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Psychology Applications & Developments V

Edited by Clara Pracana & Michael Wang



Advances in Psychology and Psychological Trends

Psychology Applications & Developments V
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 V* 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 in specific sections in the Psychology area.

In this fifth 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 five major areas within the broad context of Psychology, divided into five sections: Educational Psychology, Cognitive and Experimental Psychology, Legal Psychology, Clinical Psychology and Social 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) conference series (<http://www.inpact-psychologyconference.org/>). This conference occurs annually with successful outcomes. Original papers have been selected and its authors were invited to extend them significantly to once again undergo an evaluation process, afterwards 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 18 high quality chapters organized into 5 sections. The following sections' small description and chapters' abstracts provide information on this book contents.

Section 1, 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 1: *How Learning Style Relates to State and Trait Anxiety Among Japanese Freshmen Transitioning to University*; by Michiko Toyama & Yoshitaka Yamazaki. This study examined how learning style relates to anxiety among university freshmen, controlling for gender, during their academic transition from high school to university. The study applied Kolb's experiential learning theory and Spielberger's paradigm of state and trait anxiety. Participants consisted of 194 freshmen of a Japanese university located near Tokyo. Data were collected in a required course and analyzed using two-way analysis of variance (i.e., learning

style and gender). Results revealed that the four learning styles significantly differed in both state and trait anxiety variables. However, there was an insignificant difference in both anxiety types between male and female students. Additionally, there was no interaction effect of learning style and gender for either type of anxiety. We offer practical implications based on the study findings

Chapter 2: *Test for Creative Thinking-Drawing Production (TCT-DP): A Revised Factorial Structure in an Adult Sample*; by Sara Ibérico Nogueira, Maria Leonor Almeida, & Tiago Souza Lima. This research aims to assess the factorial structure of the Test for Creative Thinking-Drawing Production (TCT-DP, Urban & Jellen, 1996) for a Portuguese adult sample, with 620 workers, revisiting the results obtained by Almeida, Ibérico Nogueira, and Lima (2018). Two studies were performed. In Study 1, an exploratory factor analysis (EFA) assessed the factorial structure of the TCT-DP, with three hundred and two individuals ($N = 302$), most of them women (55.6%), from 18 to 86 years ($M = 41.1$, $SD = 10.7$). In Study 2, a confirmatory factor analyses aimed to replicate the factorial solution identified in Study 1, with three hundred and eighteen individuals ($N = 318$), most of them women (56.6%), from 19 to 70 years ($M = 40.6$, $SD = 10.1$). The two-factor solution (F1- Adaptiveness; F2- Innovativeness) proposed in Study 1 had acceptable to marginal fit indices. As in the study of 2018, two factors emerged and are respectively composed by the same items. Once more, the results highlight the importance of both non-conventional and conventional thinking for the creative process, sustaining our TTT-Two Tracks of Thought model. Some of the items which belong to the Adaptiveness factor, lead us to reflect on the parental features and developmental path.

Chapter 3: *Self-Concept and Anxiety of Slovak Students (Future Leaders)*; by Lenka Ďuricová & Beata Žitniaková Gurgová. The purpose of this study is to examine the self-concept and anxiety of Slovak university students as future leaders. A positive self-concept and emotional stability are considered important characteristics of an effective leader. Our research sample consisted of 199 (mean age=20.04; $SD=1.58$) university students (field of study: management and education). The available and intentional sampling was used. Data were obtained by means of the State-trait anxiety inventory and the Piers-Harris self-concept scale for children and adolescents. The reliability (inner consistency) of the measured variables was acceptable (Cronbach alpha from .56 to .90). Correlation tests and a comparative research study were conducted. Our findings prove negative moderate statistically significant correlation between all self-concept dimensions and state and trait anxiety (from -.26 to -.67; $p<.01$). A strong significant relationship between the total self-concept and state and trait anxiety (-.56; -.68; $p<0.01$) was shown. No differences among students in terms of field of study were found. The limitation of this study is the sample size and the use of self-reported data. This study presents a contribution to the research of relevant personal factors of tomorrow's leaders in education and economics in Slovakia.

Chapter 4: *The Role of Trait Emotional Intelligence in Career Decision-Making Difficulties and (Career Decision) Self-Efficacy*; by Eva Sollarová & Lada Kaliská. The emotional intelligence and career decision-making analysis contributes to research-based knowledge and to career-counselling practice. The study analyzes trait emotional intelligence (further on EI) in the process of career decision-making, i.e. career decision-making difficulties, general self-efficacy and career-decision self-efficacy assessed in a sample of 322 Slovak high school students before second career-choice. The measures: Trait Emotional Intelligence Questionnaire-Short Form (TEIQue-SF; Petrides, 2009), Emotional and Personality Difficulties Scale (EPCD; Saka, Gati, & Kelly, 2008), General Self-Efficacy Scale (GSES; Schwarzer, & Jerusalem, 1993), Career Decision Self-Efficacy Scale-Short Form (CDSE-SF; Betz, Klein, & Taylor, 1996). The statistical analysis: negative relations between global career decision-making difficulties and self-efficacy (general, career-decision), positive relations between self-efficacy (general, career-decision) and trait EI, and negative relations between trait EI and global career decision-making difficulties and their factors. The regression analyses: trait EI was a significant negative predictor of career decision-making difficulties, over and above career-decision self-efficacy. Trait EI is a predictor of more stable, pervasive emotional and personality-related aspects of career decision-making difficulties, above and over studied personality-related and career-related self-efficacy. Trait EI relevance and career decisions self-efficacy in the career-decision process are emphasized with practical implications for diagnostics and intervention within career-counseling.

Chapter 5: *Meaning of Foreigners Among Estonian, Latvian, Lithuanian and Russian University Students*; by Kristi Kõiv, Svetlana Gurieva, Olga Deyneka, Vaiva Zuzeviciute, Anna Liduma, & Sandra Rone. The purpose of this pilot study was to explore Estonian, Latvian, Lithuanian and Russian university students' conceptualizations and perceptions of foreigners. The present study examines similarities and differences between Estonian (N=118), Latvian (N=101), Lithuanian (N=101), and Russian (N=92) university students' understandings about foreigners by self-reported open-ended questionnaire. The applied categorical quantitative analysis of the data was the basis for statistical analysis of results. Results revealed that the meaning of foreigners among university students was conceptualized in society level as an exclusion of people connected with different nationality and language, whereby Russian respondents emphasized more differences in citizenship/nationality and three Baltic states respondents in cultural attitudes and values. Overall acceptance or unacceptance of foreigners tended to depend on the level – foreigners were more accepted in personal level and unaccepted in society level. University students in four study groups generally agree that foreigners have influenced them more positive than negative way, but reasons were different: Lithuanians stress more sympathy and helping behavior; Estonian and Latvian more enlargement of knowledge's with increase of tolerance; and Russian students' opinions were more connected with undirect influence by means of media, art and literature.

Chapter 6: *Measuring Personal Attitudes Toward Social Norms - Development of the Descriptive/Injunctive Norm Preference Scale (DINPS)*; by Norihiro Kuroishi & Yoriko Sano. The development of the Descriptive/Injunctive Norm Preference Scale (DINPS), measured individual differences in personal attitudes toward social norms, was reported. Cialdini, Kallgren, and Reno (1991) distinguished social norms into two types. Descriptive norm is what behavior most people engage in a particular situation, which is reflected in perceived typicality. Injunctive norm is what people approve/disapprove. A 90-item pilot scale inquired personal attitudes toward descriptive/injunctive norms was adopted to a research panel consisted of 400 Japanese adults. An exploratory factor analysis extracted 3 factors out of selected 55 items; F1: Apprehension of deviance from descriptive norms, F2: Regard for injunctive norms, and F3: Aversion to injunctive norms. The main study tried to replicate the factor-structure, and to examine the content validity of the scale, with an anew research panel of 400 Japanese adults. A confirmatory factor analysis indicated the goodness of fit to be fair to the 3-factor model. The 3 subscales were highly reliable ($\alpha > .85$), and significantly correlated to the need for uniqueness scale (Snyder & Fromkin, 1977), the F-scale (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1951), and the individual and social orientedness scale (Ito, 1993) as a priori hypothesized. These results provided some evidence for the validity and usability of the DINPS.

Chapter 7: *Resting State EEG Power Analysis in Filipino Children with Dyslexia*; by Katherine Yared Ko, Roann Munoz Ramos, Stephan Michael Jonas, & Rosalito De Guzman. Dyslexia is a neurodevelopmental disorder characterized by severe and persistent reading difficulties despite normal intellectual functioning and appropriate schooling. To better understand the neural underpinnings of dyslexia, this study investigated the neurophysiological differences between normal readers (NR group, $n = 4$) and readers with dyslexia (DYS group, $n = 5$) by analyzing their brain activity at eyes-closed resting state using mobile electroencephalography (mobile EEG). The results revealed that the DYS group exhibited an overall larger power activation in the theta and beta frequency bands, as well as a dominance of delta, theta, and beta frequencies across all scalp sites. Increased delta and theta activity was found in the left frontal region, whereas significantly stronger beta power was found in the right hemisphere. Moreover, weaker alpha activity was observed in the left frontal and right posterior regions. These findings provide evidence of an atypical and less integrated linguistic network in dyslexia.

Chapter 8: *Parent-Child Strategies and Problem Behaviour in School Environment: The Mediation Effect of Personality and Rules Internalization*; by Ondrej Kalina & Maria Bacikova-Sleskova. This study explores two different parenting strategies of rules setting to test the hypothesis that an autonomy-supportive strategy would relate negatively, whereas controlling strategy would relate positively, to adolescents' problem behaviour. Moreover, mediation analyse was explored to test whether associations among parenting strategies and

adolescents' problem behaviour could be explained by personality domains and internalization of parental rules. A cross-sectional representative dataset from elementary schools was used (N=580, M=12.51 years, SD=0.59, 51.7% of boys). Problem behaviour of adolescent were measured by 21 items scale. Autonomy-supportive and psychological control were explored as two types of parental strategies. Internalization of parenting rules consist from four separate scales (1) identification; (2) introjection; (3) external regulation and (4) rebellion. Personality domains were assessed by Children personality questionnaire. Linear regression models and mediation analyses were used. Higher autonomy-supportive strategy related with less problem behaviour. Higher controlling strategy was related to higher rates of problem behaviour. The association among autonomy-supportive and psychological control strategy and problem behaviour was partially mediated by personality and by rules internalization. The results of this study point to importance of parental strategies in adolescence period as autonomy and controlling ways of setting rules may have opposite effect on problem behaviour.

