Grit-S during the 1-year period (Duckworth & Quinn, 2009). Correlations between scores on each subscale at Times 1 and 2 were high, and only slightly weaker than test-retest correlation of the total Grit-S-J. Therefore, the two subscales, as well as the Grit-S-J, have acceptable temporal stability over a shorter period.

The Grit-S-J scores showed adequate construct validity through expected correlations with personality trait, well-being, and mental health measures scores, aside from self-esteem measure scores. High correlations of approximately .50 with scores for self-control and conscientiousness provide support for a close relationship with grit (Duckworth & Eskreis-Winkler, 2015; Duckworth & Quinn, 2009). Correlations with trait measures scores suggest that individuals with high scores on the Grit-S-J tend to have greater self-control, conscientiousness, extraversion, agreeableness, emotional stability, openness to experience, and trait vitality. Based on the correlations between scores on the Grit-S-J, well-being measures, and mental health measures, gritter individuals may tend to have better hedonic and eudaimonic well-being, and less psychological stress, depression, and anxiety.

Both the Grit-S-J and Persistence of Effort subscale scores showed similar correlations with the scores on related construct measures. Moreover, the Persistence of Effort subscale scores seemed to be more highly correlated with scores for some related constructs, such as vitality, positive affect, and self-esteem, than with the Grit-S-J scores. Compared to the Grit-S-J and Persistence of Effort subscale scores, the Consistency of Interest subscale scores exhibited somewhat weaker correlations with scores on most related construct measures.

These results suggest that although grit is understood as a compound trait comprising perseverance of effort and consistency of interests (Duckworth et al., 2007; Duckworth & Quinn, 2009), consistency of interests may more weakly contribute to the relationships between grit and related constructs than persistence of effort (Credé et al., 2017; Datu, 2021).

The correlations results suggest that the Grit-S-J is distinct from the self-control and conscientiousness measures despite their close relationships. Correlations between scores for self-control and grit, and scores for conscientiousness, grit, and persistence of effort were high, but not greater than .60 (Duckworth et al., 2007; Duckworth & Gross, 2014). Additionally, correlations between scores for self-control and the two facets of grit, and between scores for conscientiousness and consistency of interests were moderate. Furthermore, even after controlling for self-control or conscientiousness scores, the correlations between Grit scales and outcome measure scores did not change much. These results support the discriminant validity of the Grit-S-J, suggesting that construct redundancy between grit, self-control, and conscientiousness may not be a major problem among the Japanese population. Grit may indeed have a unique role with respect to well-being and mental health beyond self-control and conscientiousness in the Japanese population.

Some limitations of this study and suggestions for future research are discussed. First, only college students were recruited as the participants of this study. Future studies should examine the psychometric properties of the Grit-S-J in other populations, such as working people and older adults. Second, the test-retest reliability should be examined at longer and different intervals. Third, to further examine the construct validity of the Grit-S-J, its associations with various objective outcomes, such as academic and work performance, need to be clarified. In addition, the validity of the Grit-S-J, including its predictive and concurrent validity, needs further investigation. Finally, the cross-sectional design of this study did not allow for causal inferences regarding the associations between grit and outcome constructs. These associations should be examined longitudinally. Still, the results of this study preliminarily support the use of the Grit-S-J as a brief and efficient measure for assessing grit in the Japanese population. The Grit-S-J is expected to advance grit research in Japan.

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Section 7

Legal Psychology

Chapter # 25

RISK APPRAISAL AND LEGAL PRINCIPLES

Unveiling disciplinary gaps

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ABSTRACT

This chapter strives to enhance the understanding of the challenges of risk assessment in a legal context while building bridges between the disciplines. Forensic psychology aims, upon other things, to assess recidivism risk. The Austrian jurisprudence also focuses on aspects of behavioral prognosis: the verdict should aim at preventing recidivism. Thus, judges must follow provisions that emphasize (current) factors related to the individual offender. This requires the interplay of different scientific perspectives and a strong interdisciplinary practice. Therefore, psychological risk appraisal guides are used to provide valid indicators for recidivism risks. However, the lack of substantive discussion on expert opinions in court, combined with the high frequency of courts adopting them verbatim in verdicts, bears risks in this rather multidisciplinary than interdisciplinary practice. A closer look at the German versions of the VRAG-R (Rettenberger, Hertz, & Eher, 2017) and the LSI-R (Dahle, Harwardt, & Schneider-Njepel, 2012), reveals that some aspects and their unquestioned application require critical legal reflection. Furthermore, the HCR-20V3 (Müller-Isbemer, Schmidbauer, & Born, 2014) reveals weaknesses in the practical risk assessment, potentially leading to similar problems, if misapplied. This chapter focuses on these problem areas: (1) quality of expert opinions, (2) individuality and topicality, (3) legal reality.