Chapter 9: *An Innovative Method for Introduction of Written Language: Experience in Mexico*; by Yulia Solovieva & Luis Quintanar Rojas. Introduction of written language at primary school represents one of the important aspects of school learning. In Mexico, as in many other countries, common methods of teaching are repetition, memorization and reproduction of provided information. This chapter shows an example of implementation of a new method for introduction of written language based on activity theory and concept of guided orientation and comparison of the results with traditional methods. Our method implies fulfilment of joint actions of children guided by teacher. Children learn how to codify and represent oral words of Spanish language with the help of external materialized and perceptive schemes. Specific symbolic means are provided by teacher and used by children. The results of application of the method show correct pronunciation of all known and unknown words, usage of correct space between words in writing, reduced number of orthographic mistakes. After working with the method for one year, children commit less mistakes in reading and writing in comparison with the pupils who learn according to traditional methods. Our proposal may serve as an example of creation of similar method for introductory teaching of written process for other languages and organization of teaching and learning process according to activity theory

Section 2, entitled “Cognitive Experimental Psychology”, delivers chapters concerning, as the title indicates, studies and research in the area of behavior from the point of cognitive aspects. Concepts as attention and personality are presented here.

Chapter 10: *Emotional Reactions to Economic Predictions and their Effects on Reasoning and Logical Thinking*; by Mário B. Ferreira, Jerônimo C. Soro, Karen Gouveia, & Joana Reis. This chapter explores the possibility that emotions evoked by media views about the future of Portuguese economy could affect logical reasoning, particularly in problems related to financial issues, and how this effect may vary depending on the valence of emotion produced by the news. Positive or negative emotions were induced by presenting participants with paragraph excerpts of news media with financial or non-financial content (all positive or all negative). Afterwards, participants judged the logical validity of several syllogisms with neutral, negative financial or negative non-financial content and expressed their confidence in each judgment. Results indicate that negative emotions, evoked either by the priming or by the syllogisms content, lead to better performance but lower confidence. These results are in line with research showing that negative emotions promote deeper, analytical, reasoning and more cautious (less confident) judgments, while positive emotions trigger more superficial and heuristic-based judgments.

Section 3, entitled “Legal Psychology”, explored in this chapter, reports on diverse challenges that ethnic minority young adults experience and how that challenges can negatively affect adolescent brain development.

Chapter 11: *Adolescent Frontal Lobe Brain Development: Disproportionality Effects of Social and Economic Deprivation and Implications for Juvenile Court Case Disposition, Child Welfare Reform, and Education Remediation*; by Michael Lindsey. Neuroscience has documented the substantive growth of frontal lobe gray matter during the adolescent years, similar to the brain growth spurt in early childhood – both precursors of preparation for quantitative and qualitative adaptive learning. Several United States Supreme Court decisions (Roper v. Simmons; Graham v. Florida; JDB v. North Carolina; Miller v. Alabama) have affirmed the historical chronological age of ‘majority’ being 18 years old, is inconsistent with what it means to be an adult. Mature cognitive processing is more appropriately characterized by the “Jean Piagetian” formal operations stage, i.e., abstract thinking, logical thinking, decision-making, and long-term planning. Formal operations is now acknowledged to be achieved during a young adult’s mid-20’s years of age. Not yet answered is what are the effects on ethnic minority young adults (mid -20’s), who have social, economic, academic, and/or educational deprivation? This chapter will explore these issues.

Section 4, entitled “Clinical Psychology”, provides reviews and studies within various fields concerning relationship processes in clinical practice. Each chapter is diversified, mainly addressing thematics related to individuals well-being and improvement of quality of life.

Chapter 12: *How Personality and Coping Styles Differ in Optimists and Pessimists*; by Lilly E. Both. Personality and coping styles were examined in relation to optimism and pessimism. The sample consisted of 178 individuals (M age = 23.00; SD = 6.27; range = 19-50 years; 79% women) who completed an online survey. Participants completed the BFI-2 to assess personality, the Ways of Coping Scale to determine coping styles, and the Future Events Scales to measure optimism and pessimism. The results found a moderate negative correlation between optimism and pessimism, suggesting that although these constructs are related, they are still distinct. A series of hierarchical multiple regression analyses were conducted predicting optimism and pessimism. Optimism was predicted by lower scores on negative emotionality (neuroticism), and higher scores on extraversion, agreeableness and conscientiousness. As well, problem-focused coping made a unique contribution. Specific facets that predicted optimism were higher compassion and lower depression scores. Pessimism, on the other hand, was predicted by age (being older), gender (being female), and higher negative emotionality (neuroticism) scores. Also, higher scores on emotion-focused coping contributed to the model. The only facet that predicted pessimism was depression. These results suggest that our perceptions – whether we have a positive or negative bias – are influenced by both dispositional factors (like personality) and situation influences (like coping).

Chapter 13: *Associations between Primary School Children's Perceptions of Parental Acceptance and Rejection, and their Drawings of a "Person Picking an Apple from a Tree"*; by Or Shalev, Andriani Papadaki, Elias Kourkoutas, & Michal Bat Or. The present study of 644 Greek school-age children (323 boys and 321 girls, ages 10–12) examined and compared associations between perceptions of parental acceptance and rejection, and their unique depictions of a “Person Picking an Apple from a Tree” or “PPAT” drawings. Perception of parental behavior was measured by the “Parental Acceptance-Rejection Questionnaire” (Rohner & Khaleque, 2005). Drawing content was analyzed quantitatively according the Symbolic Content rating system in PPAT drawings (SC-PPAT: Bat Or, Ishai, & Levi, 2014, 2017). We employed K-means cluster analysis and obtained three relatively discrete PPAT scripts. Drawing scripts were found to be associated with children’s perceptions of parental behavior. These associations were found mainly among boys, especially when perceiving their parents as highly aggressive. These results demonstrate how empirical inquiry into PPAT content contributes to identifying implicit relational representations in the drawings. Furthermore, they reinforce the value in examining drawings from a holistic perspective, i.e. not just the individual components, but also the relationship between such components; while focusing on the relational experience of children as expressed through their pictorial PPAT narratives.

Chapter 14: *An Insider's Perspective: The Experience of Parents and Gender Variant Youth with Autism Spectrum Disorder*; by Wallace Wong, Jaime Semchuk, Veronique Nguy, & Melissa Jonnson. While a growing body of research has documented the co-occurrence of autism spectrum disorders (ASD) and gender variance, only a handful of published studies have investigated the perspectives and experiences of gender variant youth with ASD. Current clinical care guidelines for this population have generally been obtained through expert knowledge and fail to consider the perspectives of key stakeholders with an insider perspective such as youth and their caregivers. As such, two semi-structured focus-groups and an individual interview were conducted to explore the experiences and perspectives of four gender variant youth with ASD and three of their parents. Interviews were transcribed and analyzed for themes. This study seeks to increase our understanding of this population, identify avenues for future research, and contribute to improving the quality of clinical services for gender variant youth with ASD.

Section 5, entitled “Social Psychology”, gives a glance on projects from a psycho-social perspective. Themes vary from gender stereotypes, sexual orientation, emigration, well-being, motivational potential as well as health promoting habits.

Chapter 15: *Content of the Father and Mother Stereotypes in Japan: Compared to the Overall Gender Stereotypes*; by Mizuka Ohtaka. Suzuki (2017) reviewed the studies on gender inequality and concluded that gender stereotypes contribute to the persistence of gender discrimination in the workplace and at home. It has also been verified that the content of father (Troilo, 2013) and mother stereotypes (Ganong & Coleman, 1995) differed from the overall gender stereotypes in American society. This study investigated whether the content of the father and mother stereotypes was dissimilar to that of the overall gender stereotypes in Japan. That is, does the content of the father (versus men) and mother (versus women) stereotypes differ from the typically held gender stereotypes? A survey was conducted among undergraduates (N = 266; Men = 106, Women = 160), with a mean age of 19.05 years (SD = 1.02 years). The results imply that the idea that ‘fathers (rather than men) should work outside the home and mothers (rather than women) should keep the house’, is held in Japanese society. In the future, it would be helpful to examine not only explicit stereotypes but also implicit stereotypes about fathers and mothers. Further, it would be useful to study stereotypes held by older and/or less educated adults.

Chapter 16: *An Implicit Model of Assessment of Attitude to Health of Specialists in an Organization*; by Elena Rodionova, Vladislav Dominiak, Zoya Dudchenko, & German Nikiforov. Attitude to health can be considered as one of the most important factors of efficiency and professional success of employees today, as it is a regulator of human behavior in a challenging and controversial professional

situation. Studies of psychologists (starting with R. La Pierre's phenomenon, 1934) often fix the discrepancy between the declared attitude to health and true attitude and behavior. The imperfection of methods of diagnostics of attitude to health may be one of the reasons for such discrepancy. The authors suggest studying the attitude to health of specialists in an organization not only by traditional survey methods (for example, R.A. Berezovskaya's (2003) attitude-to-health questionnaire, a questionnaire on studying the barriers of health-seeking behavior by Nikiforova, Rodionova, Vodopyanova, & Dudchenko, 2016.), but also by means of an implicit method (based on the priming effect, implicit associative test). The article presents the results of a study conducted by using the implicit methodology for studying attitude to health, which is based on a model of polar values.

Chapter 17: *Road Less Traveled: Motivations and Pathways of Filipino Lesbians and Gays Identifying as Ex-Lesbians and Ex-Gays*; by Nel Jayson Santos, Aaron Vichard Ang, Sigrid Joyce Dela Paz, & Daniel Jan Duque. This study explores the motivations and the pathways of past self-identifying Filipino lesbians and gays. In this study, the researchers seek to (1) understand the motivations that influenced ex-gays in modifying their sexual orientation and (2) delve more into the different pathways (stages and/or steps) that are involved in the sexual orientation modification of ex-gays specifically in the Philippine context. A semi-structured interview was conducted with 10 self-identified Filipino ex-gays. Inductive thematic analysis was then used to analyze the data and to identify common themes. Four themes emerged as motivations of ex-gays: Identity Dissonance, Spiritual Conviction, Cognitive Reconstruction, and Influential Role Models. Likewise, three themes emerged as common pathways taken by ex-gays: Church Involvement, Accountability/Support Groups, and Adaptation of New Lifestyle. Moreover, the study clarifies the current definition of being an ex-gay, and added an evidence to the existing notion that sexual orientation cannot be fully changed.

Chapter 18: *Resilience, Migration Experience and Emigration Self-Efficacy as Factors Related to Emigration Intentions among University Students in Slovakia*; by Bohuš Hajduch, Oľga Orosová, Jozef Benka, & Marcela Štefaňáková. In Slovakia, there has been an increase in the number of students who aim to move abroad. The main objective of this study was to explore whether factors such as emigration self-efficacy, evaluation of migration experience, frequency of migration experience and resilience are related to the emigration intentions of Slovak university students. We also explored mediational effect of emigration self-efficacy in the relationship between resilience and emigration intentions. The research sample consisted of 474 university students from Slovakia (M=22.4, SD=2.13) from which 76.8% were women, all participating in the Student Life Cohort Study (SLiCE 2016). We found that all factors have a positive unique effect on emigration intentions. Gender was not significant in relation to the emigration

Foreword

intentions. Later, we found that resilience positively predicts emigration intentions both directly and indirectly through emigration self-efficacy, which is a significant mediator of this relationship. These results contribute to a better understanding of the role of migration and personality factors in explaining emigration behaviour among young people in Slovakia.

Special thanks to all the above authors, editorial advisory board members, and reviewers, who contributed with their efforts to make this book possible.

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Section 1
Educational Psychology

Chapter #1

HOW LEARNING STYLE RELATES TO STATE AND TRAIT ANXIETY AMONG JAPANESE FRESHMEN TRANSITIONING TO UNIVERSITY

Michiko Toyama & Yoshitaka Yamazaki

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ABSTRACT

This study examined how learning style relates to anxiety among university freshmen, controlling for gender, during their academic transition from high school to university. The study applied Kolb's experiential learning theory and Spielberger's paradigm of state and trait anxiety. Participants consisted of 194 freshmen of a Japanese university located near Tokyo. Data were collected in a required course and analyzed using two-way analysis of variance (i.e., learning style and gender). Results revealed that the four learning styles significantly differed in both state and trait anxiety variables. However, there was an insignificant difference in both anxiety types between male and female students. Additionally, there was no interaction effect of learning style and gender for either type of anxiety. We offer practical implications based on the study findings.

Keywords: learning style, state anxiety, trait anxiety, academic transition, Japanese undergraduates.

1. INTRODUCTION

Freshmen encounter psychological challenges when beginning their university life (Basco & Olea, 2013; Clinciu, 2013; Pancer, Hunsberger, Pratt, & Alisat, 2000). One such challenge, student anxiety as a negative emotional experience derived from the unfamiliar university environment, leads to adverse consequences (Von Ah, Ebert, Ngamvitroj, Park, & Kang, 2004) such as poor academic adjustment and performance (Levitz & Noel, 1989; Saklofske, Austin, Mastoras, Beaton, & Osborne, 2012), mental and physical illness (Ribeiro et al., 2017), and even dropout (Clinciu, 2013). Research on efforts to alleviate freshman anxiety has reported the effectiveness of social support (Compas, Wagner, Slavin, & Vannatta, 1986; Sato et al., 2017), which includes institutional aids and school counselors. Although the effect of freshman anxiety as well as methods to reduce it have been investigated, little research has examined the relationship between freshman anxiety and individual differences—especially learning style. Using a sample of university students in Jordan, Kadiem and Hamzah (2004) documented the association of gender, personality, and trait-anxiety with learning styles, but their study did not highlight the context of transition to university. Based on studies performed by Spielberger (1972) and colleagues (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983; Vagg, Spielberger, & O'Hearn, 1980), state anxiety was also identified as a crucial construct that hinges more on environmental conditions. As a consequence of the limited research, it is still unknown whether there is a relationship between learning style and state as well as trait anxiety of university freshmen at a time when students experience the important transition from high school to university. The current study sought to fill this gap. Accordingly, the aim of this

study was to examine how learning style relates to state and trait anxiety in this group of freshmen encountering a transitional period when entering university.

The current study's context is Japan, where the college-going rate has been increasing over the past several decades and was 57.9% in 2018 (Education Career, 2019). One issue facing Japanese universities as well as students is dropout and repeating a grade in university (Tateishi & Ogata, 2016). Tateishi and Ogata (2016) stressed the high rate of dropout in male students who attend private universities—with this trend rising since the 1990s. The Japanese Ministry of Education, Culture, Sports, Science, and Technology (2014) reported that the reasons for dropout from higher education institutions in Japan include financial distress (20.4%), transferring to another university (15.4%), poor academic performance (14.5%), starting work (13.4%), illness (5.8%), and difficulty in university adaptation (4.4%). Similarly, the Japanese Institute for Labour Policy and Training (2015) listed reasons such as poor academic performance and uninteresting courses/ classes (42.3%), financial or home problems (17.6%), changing careers (14.8%), difficulty in university adaptation including poor human relationships (11.8%), and illness (11.8%). Among the reasons, poor academic performance and difficulty in university adaptation seem relevant to learning and learning style. Thus, it seemed appropriate to study learning style in the context of Japanese higher education.

2. LITERATURE REVIEW

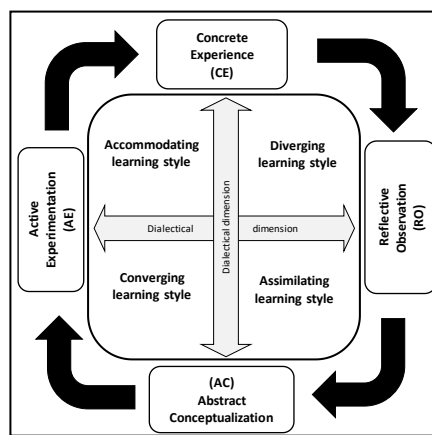
2.1. Learning style

Over several decades, learning style has been of interest to scholars and practitioners in multiple fields (Honigsfeld & Schiering, 2004). A large number of learning style studies have indicated that people have a distinctive way of learning (Dunn & Dunn, 1978; Kolb, 1984; Kolb & Kolb, 2017; Peterson, Rayner, & Armstrong, 2009). The term “learning style” refers to a person’s preferred way of responding to tasks, assignments, or problems in a learning situation (Peterson et al., 2009). Keefe (1979) indicated that learning style is related to affection, cognition, and physiological activities in learning situations that require individuals to respond to their environment. In fact, various learning style paradigms have been offered, with different definitions of learning style (Hawk & Shah, 2007; Honigsfeld & Schiering, 2004). For instance, Dunn and Dunn (1978) explained learning style as individual cognitive activities when processing new and difficult information. Kolb (1984) proposed experiential learning theory through which learning style represents an individual’s preferred way of approaching a learning situation based on his or her experience. Curry (1987) presented the onion model that contains different cognitive and learning styles, noting that learning styles in Kolb’s theory correspond with the information processing paradigm (Cassidy, 2004), which calls for interacting between the person and the environment (Riding & Cheema, 1991). Later, Fleming (2001) presented the VARK learning style model, which represents visual, aural, read and write, and kinesthetic. His model deals with information by collecting it, putting it in order, and thinking. This study chose Kolb’s (1984) learning model because it is based on individuals’ experiences as a source of learning, and in this study the learning context involved freshmen experiencing an academic transition.

According to Kolb’s (1984) model as shown in Figure 1, learning has four modes: concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE). Each learning mode has a specific function (Kolb, 1984). The CE mode relates to grasping concrete experiences, dealing with human situations, and using intuition. Individuals with this mode are good at valuing and respecting human

relationships. In contrast, individuals employing the AC mode are good at applying logic, conceptualizing theoretical models, and evaluating situations in an objective matter. They prefer accuracy and rigor when investigating thoughts. The RO mode relates to perceiving and making sense of situations through careful observation. Individuals with the RO mode are skillful at gathering information from different angles. Conversely, the AE mode involves acting, risk-taking, and initiative. Individuals with this learning mode are good at getting things done quickly.

Figure 1.
Kolb's learning style model.



In a process of learning based on Kolb's (1984) model, the CE mode requires catching immediate experience that becomes a basis of individual reflection using the RO mode. Then, when the RO mode requires transforming the experience as tacit knowledge into explicit knowledge, the AC mode requires using logic and abstract ideas that become foundation for the AE mode. Through transforming ideas, the AE mode requires acting and creating a new experience.

The CE learning mode is dialectically opposed to the AC mode in the grasping experience dimension, while the RO learning mode is dialectically contrasted with the AE mode in the transforming experience dimension (Kolb, 1984; Kolb & Kolb, 2017). A combination of two learning modes from each learning dimension creates four basic learning styles (Kolb, 1984). The Diverging learning style consists of the CE and RO modes and is characterized by the competencies of understanding people, having strong interpersonal relationships, and being imaginative and patient (Kolb, 1984). The Assimilating learning style, made up of the AC and RO modes, relates to the characteristics of making ideal plans, building theories and models, and viewing things from various perspectives (Kolb, 1984). The Converging learning style is composed of the AC and AE modes; it has the features of solving problems practically, making decisions, and establishing pragmatic goals (Kolb, 1984). Finally, the Accommodating learning style, with the CE and AE modes, is characterized by a trial-and-error approach, motivating and leading people, and making things happen (Kolb, 1984).