Keywords: violent risk assessment, risk instruments, legal principle, interdisciplinarity.

1. INTRODUCTION

In the Austrian justice system, especially in Austrian criminal law, there is a focus on behavioral predictions, driven by a preventive justice approach. Sentences aim to deter individual offenders from reoffending (specific deterrence) and to prevent the general population from committing crimes while strengthening the public's awareness of the legal consequences of criminal behavior and the enforcement of these consequences (general deterrence). According to prevailing opinions, criminal judgments should primarily serve specific deterrent purposes (cf. Jerabek & Ropper, 2024; Kaiser, 2023; Schroll & Oshidari, 2024). This leads to a focus on offender-related factors and ultimately to the need of an individual-centered prognosis, that the law alone cannot provide (Kaiser, 2023; Kaiser & Leibetseder, 2024). Consistently, Austrian judges emphasize the need to integrate psychological, criminological and pedagogical factors to adequately assess the individual's future behavior (Leibetseder, Kaiser, & Woschizka, 2024). Thus, judicial officials need to consult and integrate non-legal disciplines (Kastner, 2019). In Austria, judges and prosecutors are obliged to appoint expert witnesses whenever special expertise is required for investigations or the taking of evidence, which the prosecuting authorities do not have at their disposal through their bodies, special institutions or persons permanently employed by

them (§ 126 Austrian Code of Criminal Procedure). This is generally done by appointing expert witnesses who provide their professional opinions on the grounds of their findings through thorough exploration and application of the proper tests (see: Kastner, 2019). However, the integration of “foreign” disciplines in legal proceedings with the aim of seeking empirically grounded facts, brings both opportunities and new challenges (Bock, 2017; Glatz & Aicher, 2019). Every science has its own perception of entities, which leads to divergent paradigms, attitudes and premises. Hence, as the cornerstone of the legitimacy of interdisciplinary work, every integration of a “foreign” discipline, such as psychological-statistical prognostic instruments in legal proceedings, must be contextualized in a discipline-specific way.

In law, there is little corresponding discourse on the content and foundation of applied prognostic tools. Nevertheless, in criminal proceedings, it is the judge’s responsibility to evaluate expert opinions provided, like any other evidence. A task which is rather difficult, because the judge needs to evaluate a report with knowledge they do not possess (cf. Kabzinska, 2021) (e.g. quality criteria of assessment tools). In practice, such an evaluation is scarcely evident during proceedings (Kastner, 2019). Fegert et al.’s (2006) examination of expert opinions in sexual offense cases in Germany (N=38) revealed that 31.6% showed blanked approval without hesitation. 10.5% of judges did not rephrase the expert’s opinion and 21.1% rephrased the text from the report, both groups did not discuss the content. 10.5% rephrased the assessment report and did discuss the content. 7.9% considered the content without mentioning it. 13.2% followed the verbal report of the expert witness. Approximately 95% did follow the expert witness. This is not merely a habit in dealing with predictions for sexual offenders. This study also shows a lack of evaluation in culpability assessments, which conclude an overall adoption rate of culpability assessments for sexual offenders of 95.1%, and for homicide and arson offenses, of 88.6%. This suggests that critical reflections of expert witness reports are rather rare.