2.2. State and trait anxiety

Anxiety refers to an unpleasant emotion such as apprehension and worry (Kazdin, 2000). It is influenced by the sympathetic nervous system and feelings of tension (Kazdin, 2000). When people feel anxious, they may experience trembling, sweating, or a rapid heartbeat (Kazdin, 2000). However, it is difficult to comprehend anxiety as a phenomenon because anxiety has various dimensions. In addition, the term “anxiety” has been used to describe not only certain types of emotions but also diverse cognitive actions or processes (Spielberger, 2013). This is clear from the fact that psychologists have proposed numerous types of anxiety such as objective anxiety, neurotic anxiety, situation-specific anxiety, facilitative anxiety, and debilitating anxiety. Anxiety has been discussed as being elusive and intricate (Şimşek & Dörnyei, 2017), suggesting that it has multiple facets. Spielberger (2013) argued that anxiety is exhibited in two dimensions: state and trait anxiety. State anxiety involves a transitory excitement in a short-term condition based on a specific situation; thus, it is thought that the change of situation affects its occurrence. In this study, it was assumed that freshmen experience state anxiety during the academic transition from high school to university. Trait anxiety is characterized as a relatively stable and acquisitive attitude; thus, it is recognized as a personality trait. It tends to make people see a broad scope of safe conditions as dangerous (Nazerian, Zamani, & Soltani, 2011).

3. METHODS

3.1. Samples

This study was part of a project that explored multiple features of freshmen in a Japanese university located near Tokyo. To collect data for the study, one of the authors asked four instructors who taught a course required for freshmen in the management department to distribute paper-based surveys in their classes at the beginning of their first semester. There were 194 participants, 143 (74%) men and 51 (26%) women. Students' age for this study ranged from 18 to 20, with an average of 18.20 years (S.D. = 0.42).

3.2. Instruments

To examine state and trait anxiety, this study employed the State-Trait Anxiety Inventory (STAI) designed by Spielberger. STAI consists of 40 questions: 20 for state anxiety and 20 for trait anxiety. STAI questions have a 4-point Likert-type scale, ranging from 1, *not at all*, to 4, *very much so*. For this sample, the Cronbach's alpha was 0.86 for the STAI state scale and 0.84 for the STAI trait scale.

To identify individuals' learning style, multiple measures were provided according to various learning style models (Hawk & Shah, 2007). Hawk and Shah (2007) reviewed six well-known learning style measures: the Kolb Learning Style Inventory (Kolb, 1984, 1999), the Gregorc Style Delineator (Gregorc, 1985), the VARK Questionnaires (Fleming, 2001), the Index of Learning Styles (Felder & Silverman, 1988; Felder & Spurlin, 2005), the Productivity Environmental Preference Survey (Dunn & Dunn, 1989), and the Revised Approaches to Study Inventory (Entwistle, Hanley, & Hounsell, 1979). Since each learning model has its own definition of learning style, Hawk and Shah (2007) concluded that no one instrument can capture all the richness of the phenomenon of learning style.

This study used the third version of Kolb's (1999) Learning Style Inventory (LSI) to investigate freshmen's learning style. Research has shown that the third version has better psychometric properties than previous versions (Andreou, Papastavrou, Lemonidou, Mattheou, & Merkouris, 2015; Kayes, 2005). The LSI has been applied and supported

across numerous countries (Kolb & Kolb, 2017). Designed to investigate individuals' learning preference in a learning situation, it consists of 12 questions, each of which has four options corresponding with the four learning modes: concrete experience (CE), abstract conceptualization (AC), reflective observation (RO), and active experimentation (AE). Participants are required to rank statements in order from 4 (*most preferred*) to 1 (*least preferred*); thus, the LSI is designed with a forced-choice method. Figure 2 shows a sample question of the LSI. The total score of each of the four learning modes relates to the level of the participant's learning preference for the learning mode. Participants' learning styles are determined by subtracting one aggregated score from the other in the same dialectical learning dimension (i.e., CE vs. AC and RO vs. AE). The third version of the LSI has normative scores (the value of $AC - CE = 4.30$ and the value of $AE - RO = 5.90$) (Kolb, 1999) in order to determine participants' learning style.

Figure 2.
A sample question of Kolb's Learning Style Inventory (3rd version).

Example:				
When I learn	<input type="text" value="2"/>	<input type="text" value="4"/>	<input type="text" value="1"/>	<input type="text" value="3"/>
	I am happy	I am careful	I am fast	I am logical
(4-most preferred, 3-next preferred, 2-second least preferred, 1-least preferred)				

4. RESULTS

Before investigating the relationship between learning style and anxiety, we examined to what extent university freshmen experienced anxiety when starting university life. The mean score of state anxiety was 2.31 (S.D. = 0.46) and that of trait anxiety was 2.53 (S.D. = 0.45). Since this scale ranges from 1 (least anxiety) to 4 (most anxiety), the group of Japanese freshmen as a whole felt relatively anxious, probably related to their life transition. We divided the students into three groups: low anxiety (a score of 1 to 2), mid anxiety (>2 to 3), and high anxiety (>3 to 4). For state anxiety, 49 students (25%) were in the low group, 128 (66%) in the mid group, and 17 (9%) in the high group. For trait anxiety, 24 (12%) were in the low group, 141 (73%) in the mid group, and 29 (15%) in the high group. Thus, most students fell into a mid-range group for both types of anxiety.

In terms of learning style distribution in this sample, 71 students had an Accommodating learning style (37%); 69, Diverging (36%); 41, Assimilating (21%); and 13, Converging (8%). Accordingly, as a whole, Japanese freshmen exhibited a preference for a feeling (CE) rather than a thinking (AC) learning orientation. Most Japanese freshmen had an Accommodating or Diverging learning style, which is consistent with past learning style study results using undergraduate participants (Toyama & Yamazaki, 2018; Yamazaki, Toyama, & Attrapreyangkul, 2018). This tendency seems to be characteristic of Japanese culture (Yamazaki, 2005).

This study controlled for the demographic characteristic of gender because some studies have shown that learning style relates to gender (Philbin, Meier, Huffman, & Boverie, 1995). The issue is inconclusive, however, since others have documented no learning style difference in gender (Demirbas & Demirkan, 2007). To analyze how freshmen’s learning style related to their state and trait anxiety, this study used two-way analysis of variance (i.e., learning style and gender) by controlling gender.

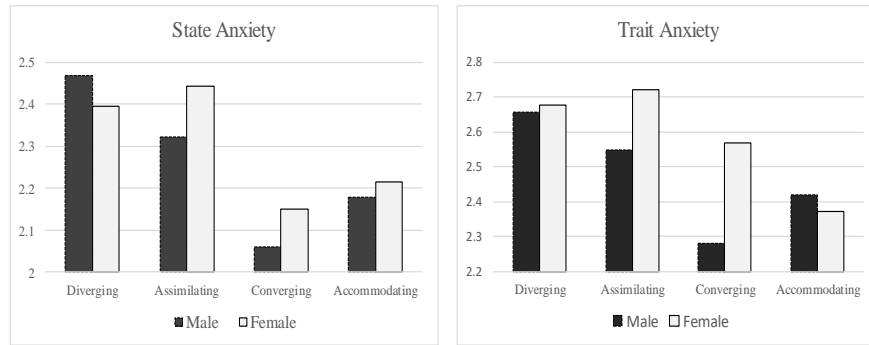
Results of two-way analysis of variance illustrated significant differences among the four learning styles in terms of state anxiety ($F = 3.38, p < 0.05$) and trait anxiety ($F = 4.07, p < 0.01$); however, gender did not have a significant relationship with the two anxiety variables (state: $F = 0.22, p > 0.05$; trait: $F = 1.38, p > 0.05$). Additionally, there was no interaction effect of learning style and gender in terms of anxiety. Based on the Tukey post hoc test, the Diverging learning style had a significantly higher level of state anxiety than the Accommodating style ($p < 0.01$) and Converging style ($p < 0.05$). Also, the Diverging style had a significantly higher level of trait anxiety than the Accommodating style ($p < 0.01$) and a marginally higher level than the Converging style ($p < 0.10$). These results indicated that regardless of gender, freshmen with a Diverging learning style, compared with other learning styles, were likely to have the highest level of state and trait anxiety during their academic transition. Furthermore, freshmen who preferred to learn through active experimentation (AE), which represents the common learning mode of the Converging and Accommodating styles, tended to exhibit a lower level of state and trait anxiety when beginning their university studies. To wit, students who learn by doing experienced less state and trait anxiety than those who learn by reflection. Table 1 summarizes results of two-way analysis of variance and the Tukey post hoc test, and Figure 3 shows state and trait anxiety levels according to learning style and gender.

Table 1.
Results of two-way analysis of variance with the Tukey test.

Source	State anxiety					Trait anxiety							
	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	η^2	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	η^2			
Learning style	2.02	3	0.67	3.38*	0.05	2.39	3	0.80	4.07**	0.06			
Gender	0.04	1	0.04	0.22	0.00	0.27	1	0.27	1.38	0.01			
Learning style x Gender	0.22	3	0.07	0.37	0.01	0.39	3	0.13	0.67	0.01			
		Mean Differences				Mean Differences							
Learning style group	<i>n</i>	Mean	<i>SD</i>	1	2	3	4	Mean	<i>SD</i>	1	2	3	4
1. Diverging	69	2.45	0.43	0.00				2.66	0.39	0.00			
2. Assimilating	41	2.36	0.41	0.09	0.00			2.60	0.46	0.06	0.00		
3. Converging	13	2.08	0.41	0.37*	0.28	0.00		2.35	0.39	0.32 [†]	0.25	0.00	
4. Accommodating	71	2.19	0.47	0.26**	0.17	-0.11	0.00	2.41	0.48	0.26*	0.19	-0.06	0.00
		Mean Differences				Mean Differences							
Gender group	<i>n</i>	Mean	<i>SD</i>	1	2	Mean	<i>SD</i>	1	2				
1. Male	143	2.30	0.47	0.00		2.52	0.46	0.00					
2. Female	51	2.33	0.42	0.03	0.00	2.58	0.42	0.06	0.00				

** $p < 0.01$, * $p < 0.05$, [†] $p < 0.10$.

Figure 3.
State and trait anxiety levels according to learning style and gender.



5. DISCUSSION

This study showed a significant relationship between learning style and state-trait anxiety among university freshmen. Although several previous studies on learning style did not focus on freshmen (Ayalp & Özdemir, 2016; Kadiem & Hamzah, 2004; Yazıcı, 2017), their results are partly congruent with our results. For example, Ayalp and Özdemir (2016) reported a significant association between learning style and test anxiety using a sample from Turkish universities. More specifically, Turkish students with a Diverging learning style had a higher level of test anxiety than those with a Converging learning style. The other two studies applied different measures for learning style, which do not allow for direct comparisons. However, it should be noted that they showed that learning style was relevant to trait anxiety (Kadiem & Hamzah, 2004) and text anxiety (Yazıcı, 2017).

An interesting question is raised in terms of why the Diverging learning style relates to a higher level of state and trait anxiety. As those who learn through a Diverging learning style use the two modes of concrete experience (CE) and reflective observation (RO), they are sensitive to their internal and external environments. If they face a situational, unfamiliar problem, they may find it challenging to quickly resolve the problem or make decisions to cope with it. These activities require action rather than reflection. Thus, characteristics of learning style seem to be related to the anxiety. Furthermore, the learning tendencies of the Diverging learning style may hinder self-confidence development, which is thought to reduce anxiety. A recent study by Yamazaki, Toyama, and Ubed (2018) using a sample of Indonesian managers documented that abstract conceptualization (AC) over concrete experience (CE), and active experimentation (AE) over reflective observation (RO), were associated with self-efficacy beliefs. In other words, people with a Diverging learning style have a lower level of self-efficacy than those with a Converging learning style. In the area of sport study, Nazerian et al. (2011) found a relationship between state and trait anxiety and self-confidence; thus, a future study should explore how learning style, anxiety, and self-confidence are interrelated.

As a practical implication, educational institutions and university teachers may want to pay special attention to freshmen with a Diverging learning style, who tend to have a higher level of state and trait anxiety. As the Diverging learning style was one of the most common learning styles in Japanese universities, it is important for instructors in Japanese universities to address this anxiety either by (1) developing ways to teach for Diverging

undergraduate students or (2) finding ways to develop the undeveloped learning style of the students. First, since there is a match between the Diverging learning style and the Facilitator educator role (Kolb & Kolb, 2017), if university teachers employ a warm, friendly, and interpersonal approach to Diverging-style freshmen, their anxiety level may decrease. These actions may also increase students' motivation to learn. The literature supports the role of teachers as social agents in motivating student learning (Koca, 2016), and this perspective also relates to self-determination theory (Deci & Ryan, 2002). Second, an instructor may need to provide an action-oriented session or encourage freshmen to be more active step by step. These activities may help students enhance their active experimentation (AE) learning mode. As a result, the freshmen may experience less anxiety.

6. LIMITATIONS

One limitation relates to a methodological concern. Individuals' psychological attributions during a transitional period may be influenced by societal factors such as living alone or living with family; living in a suburb, rural area, or metropolitan area; and having friends from the same high school. Thus, a promising research idea is to consider how those variables affect students' anxiety as control variables. Additionally, our study relied on a theoretical approach with a quantitative method. Qualitative methods, such as student interviews, might give rich information to aid in understanding students in a transitional learning situation and what makes them feel anxiety to learn.

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Chapter #2

TEST FOR CREATIVE THINKING-DRAWING PRODUCTION (TCT-DP): A REVISED FACTORIAL STRUCTURE IN AN ADULT SAMPLE

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ABSTRACT

This research aims to assess the factorial structure of the Test for Creative Thinking-Drawing Production (TCT-DP, Urban & Jellen, 1996) for a Portuguese adult sample, with 620 workers, revisiting the results obtained by Almeida, Ibérico Nogueira, and Lima (2018). Two studies were performed. In Study 1, an exploratory factor analysis (EFA) assessed the factorial structure of the TCT-DP, with three hundred and two individuals (N = 302), most of them women (55.6%), from 18 to 86 years (M = 41.1, SD = 10.7). In Study 2, a confirmatory factor analyses aimed to replicate the factorial solution identified in Study 1, with three hundred and eighteen individuals (N = 318), most of them women (56.6%), from 19 to 70 years (M = 40.6, SD = 10.1). The two-factor solution (F1- Adaptiveness; F2- Innovativeness) proposed in Study 1 had acceptable to marginal fit indices. As in the study of 2018, two factors emerged and are respectively composed by the same items. Once more, the results highlight the importance of both non-conventional and conventional thinking for the creative process, sustaining our TTT-Two Tracks of Thought model. Some of the items which belong to the Adaptiveness factor, lead us to reflect on the parental features and developmental path.

Keywords: creativity, TCT-DP, confirmatory factorial analysis.

1. INTRODUCTION

If great revolutions in science, technology, arts, or philosophy assume that creativity must be considered a Big-C creativity (Togrol, 2012), it is also true that any individual is able to reveal characteristics of imagination, divergent thinking as well as tenacity and willingness to take risks in his daily life (Guilford, 1950), specifically in his personal or professional projects, which allow, at the same time, a large and meaningful self-actualization process (Rogers, 1961/1985).

Considering the inspiring speech of Guilford to APA, in 1950, as well as the more comprehensive models which have since been developed (e.g. Sternberg & Lubart, 1996), several contexts have begun to place greater emphasis on developing and stimulating creative thinking, stressing the idea that creativity depends both on individual and context variables (Csikszentmihalyi, 1996). Furthermore, creative thinking has been relevant for those individuals and organisations that aim to achieve their different goals to solve demanding problems and be competitive, thereby achieving a lasting success (Hennessey & Amabile, 2010). Despite the importance that has been attached to creativity, organisations have not been able to promote it (Amabile, 1998). According to Halpern (2003), if we want to increase creative potential, we must value creativity in the first place.

A way of valuing creativity is to invest in developing good assessment instruments to measure creative potential. In this sense, the present study aims to contribute with the validity studies for the TCT- DP, exploring the factorial structure through a confirmatory factor analysis for Portuguese workers.

2. BACKGROUND

Jellen and Urban (1986) presented a comprehensive creativity model that supports the figurative Test for Creative Thinking - Drawing Production (TCT-DP) that aims to evaluate six components (three cognitive, three personal) that influence each other and are responsible for creative performance. The cognitive-type includes different aspects of Divergent Thinking (elaboration, originality, flexibility, fluency, problem sensitivity), General Knowledge Base (evaluation, reasoning and logical thinking, analysing and synthesis thinking, memory network, broad perception), and Specific Knowledge Base and Specific Skills (acquisition and mastery of specific knowledge and skills for specific areas of creative thinking and acting). The personal-type components include several types (sub-categories) of Focusing/Task Commitment (topic/object/product focusing, selectivity, steadfastness and persistence, concentration), Motives (need for novelty, playfulness, curiosity, drive for knowledge, communication, self-actualization, devotion, need for control), and Openness to/Tolerance of Ambiguity (openness to experiences, readiness to take risks, adaptation and resistance, non-conformism, relaxation, humour).

According to Urban and Jellen (1996), creativity means that people can come up with or developing an original product/idea, as a solution to a problem. In order for it to be presented to other individuals, the solution goes through a process of exploration and sifting information, an unusual combination of the information real and imagined, and a composite summary of a solution in a gestalt form.

The debate about methods used to measure creativity has raised one very important question related to the underlying construct of creative assessment methods/tools. If some authors (e.g. Clapham, 1998) suggests its unidimensionality, Guilford (1956) and Torrance (1988) traditionally consider the multidimensionality of divergent thinking, others (Ibérico Nogueira, Almeida, & Lima, 2017; Kim, 2006), despite having used different creative assessment instruments, support the two-dimensionality of divergent thinking, arguing the importance of both conventional and non-conventional ways of thinking for the creative process.

Furthermore, the existence of these two factorial dimensions raises another question about the relationship between them. The dichotomy between divergent and convergent thinking is considered a fake dichotomy, by Runco (2007), since developing new ideas, by the divergent way of thinking, inevitably demands an evaluation and selection of the best and most appropriate ones, by the convergent way of thinking. This idea of complementarity is also accepted by several authors, since the 1950s (Guilford, 1950, 1956) until more recently (e.g., Finke, Ward, & Smith, 1992; Halpern, 2003; Jaarsveld, Lachmann, & Leeuwen, 2012; Shavinina, 2001).

Some authors have been carrying out validity studies with TCT-DP, questioning the relevance of some quotation criteria or even suggesting additional quotation criteria (e.g. Kālis, Roke, & Krumina, 2013). However, outside Portugal, to the best of our knowledge, no analysis of the factorial structure of the TCT-DP, based on confirmatory factor analyses, has been developed.

The study undertaken by Ibérico Nogueira et al. (2017) was the first to test the factorial structure of the TCT-DP in Portugal, through a confirmatory approach, with 969 university students, most of them women (55%), with the age range from 17 to 63 years ($M = 24.8$, $SD = 5.77$). Another study by Ibérico Nogueira, Almeida, and Lima (2018) also tested the factorial structure of TCT-DP, using confirmatory analysis, for 4326 students (51.6% female) and with the age range from 6 to 18 years ($M = 10.73$, $SD = 2.96$), over the 12 years of compulsory education. Furthermore, Almeida, Ibérico Nogueira, and Lima (2018) tested the factorial structure of TCT-DP for 883 Portuguese workers, mainly women (60%), between 18 and 65 years old ($M = 41.1$; $SD = 11.2$). The aforementioned studies had a two-factor structure: the non-conventional thinking, referred to as Innovativeness, and the conventional thinking, referred to as Adaptiveness. Moreover, there was a correlation between both factors, suggesting the need and complementarity of both ways of thinking while looking for a creative solution.