Due to the broad similarities in the legal systems, we can assume a similar situation in Austria. Judges are trained in legal matters but have not built up an expertise in psychological assessments as well as psychologists are experts in their field but are not trained in law. This bears the risk that incongruencies in the scientific approaches are overlooked. Both parties might perform their own discipline flawless without noticing the missing link of mutual reflection in the realm of an effective integrative interdisciplinary work that guarantees compatibility and validity. The danger associated with ignoring the necessary moderation of interdisciplinary cooperation will be illustrated below by examining three problem areas (aspects of quality, individuality and topicality, legal reality) arising with the application of the VRAG-R (Harris, Rice, Quinsey, & Cormier, 2015; German: Rettenberger et al., 2017), the LSI-R (Andrews & Bonta 1995; German: Dahle et al., 2012), and the HCR-20^{V3} (Douglas, Hart, Webster, & Belfrage, 2013; German: Müller-Isberner, Schmidbauer, & Born, 2014), three of the most common actuarial risk assessment instruments international (cf. Neal & Grisso, 2014) and in Austrian correctional facilities.

2. ASPECTS OF QUALITY

According to several studies, one of the most important indicators for the selection of expert witnesses through judges is the expert’s work experience (cf. Tadei, Finnälä, Korkman, Salo, & Santtila, 2014; Tadei, Finnälä, Reite, Antfolk, & Santtila, 2016), although the work experience in the clinical field does not necessarily lead to more valid judgements of the professionals (cf. Garb, 1989). A study of Kabzinska (2021) in Poland showed that judges prefer expert witnesses with whom they already worked or who were recommended. Also,

sometimes there are no other expert witnesses which could be appointed simply due to the lack of available experts (cf. Kastner, 2019).

Another problem which occurs is a potential preselection of evaluators and the results. According to studies, expert witnesses tend to (consciously or unconsciously) reach conclusions that support the party who retained them (Guarnera, Murrier, & Boccaccini, 2017). Results from structured risk instruments showed higher scores, and therefore a higher expected risk of recidivism, in cases of prosecution retained evaluations, while defense-retained scores were lower (e.g. Murrie et al., 2009). All parties involved in the system should be aware of this bias. Transparency in the evaluation process from the expert witness and a better understanding of risk assessments on the legal side would help prevent such effects.

As mentioned by Shapiro, Mixon, Jackson, and Shook (2015), judges may need more instructions on how to differentiate between reliable and unreliable expert testimony (see also: Kovera & McAuliff, 2000). The required information cannot come from within the legal community but the respective field, whereby an interdisciplinary dialog is nevertheless crucial for the integration of this knowledge in this very specific and highly sensitive context.

3. INDIVIDUALITY AND TOPICALITY

By ensuring that the punishment is primarily intended for specific deterrence, the legislator expresses its focus on the individual case and the individual offender in criminal proceedings. This brings to the fore those behavioral and personal sentencing criteria that can address and capture the offender in his social and behavioral context. This seems to be correct insofar as the results of criminological studies indicate that future criminal behavior cannot be predicted only through assessing risk factors such as “broken home” or social class. Instead, an appropriate assessment relies upon closer examination of specific social conditions (Bock, 2017; c.f. Walton, 2022). Even an overview of several tools, which is interpreted individually by the expert, does not seem to mitigate this potential conflict (Bock, 2017).

Thus, it seems perplexing that the challenge of necessary individualization in criminal proceedings is addressed most of the time with merely a nomothetic research logic, which requires establishing regularities and thus generalization, although modern psychological diagnostics recommend a combination of nomothetic and explanative approaches for the assessment (Schmidt-Atzert, Krumm, & Amelang, 2021).

Such generalization can indeed serve as additional evidence in proceedings, but it would need to be appropriately weighed by the judge, which, as the above-mentioned study shows, is hardly happening. In view of “hindsight bias”, “confirmation bias” and a multitude of other heuristics that “subjectify” human judgment (Wistrich, Rachlinski, & Guthrie, 2015; Guthrie, Rachlinski, & Wistrich, 2002), an amendatory synthesis by the respective judge cannot provide the necessary individuality (Bock, 2017). In fact, such a non-transparent and supposedly intuitive overall view in turn undermines the objectivity that the nomothetic prognosis conveys (Bock, 2017).

The current practice may therefore violate the principles of Austrian criminal law by categorizing individuals solely based on their “risk profile” (cf. Bock, 2017; Brettel, 2022; Riffel, 2023). Additionally, deciding on the necessary criminal law interventions for an individual, by mere statistical membership of a risk group, seems to neglect the fatality of alpha (false positive) errors in statistical procedures when used in legal proceedings. Can sentences be legitimized if they knowingly and deliberately accept wrong decisions in individual cases in favor of a rule-based overall view? Considering criminal law being the

ultima ratio of state authority, it seems not to be in the interest of a modern, individual, prevention-oriented sentencing practice.