However, for the study using Portuguese workers, it was found that the Adaptiveness factor, includes some of the criteria usually considered as a reflection of the unconventional way of thinking. In fact, the Adaptiveness factor either encompasses the Cn (Continuations) and Cm (Completions) criteria traditionally viewed as performed by most conventional people, as the Bfd (Boundary-breaking being fragment dependent) and Bfi (Boundary-breaking being fragment-independent) usually attributed to unconventional people that are more prone to break boundaries. Regarding the studies by Ibérico Nogueira et al. (2017, 2018) with university students and school and college age students, both the Boundary-breaking criteria (fragment-dependent and fragment-independent) belong to the Innovativeness factor.

The present study aims to assess the factorial structure of the TCT-DP, using a confirmatory approach, this time, with another Portuguese working sample of 620 participants, to clarify the structure previously obtained with Portuguese workers.

3. METHOD

Testing the factorial structure of the TCT-DP, a two-step approach was used. The sample gave rise to two groups. In study 1, the first group ($N = 302$) was used for an exploratory approach aiming to investigate the factorial structure of the TCT-DP. In Study 2, the second group ($N = 318$) was used, aiming to replicate, through a confirmatory approach, the factorial structure observed in Study 1.

The instruments and procedure were the same for both studies.

After scoring is complete, the data were recorded to Excel and analysed using the Statistical Package for Social Sciences (SPSS) for Windows, version 21.0 (Study 1) and the AMOS software, version 18 (Study 2).

3.1. Study 1

3.1.1. Sample

This study involved a convenience sample of 302 Portuguese workers, most of them women (55.6%), with an undergraduate degree (74.8%) and aged from 18 to 86 years ($M = 41.1$, $SD = 10.7$).

3.1.2. Instruments

Urban and Jellen (1996) developed the Test for Creative Thinking-Drawing Production (TCT-DP), with the aim of assessing the creative potential of individuals from ages five. In the test a sheet of paper with six fragments, different in design and geometric

in form and composition are presented within a big square frame (five fragments) and outside that frame (one fragment). People are asked to complete the drawing, using the fragments they want. TCT-DP and its characteristics, evaluation criteria and advantages are broadly presented by the authors and collaborators (Dollinger, Urban, & James, 2004; Urban, 1991). Originally there were 14 evaluation criteria: Cn (Continuations), Cm (Completions), New elements (Nee), Connections with lines (Cl), Connections to theme (Cth), Boundary-breaking being fragment dependent (Bfd), Boundary-breaking being fragment-independent (Bfi), Perspective (Pe), Humour (Hu), Unconventionality (Uca- Unconventionality manipulation, Ucb- Unconventionality abstract, Ucc- Unconventionality symbol, and Ucd- Unconventionality non stereotypical utilisation of the given fragments) and Speed (Sp). The scores for the first nine criteria ranges from 0 to 9, and the scores for the unconventional criteria ranges from 0 to 3, according to the instructions in the manual. In the present study carried out by other authors (Sayed & Mohamed, 2013), the criterion Speed (Sp) was not used because of the failure to systematically create a control for this variable. The total score for Unconventionality, Uct, represents the sum of the four unconventionalities. The TCT-DP (Urban & Jellen, 1996) has two forms (A and B) in that Form B is a 180° rotation of Form A. In the present study, the option to exclusively use Form A is because previous research indicated that there were no significant differences between the results of Forms A and B (Almeida, Ibérico Nogueira, Bahia, & Urban, 2007).

Urban and Jellen (1996), by themselves or in collaboration with other authors, refer good internal consistency levels for TCT-DP (Cronbach's alpha values greater than .87), high levels of interrater reliability (.95, on average, between trained ratters), and parallel forms reliability (between .64 and .77). Other authors have found good psychometric qualities for the Portuguese population, namely with adult Portuguese workers (Ibérico Nogueira et al., 2017).

After performing the TCT-DP drawing, a sociodemographic questionnaire was also administered.

3.1.3. Procedure

In October 2018, the authors recruited some assistant researchers who were involved in an intensive training program on how to apply and interpret the TCT-DP. Between October 2018 and February 2019, directors of small, medium and large secondary and tertiary sector companies, both public and private, were contacted, via telephone, e-mail or in person. After permission to assess either leaders or employees was granted, the authors explained the study's objectives, methods and confidentiality and withdrawal policies. The test was conducted within the working environment, following the informed consent procedure.

3.1.4. Results

To assess the factorial structure of the scale, an exploratory factor analysis (EFA) was performed. A principal axis factoring (PAF) was used as the extraction method with a varimax rotation. To determine the number of factors to be extracted in the final solution the authors use Horn's parallel analysis and the interpretability of the solution. The cut-off used for factor loading was .30.

A Kaiser-Meyer-Olkin (KMO = 0.71) and Bartlett's Test of Sphericity, $\chi^2(45) = 612$, $p < .001$, indicated the sampling adequacy for the analysis. Three components had eigenvalues greater than the Kaiser criterion of 1, which accounted for 55.3% of the variance. Additionally, a parallel analysis (100 datasets; IC 95%) indicated the extraction of

two factors. A second PAF was conducted, fixing the extraction of two factors. The two factors explained 44.6% of the variance. The first factor was referred to as Adaptiveness or Conventional thinking, which explained 29.3% of the variance and retained four items (Cn- Continuations, Cm- Completions, Bfd- Boundary-breaking being fragment dependent and Bfi- Boundary-breaking being fragment-independent), with factor loadings that ranged from .72 to .50 (Cronbach alpha = 0.72). The second factor, referred to as Innovativeness or Non-conventional thinking, explained 15.3% of the variance and retained six items (Nee- New elements, Hu- Humor/emotionality, Cth- Connections to Theme, Uct- Unconventionality A, B, C and D, Pe- Perspective and Cl- Connections with lines) with factor loadings that ranged between .62 and .30 (Cronbach alpha = 0.63).

Table 1.
Rotated factor loadings.

	<i>1</i>	<i>2</i>
<i>Cn</i>	0.85	<i>0.05</i>
<i>Cm</i>	0.78	<i>0.11</i>
<i>Bfd</i>	0.52	<i>0.18</i>
<i>Bfi</i>	0.36	<i>0.24</i>
<i>Nee</i>	<i>0.05</i>	0.62
<i>Hu</i>	<i>0.15</i>	0.51
<i>Cth</i>	<i>0.26</i>	0.51
<i>Uct</i>	<i>0.13</i>	0.43
<i>Pe</i>	<i>0.02</i>	0.38
<i>Cl</i>	<i>0.21</i>	0.30

3.2. Study 2

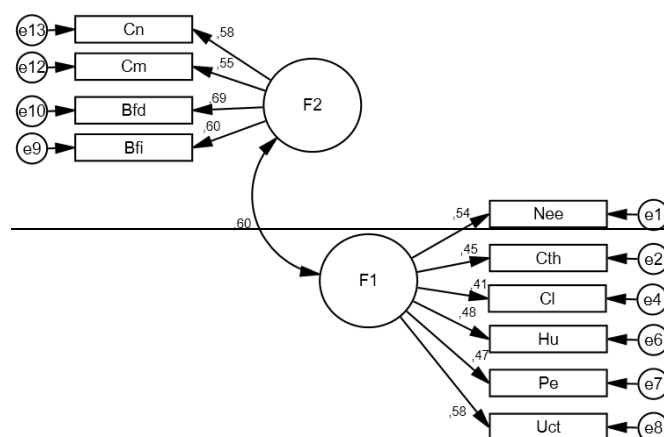
3.2.1. Participants

In the second study, 318 Portuguese workers participated, most of them women (56.6%) and with an undergraduate degree (79.9%), with the age range from 19 to 70 years (M = 40.6, SD = 10.1).

3.2.2. Results

The confirmatory factor analyses aim to replicate the factorial solution identified in Study 1. The estimation method used was the Maximum Likelihood Estimation (MLE) using the variance-covariance matrix, and the missing cases were replaced by the mean. The two-factor solution (F1, Conventional; F2, Non-conventional) proposed in Study 1 had acceptable to marginal fit indices: $\chi^2 = 127.8$, $df = 34$, $\chi^2/df = 3.76$, GFI = .93, CFI = .83, RMSEA = .093, CI 90% [.076, .0111], ECVI = 0.54. All the factor loadings are statistically significant ($p < 0,05$). Both factors had acceptable values of Cronbach's alpha (F1, $\alpha = .69$; F2, $\alpha = .63$). In addition, there is a correlation between Factors 1 and 2 ($r = 0.60$).

Figure 1.
Factorial structure of the TCT-DP.



4. FUTURE RESEARCH DIRECTIONS

Some limitations must be considered despite the importance that studies on the factorial structure of TCT-DP may have on its validity. It would have been important to have considered the moderating effect of the size of the companies, their public or private character and the job function of the participants. Since this study was carried out with working adults, using a convenience sample, it is not possible to generalize the results to the rest of the working Portuguese population. Other validation studies will be conducted with other specific population groups (e.g. samples with different types of leadership and different types and levels of education) using confirmatory factor analysis. In the future, it will be important to clarify both the importance of the developmental path in risk-taking behavior, leading to the hypothesis that risk-taking can be more easily assumed in middle-aged adults, as well as the effect of interaction between parenting practices and the developmental path of individuals. Regarding the concurrent validity, several studies should assess the relationship between the TCT-DP and other creative thinking assessment instruments. The relation between creative thinking and personality and cognitive dimensions, the moderating effect of self-esteem in creativity, the effect of the organisation's leadership on creativity, constitute some of the ongoing Portuguese studies. Furthermore, another study is being developed to test the efficacy of a creative potential promotion program in private schools.

5. CONCLUSION/DISCUSSION

This study is one of multiple studies that began in Portugal, intending to test the factorial structure of TCT-DP, through a confirmatory factor analysis. Those studies have considered both the population of the different years of compulsory schooling (Ibérico Nogueira et al., 2018), the university students (Ibérico Nogueira et al., 2017) and the Portuguese workers (Almeida, et al., 2018). Attention should be drawn to the fact that the six-factor structure, originally identified by the authors of the TCT-DP (Urban & Jellen, 1996), was obtained by an exploratory factor analysis based on both forms A and B (not

only on Form A) and jointly on pre-school age, school age and adults. Furthermore, the studies carried out by the authors included the Speed criterion, which was excluded in the present study.