When looking closer at specific types of assessment tools, these concerns regarding the lack of individuality become more concrete. One of the most used second-generation tools is the Violence Risk Appraisal Guide (VRAG-R; Quinsey, Harris, Rice, & Cormier, 2006; German: Rettenberger et al., 2017). Using statistical techniques to provide an assessment of the level of risk, based on static variables (historical risk factors), such as the number of convictions, is much better than the first generation of risk assessment, where the decision-making process is unguided (Fletcher, Gredecki, & Turner, 2022, p. 46). Studies indicate that the VRAG-R shows an overall good predictive validity for violent offenders (e.g. Rice, Harris, & Lang, 2013) and the criteria of objectivity is given (cf. Fletcher et al., 2022). But some problems still arise. Regarding the need of a person-centered prognosis, it seems concerning that neither the motive nor the psychological functioning of the offenders is taken into account (for further reading: Rossegger et al., 2011). On the other hand, there are various items which can be criticized regarding content validity (Rossegger, Gerth, & Endrass, 2013). For example, Item 1 deals with the “separation from either parent (except death) under the age of 16”, which does make sense considering the test construction process, where the authors searched for variables which highly correlate with recidivism (Rossegger et al., 2013). Even so, since the control group rarely includes non-delinquent individuals, it is questionable whether these correlations can have explanatory potential in predicting the risk of delinquency (Bock, 2017). Nonetheless, we would have to look on the specific case, because it could still be preferable to be separated from a violent parent or a toxic environment. Using such indicators without taking a closer look to the particular case may present a problem with the criteria fairness and objectivity.

Another fundamental principle of a preventive justice approach focused on specific deterrence is that the sentence and its imposed interventions are based on present circumstances (topicality). It is essential to ensure a prognosis that is sensitive to changes, responding appropriately to potential alterations in criminologically relevant factors, remaining dynamic, and not solely focusing on aspects related to the past. Looking again at the VRAG-R, one major problem is that there are mainly static variables included and changes in the life of the offender do not affect the score and therefore the predicted level of risk (cf. Rossegger et al., 2013). If the level of change is not measured the offender has no possibility to get a lower estimated risk and thus the assessment tool does not meet the requirements of a preventive justice approach. The remark in the additional explanations to the manual, that in the case of an offense-free period in freedom, the recidivism rate can be optionally reduced by 10%, does not only strongly depend on the assessor, but makes it even harder for the judge to independently question the statistical results regarding their topicality (Rettenberger et al., 2017). This indicates that recourse to the VRAG-R under the guise of specific deterrence therefore not only lacks the principle of individuality, but also the principle of topicality.

On the contrary, the so called third generation risk assessments (e.g. Level of Service Inventory-Revised: LSI-R; Andrews & Bonta, 1995; German: Dahle et al., 2012) include dynamic items (e.g. emotional/personal, companions, alcohol/drugs) and allow the documentation of needs and changes (Rossegger et al., 2011). In considering changes in several areas the offender has the possibility to get a lower estimation of their risk of recidivism level. Although, this assessment tool seems to fit better for the purpose at hand, it includes 10 items regarding to the criminal history (e.g. arrested under age 16). Therefore, it can be hard for individuals with a long criminal record to get a low probability (< 15%) no matter what changed in their individual life.

Lastly, it should be noted, that the LSI-R score alone cannot be used to predict the recidivism (c.f. Dahle et al., 2012; Harwardt & Schneider-Njepel, 2013), nor should others. In fact, it should be used for the assessment of needs and changes. As a result of the lack of integrative interdisciplinary work such aspects are often overlooked in the context of legal proceedings. The mentioning of concrete estimated recidivism rate, on the base of the LSI-R raw score, therefore, gives a deceptive sense of security in the decision-making process of the court.

There was also concern regarding the calculation of a sum score for risk estimation from HCR-20 Version 2 (Webster, Douglas, Eaves, & Hart, 1997) users (cf. Müller-Isberner, Jöckel, & Gonzales Cabeza, 1998), because of the different item topics. The authors of the HCR-20^{V3} (Douglas et al., 2013) considered feedback of hundreds of users of Version 2 to improve the risk assessment tool. Due to the uncomfortableness with the numeric rating system the third version uses letters (no, possibly/partially, yes) to rate the presence of the item contents (e.g. H9. Violent attitudes, C2. Violent ideation or intent, R3. Personal support), instead of numbers. Also, the relevance (low, moderate, high) of the items for the specific individual are evaluated. In addition, the user is provided with a “seven-step structure to guide risk assessment and development of treatment and management strategies” (Bjørkly, Eidhammer, & Selmer, 2014, p. 235). Furthermore, information on risk management was added and a specification of how risk factors might operate uniquely for the individual being tested (for overview see: Douglas et al., 2014). Thus, the tool certainly provides promising developments in tackling the problems mentioned above.

The proper usage requires extensive knowledge in several areas. It needs file reviews, different sources of historical information, interviews with the evaluatee and other sources, observations and much more (see: Douglas et al., 2014). This is a time-consuming process. Even the authors conclude that “not all steps will be done by all evaluators or in all cases” (Douglas et al., 2014, p. 100). In doing so the quality criteria of the tool will no longer persist. That’s practical reality (see: Kastner, 2019).

As can be seen, there is a lot of scientific work done to improve certain risk assessment tools and there is a lot of work ahead.

4. LEGAL REALITY

Another major point which needs to be considered is the legal reality, where adapted values of foreign law collide with the Austrian law and inherent fundamental principles.

In addition to the purpose of punishment, fundamental procedural rights suffer from an uncritical incorporation of statistical figures into the judgment. Item 5 and Item 8 of the VRAG-R address the assessment of the criminal history, drawing on the Canadian system by Cormier and Lang (1999), based on the earlier version by Akman and Normandeau (1967) for classifying violent and non-violent offenses. Offenses in the subjects' past are evaluated with a predetermined score, which is then added up. The descriptions in the items of the VRAG-R manual add that in cases where there is a discrepancy between the indictment and the conviction, the more serious of the two should be used, which will often be the indictment (Rettenberger et al., 2017). Therefore, the VRAG-R explicitly allows scoring not the actual offense the individual was convicted for in accordance with the rule of law but the suspicion and thus an initial assumption that has not (legally and/or factually) proven to be true. However, the principles of the presumption of innocence, as well as the dominant principles *nullum crimen, nulla poena sine lege* (“no crime, no penalty without law”) are particularly crucial for the rule of law in penal practice. The presumption of innocence in accordance with Section 8 of the Code of Criminal Procedure and Article 6 (2) of the European Convention

on Human Rights (ECHR) is a “principle that governs the entire Austrian legal system”, which means that “the measure of punishment can only be guilt established in accordance with procedural law”. If the sentencing is based on an offense that was neither the subject of the proceedings nor of any other legally binding conviction, the principle is deemed to have been violated. According to the case law of the ECHR, assumptions of suspicion can in turn be compatible with the presumption of innocence under Art 6 (2) ECHR (scope of protection Art 6 (2) “until proven guilty according to law”) in the case of an examination of the personality of the perpetrator carried out as part of the sentencing process (Grabenwarter, 2021). It should be noted, that in the present case it is not a suspicion that is used to examine the personality of the perpetrator as a part of the sentencing process but a charge from a previous case that has already been established as unsubstantiated, thus insufficient for a conviction. Therefore, the equal treatment of charges and convictions should not be seen as an examination of personality but as an inadequate prognosis that is assessed and is decisively considered when sentencing. According to the ECHR, this might in turn be sufficient for a violation of the presumption of innocence. Also, in view of the possibly even “stricter” Austrian legal basis (“only the guilt established in accordance with the procedure”) in the interpretation of Article 6, undermining these principles using psychological tools that do not follow these premises should therefore be carefully reconsidered with respect to potential infringements. Another question that arises regards the utilization of already expunged convictions. According to the established case law of the Austrian Higher Administrative Court, the facts underlying the expunged convictions, i.e. the “behavior” of the person concerned, may be considered for the assessment of this risk prognosis in the context of aliens or residence law and also in the case of background checks under the Weapons Act, but not the expunged convictions themselves (Kert, 2017). Kert (2017) correctly sees a tension here with the presumption of innocence. According to Section 1 (2) of the Austrian Redemption Act the law provides for the effect of “full expungement”, which means that all adverse consequences extinguish, and the person is considered as having no criminal record. It does not distinguish between different levels of expungement and thus should not be weakened (Kert, 2017). While, as previously discussed, the challenge often lies in judges having to weigh psychological aspects, now the challenge is that expert witnesses have to consider legal aspects when carrying out their assessments.