The aim of this study is to clarify the factorial structure of the TCT-DP for Portuguese workers, comparing it to the first factorial structure analysis study with Portuguese workers, since there have not been, until now, other studies in other countries with a confirmatory factor analysis of the TCT-DP. Using a confirmatory factor analysis, Study 2 replicates the factorial structure of Study 1. Two factors were obtained. The Innovativeness factor includes the items related to the unconventional way of thinking (Uct- sum of the four unconventionality criteria), New elements (Nee), Humor (Hu), Perspective (Pe), Connections to theme (Cth) and Connections with lines (Cl). The second factor, Adaptiveness, includes more conventional items such as Continuations (Cn) and Completions (Cm), as well the Bfd (Boundary-breaking being fragment-dependent) and Bfi (Boundary-breaking being fragment-independent), considered as evidence of the willingness to take risks. This two-factor solution supports the two-factor solution of the previous study with a worker sample (Almeida et al., 2018), in which the exactly same items for each factor were found.

Both the present and the previous Portuguese study found a two-factor solution, Innovativeness and Adaptiveness, as well a correlation between them, which suggests that both forms of thinking seem inseparable, in spite of the fact that they can occur at different stages of the creative process, as Finke, Ward, and Smith (1992), Jaarsveld, Lachmann and Leeuwen (2012) or Runco (2007), highlighted. However, in the previous study of 2018, with Portuguese workers, the inclusion in the Adaptiveness factor of those items that involve risk taking, was somewhat puzzling. In fact, Bfd (Boundary-breaking being fragment-dependent) and Bfi (Boundary-breaking being fragment-independent) criteria, traditionally represent the willingness to take risks, since the individual must overcome the boundaries of the large square and still pay attention and elaborate from the outside fragment. These kinds of behaviour supposedly ought to be present in the most creative people. The confirmation, with the present study, of this factorial structure, led us to rethink its importance. If creativity demands several cognitive dimensions and personality characteristics, it is needed to raise the possibility that, nowadays, risk-taking can be a feature present in most individuals, regardless of their levels of creativity. Eventually, considering the parental and educational practices that characterise current Portuguese culture, individuals are less criticised for being uncompliant. On the other hand, considering the developmental path of individuals, the suggestion that it is easier for middle-aged adults to take risks needs to be taken into account. In addition, the effect of interaction between parenting practices and the developmental path of individuals should be considered.

Aiming at strengthening its construct validity for Portuguese workers, the present study confirmed the two-factor solution as well as the items that belong to each one of the factors previously found. Thus, TCT-DP allows a global index of creative thinking as well as an index for each dimension (Adaptiveness and Innovativeness), enabling a better characterisation for each individual.

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Test for Creative Thinking-Drawing Production (TCT-DP): A Revised Factorial Structure
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Chapter #3

SELF-CONCEPT AND ANXIETY OF SLOVAK STUDENTS (FUTURE LEADERS)

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ABSTRACT

The purpose of this study is to examine the self-concept and anxiety of Slovak university students as future leaders. A positive self-concept and emotional stability are considered important characteristics of an effective leader. Our research sample consisted of 199 (mean age=20.04; SD=1.58) university students (field of study: management and education). The available and intentional sampling was used. Data were obtained by means of the State-trait anxiety inventory and the Piers-Harris self-concept scale for children and adolescents. The reliability (inner consistency) of the measured variables was acceptable (Cronbach alpha from .56 to .90). Correlation tests and a comparative research study were conducted. Our findings prove negative moderate statistically significant correlation between all self-concept dimensions and state and trait anxiety (from -.26 to -.67; $p < .01$). A strong significant relationship between the total self-concept and state and trait anxiety (-.56; -.68; $p < 0.01$) was shown. No differences among students in terms of field of study were found. The limitation of this study is the sample size and the use of self-reported data. This study presents a contribution to the research of relevant personal factors of tomorrow's leaders in education and economics in Slovakia.

Keywords: leadership, trait anxiety, state anxiety, self-concept.

1. INTRODUCTION

According to Bass and Bass (2009), leadership is a “widely discussed and popular topic” but when it comes to defining this much conferred concept, the literature has not shed light on a concerted definition or its constitution. Yukl (2009, p.13) defines leadership as “the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives.” Simplifying the definition, leadership is the ability to influence a group towards the achievement of goals. In a similar way Chemers explains leadership (In Pashiardis, 2014, p. 14): „leadership is a social influence process during which an individual manages to secure the assistance of others in order to accomplish a common goal. A leader is the person, who influences through his/her behaviour the behaviour of the people in his/her group. In this way, he/she activates the organization members towards the accomplishment of a common vision.” According to Collins (2001, p.74) “leadership is about vision. But leadership is equally about creating a climate where the truth is heard and the brutal facts confronted.” Ahn, Adamson and Dornbusch (2004, p. 114) point out that “leadership” is a prospective. It defines what the future should look like, aligns the organization with a common vision, and provides inspiration to achieve transformational goals.” Cashman (2000, p. 20) defines leadership as „authentic self-expression that creates value, it is not seen as hierarchical - it exists everywhere in organizations.”

Although every definition emphasizes something different we can state that leadership is a demanding, unrelenting job with enormous pressures and grave responsibilities. Kirkpatrick and Locke (1991) believes it takes a special kind of person to master the challenges of opportunity.

One of the earliest approaches to understanding leadership was the trait approach emphasizing the personality of leaders. According to Hogan, Curphy and Hogan (1994) and Anderson (2006) personality has an impact on a leader's effectiveness. Contemporary research suggests the importance of five personality traits to determine leader's effectiveness and the leadership style (Judge & Bono, 2000; Judge, Bono, Ilies & Gerhardt, 2002; Anderson, 2006; Hassan, Asad & Hoshino, 2016).

The study of leader traits has a long history. There is constantly reported self-confidence among leader's core traits associated with emotional stability. Every major review of the leadership literature lists self-confidence as an essential characteristic for effective leadership (Bass, 1990; Locke, 1991; House & Aditya, 1997; Yukl, 2009; Northouse, 2016).

There are many reasons why a leader needs self-confidence (Kirkpatrick & Locke, 1991; Northouse, 2016; Axelrod, 2017; Holsinger, 2018). A great deal of information must be gathered and processed. A constant series of problems must be resolved and decisions made. A person riddled with self-doubt would never be able to take the necessary actions nor command the respect of others. Self-confidence plays an important role in decision-making and in gaining others' trust. Self-confident leaders have a positive attitude about themselves and they are able to press ahead with the belief that, if they make a wrong decision, any setback can be overcome. Self-confidence helps effective leaders remain even-tempered.

Emotional stability is especially important when resolving interpersonal conflicts and when representing the organization. Leaders who derail are less able to handle pressure and more prone to moodiness, angry outbursts, and inconsistent behaviour, which undermines their interpersonal relationships with subordinates, peers, and superiors. On the contrary, successful leaders are calm, confident, and predictable even during crisis. Emotional stability operates as a relevant variable even in a profile approach to effective leadership (Parr, Lanza & Bernthal, 2016). Emotional stability is also in a positive relationship to up-to-date network leadership performance (Grift, 2016). Insufficient emotional stability may be due to increased anxiety of the individual. Anxiety is an aversive motivational state that occurs in situations where the level of perceived threat to the individual is high (Eysenck & Calvo, 1992). Anxiety in general refers to an individual's disposition to worry about many different events, behaviors or personal abilities of everyday life, together with a difficulty in controlling these worries. It is clear that this disposition does not fit into the desired profile of an effective leader.

On the contrary, a positive self-concept, which we consider to be the basis of self-confidence, is an important prerequisite for successful social functioning. We can also find empirical studies that link negative self-concept with anxiety and depressive symptoms (Orbach, Mikulincer, Stein & Cohen, 1998; Erkolahti, Ilonen, Saarijärvi & Terho, 2003; Rätty, Larsson, Söderfelt & Wilde Larsson, 2005). A recent study (Mammarella, Donolato, Caviola & Giofrè, 2018) confirmed positive self-concept (both general and academic) as a significant protective factor in childhood and adolescent anxiety (both general and test).

Since we also consider teachers as leaders at least in relation to students, we have decided to pay attention to them. In particular, they (Williams-Boyd, 2002):

- are thoughtful risk-takers who are not afraid to fail
- are problem solvers
- are generators of ideas—insightful, thoughtful, and sensitive
- are innovators who creatively motivate all students
- value growth and relationships, and lead by example
- foster collegiality with fellow teachers, and support and encourage them
- are voracious learners, constantly seeking new ideas that can improve instruction and learning
- consistently place students at the centre of their work and attention
- maintain an abiding belief in the potential and integrity of each student...

We believe that all these abilities, skills and behaviors go hand in hand with sufficient self-confidence and emotional stability.

Contemporary leadership models that have a direct impact on educational practice also require some personality assumptions, for example instructional and transformational leadership. Instructional leadership has been defined in a number of different ways, some of which refer to activities directly and others indirectly related to the processes of teaching and learning (Shatzer, Caldarella, Hallam & Brown, 2014; Marks & Printy, 2003). According to Portin, DeArmond, Gundlach and Schneider (2003, p. 18), instructional leadership is the process of “assuring quality of instruction, modeling teaching practice, supervising curriculum, and assuring quality of teaching resources”. It involves a number of functions such as coaching, critical reflection, teacher collaboration, teachers as action researchers and generally collaborative and critical thinking on the quality of teaching (Glanz & Neville, 1997). According to Leithwood, Louis, Anderson and Wahistrom (2004), instructional leadership was seen as having an indirect impact on student outcomes through improving organizational learning culture and staff performance. Likewise, Marks and Printy (2003) found that school effectiveness could be improved by adopting instructional leadership.

Transformational leadership entails not only a change in the purposes and resources of those involved in the leader-follow relationship, but an elevation of both - a change for the better. With respect to motives or purposes: transforming leadership ultimately becomes moral in that it raises the level of human conduct and ethical aspiration of both leader and led, and thus has a transforming effect on both (Burns in Williams-Boyd, 2002). Leithwood (in Williams-Boyd, 2002, p. 675) concludes on the basis of his research, „that transformational school leaders pursue three fundamental goals: first, the stimulation and development of a collaborative climate within the school; second, contribution to the continuous professional development of the teachers; and, third, expansion of the problem-solving capacity of the school. Transformational school leadership clearly occurs within the framework of maximizing the potential of those involved in a particular organization.”