It is also worth reflecting on the fact that the Cormier-Lang system is based on Canadian Law. As Canada’s legal system is rooted in British and French Common Law, it works differently from Austrian Law as a representative of a civil law system. Other than Austria, Canadian law is thus strongly influenced by case law. Whenever you transfer “foreign” law into your own, but especially when such diametrically opposed systems clash, you need to take a closer look. The authors of the German version of the VRAG-R point out that it is therefore not always possible to clearly classify the offenses. The offense category that “best describes the course of events” should be selected after additional surveys. At this point, it should not be forgotten that the respective case handlers are not lawyers and that such a classification can be tricky in individual cases. In addition, even if the case is handled conscientiously, it cannot be ruled out that behavior is assessed and scored as an offense in the VRAG-R that is not necessarily relevant under Austrian law. In our case the integration of Canadian Criminal Law to Austrian Criminal Law leads to (at least) three substantial challenges. (1) The Cormier-Lang system assesses behavior that is under no circumstance punishable by Austrian criminal law (e.g. “disturbance”). The explanations of the German Version state, that one exclusively has to work with the offender’s official criminal record, but caution is required here for users as the VRAG-R in other places or for in-depth study allows to assess other documents, such as witness, or police reports or other information

provided by the offender. (2) There is also the risk of scoring behavior that, in individual cases, might not be punishable by Austrian criminal law. For example, “possession of items for burglary” or “wearing a mask with the intention of committing a crime” might not reach the threshold of a criminally punishable attempt stage under Austrian criminal law. In addition, further inconsistencies could arise, for example in that complicity is given a higher score, although the Austrian criminal law does not qualitatively differentiate between “role-categories” of offending. (3) Lastly, even the comparability of those offenses, which are undoubtedly punishable in Austria and in Canada, must be questioned. One must not take for granted, that the elements of the offense under Canadian law and the Austrian law are the same leading to the same indictment or conviction. Even between similar criminal law systems, different legal opinions on the same offense groups have developed, leading to inconsistencies: For example, Austria and Germany have differences in the definition and legal treatment of murder and manslaughter, even if the terms appear similar at first glance. In Austria, murder (§ 75 Austrian Criminal Code) is defined more broadly and does not require specific murder characteristics (such as malice or base motives) which is the case in Germany. This shows that an unquestioned indirect influence of the system and values of foreign law is problematic one should be aware of when applying and evaluating the results in proceedings.

5. CONCLUSION

Risk assessment puts the legal system, and all involved to the test. The focus of the article was to give readers a better understanding of the risk assessment process and problems that may occur in several areas. Even if they may not occur in one specific case, there should be an awareness about potential risks for the individual and the legal system.

One must take a closer look which parts of the decision-making process already work and in which one there is still some work to be done to bridge disciplinary divides and meet both legal and assessment criteria. In doing so, we have the opportunity to increase the fairness for the individual and meet the requirements of Austrian law. The goal can only be reached through uninterrupted interdisciplinary exchange, explicit demands for reports, and the broadening of knowledge and awareness on both sides.

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Short biographical sketch: Martin E. Arendasy, MSc, PhD, serves as Full Professor and Chair of the Psychological Assessment and Quantitative Methods section at the Department of Psychology, University of Graz, Austria. His principal research interests encompass the development of innovative methodologies for item and test construction, notably automated item generation. He has been awarded a patent in the domain of 'two-component automatic item generation' and has received several research accolades, including recognition by the German Association of Research Psychologists.

Prof. Arendasy's applied work primarily focuses on high-stakes large-scale assessments, such as the medical college admission test (MedAT) for Austrian Medical Universities, and the development of advanced test batteries used in Talent Centers for adolescents aged 13-15, which are operated by the chambers of commerce in Austria and Italy. His future research directions include securing a second patent in automated item and test construction and investigating the responsible and methodologically rigorous application of deep learning techniques across diverse academic and practical contexts.

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