Based on the above, we consider it important to pay attention to the selected personality traits of young people as potential leaders. Through their upbringing and education, we are able to influence society and future generations in Slovakia to a certain extent.

2. OBJECTIVES

The aim of our research study was to examine the self-concept and anxiety of Slovak university students as future leaders. They represent tomorrow’s leaders in education and economics in Slovakia. Our objective was:

1. to verify the relationship between a student's positive self-concept (perceived as the assumption of his future self-confidence) and his state and trait anxiety (the lack of emotional stability). Considering the listed empirical research, we state this hypothesis:

H1: There is statistically significant negative correlation between student's trait anxiety (as an individual disposition) and their total self-concept.

2. to compare groups of students according to their field of study and answer the question: Are there any differences in self-concept and anxiety between students of management and students of education?

3. METHODS

The research was carried out in Matej Bel University in Banská Bystrica. Our research sample consisted of 199 university students (mean age= 20.04; SD=1.58). The available and intentional sampling was used (late adolescence and field of university study: management or education). The research was realized anonymously by the means of a questionnaire set:

1. The Piers-Harris Children's and Adolescents' Self-Concept Scale 2 (Czech version: Obereignerů et al., 2015; translation to Slovak: Ďuricová & Ladnová, 2018) is 60-item self-report scale with the possibility of a dichotomous yes/no response. Except for the total score (TOT; range from 0 to 60) the questionnaire includes 6 subscales evaluating specific domains of self-concept: behavioural adjustment (BEH; $\alpha = .65$), intellectual and school status (INT; $\alpha = 0.56$), physical appearance (PHY; $\alpha = .70$), freedom from anxiety (FRE; $\alpha = .72$), popularity (POP; $\alpha = .63$), happiness and satisfaction (HAP; $\alpha = .76$).

2. State-trait anxiety inventory (Slovak version: Müllner, Ruisel, & Farkaš, 1980), that measures state anxiety ($\alpha = .90$) and trait anxiety ($\alpha = .89$). Trait anxiety (A-Trait) refers to relatively stable individual differences in anxiety proneness, that is, to differences between people in their tendency to respond to situations perceived as threatening with elevations in A-State intensity. State anxiety is conceptualized as a transitory emotional state or condition of the human organism that is characterized by subjective, consciously perceived feelings of tension and apprehension and heightened autonomic nervous system activity. States may vary in intensity and fluctuate over time (Spielberger, Gorsuch & Lushene, 1970, p. 3).

The STAI-Trait scale consists of 20 statements that ask people to describe how they generally feel. The STAI-State scale also consists of 20 statements, but the instructions require subjects to indicate how they feel at a particular moment in time. STAI-Trait scale has seven reversed items and thirteen that are scored directly. STAI-State scale has ten reversed items and ten that are scored directly. The range of possible scores varies from a minimum score of 20 to maximum score of 80 of both the State and Trait subscales. Subjects respond to each STAI item by rating themselves on a four point scale (for state scale are: 1-not at all, 2-somewhat, 3-moderately so, 4-very much so; for trait scale are: 1-almost never, 2-sometimes, 3-often, 4-almost always (Spielberger et al., 1970, p. 6).

Obtained data were processed by the statistical program SPSS using the procedures of descriptive and inductive statistics.

4. RESULTS

Since our variables did not fulfil the conditions for a normal distribution, a non-parametric procedure was used to analyse the data. Although trait anxiety was at the center of our interest, state anxiety was also statistically analyzed. We also present its results for illustration. Based on the results (Table 1), we can state that there *are strong negative statistically significant relations* among the total self-concept and state and trait anxiety.

More detailed analysis brought negative moderate statistically significant correlations among all self-concept dimensions and state and trait anxiety. Especially strong is the negative correlation between trait anxiety and freedom from anxiety and happiness and satisfaction.

Table 1.
Correlation analysis (Spearman) of students' anxiety and self-concept (N = 199).

Variables	1	2	3	4	5	6	7	8	9
M (mean)	11.75	10.42	7.74	6.94	7.87	8.29	41.31	39.45	46.11
SD (stand.dev.)	2.06	2.45	2.36	2.49	2.17	2.04	8.03	10.24	9.62
1. BEH		.36**	.12	.19**	.15*	.22**	.50**	-.32**	-.26**
<i>Clp (95%)</i>		.23-.49	-.02-.25	.07-.32	.02-.03	.08-.36	.40-.60	-.45-.18	-.39-.13
2. INT			.41**	.19**	.16*	.31**	.59**	-.34**	-.32**
<i>Clp (95%)</i>			.29-.52	.05-.32	.03-.29	.18-.44	.49-.67	-.46-.20	-.44-.18
3. PHY				.44**	.47**	.72**	.71**	-.32**	-.48**
<i>Clp (95%)</i>				.32-.55	.35-.57	.64-.79	.63-.78	-.45-.19	-.58-.36
4. FRE					.48**	.51**	.72**	-.49**	-.67**
<i>Clp (95%)</i>					.35-.59	.39-.62	.64-.79	-.59-.79	-.75-.58
5. POP						.38**	.63**	-.33**	-.39**
<i>Clp (95%)</i>						.25-.51	.52-.71	-.46-.20	-.50-.25
6. HAP							.73**	-.45**	-.57**
<i>Clp (95%)</i>							.64-.80	-.57-.32	-.67-.45
7. TOT								-.56**	-.68**
<i>Clp (95%)</i>								-.65-.45	-.75-.60
8. State anxiety									.70**
<i>Clp (95%)</i>									.62-.76
9. Trait anxiety									

BEH = behavioural adjustment; INT = intellectual and school status; PHY = physical appearance; FRE = freedom from anxiety; POP = popularity; HAP = happiness and satisfaction; TOT = total self-concept
** $p < .01$

In line with our second research objective we present descriptive characteristics of measured variables in groups by the respondents' field of study (Table 2).

Table 2.
 Descriptive statistics of the variables studied by field of study
 (S_M = students of management, N = 112; S_E = students of education, N = 87).

Field of study	BEH	INT	PHY	FRE	POP	HAP	TOT	State anxiety	Trait anxiety
S_M									
Mean	11.71	10.34	7.86	6.83	7.74	8.37	41.22	39.73	46.36
Median	12.00	11.00	8.50	7.00	8.00	9.00	42.00	37.50	45.50
Mode	13	12	10	5	9	10	41	29	49
Std. Deviation	2.12	2.5	2.39	2.37	2.17	2.07	8.16	10.17	9.59
Skewness	-1.72	-.67	-1.15	-.01	-1.00	-1.43	-1.08	.67	.37
Kurtosis	4.08	-.17	1.18	-.62	.58	2.13	1.91	.05	-.07
Minimum	3	3	0	1	1	0	10	24	26
Maximum	14	15	11	12	11	10	54	70	75
S_E									
Mean	11.80	10.52	7.60	7.08	8.05	8.20	41.41	39.08	45.79
Median	12.00	11.00	8.00	7.00	8.00	9.00	41.00	38.00	46.00
Mode	13	11	8	6	10	10	44	27	53
Std. Deviation	1.98	2.30	2.34	2.64	2.19	2.02	7.90	10.36	9.72
Skewness	-1.09	-.27	-.68	.16	-.84	-1.31	-.45	.68	.03
Kurtosis	1.13	-.13	-.36	-.57	.45	1.28	-.16	-.03	-.57
Minimum	5	5	2	2	1	2	20	22	26
Maximum	14	15	11	13	12	10	55	66	69

BEH = behavioural adjustment; INT = intellectual and school status; PHY = physical appearance; FRE = freedom from anxiety; POP = popularity; HAP = happiness and satisfaction; TOT = total self-concept

In order to compare groups of students according to their field of study we used the non-parametric Mann-Whitney U-test (Table 3). Results summarized in Table 3 show there are no statistically significant differences in the tested variables between students of management and students of education.

Table 3.
Self-concept and anxiety differences among students according to their field of study.

<i>N=199</i> Variables	<i>S_M</i> <i>n=112</i> median	<i>S_E</i> <i>n=87</i> median	Z	p	dCohen
BEH	12	12	-.28	.78	.0
INT	11	11	-.01	.99	.0
PHY	8.5	8	-1.02	.31	-.21
FRE	7	7	-.61	.54	.0
POP	8	8	-1.01	.31	.0
HAP	9	9	-.97	.33	.0
TOT	42	41	-.09	.93	-.12
State anxiety	37.5	38	-.51	.61	.05
Trait anxiety	45.5	46	-.15	.88	.05

S_M = students of management; S_E = students of education; BEH = behavioural adjustment; INT = intellectual and school status; PHY = physical appearance; FRE = freedom from anxiety; POP = popularity; HAP = happiness and satisfaction; TOT = total self-concept

5. CONCLUSION

Comparing study groups (potential managers and teachers) has shown that there are no statistically significant differences in self-concept and anxiety among students. Thus, the students of the study fields studied do not differ in these personality variables at the beginning of their studies. This fact creates a good precondition for the potential development of leadership skills for both future managers and future teachers.

Our results confirm a strong negative correlation between a student's self-concept and his/her level of anxiety. The stronger the sense of positive self-concept, the lower the sense of anxiety. This finding corresponds with previous empirical research (Orbach et al., 1998; Judge, Erez & Bono, 1998; Judge & Bono, 2000; Judge et al., 2002; Erkoalahti et al., 2003; Rätty et al., 2005, Mammarella et al., 2018). Trait anxiety has direct association to a leader's health status (Lindorff, 1995). The most common drugs used by managers are for treating depression, insomnia and anxiety (St-Hilaire & Gilbert, 2018). Mortensen (2014) also deals with some disastrous outcomes of leader's chronic anxiety. In terms of prevention, it is then desirable to develop a student's positive self-concept during the study. Trait anxiety is something that is hard to influence, but to some extent we can compensate insufficient emotional stability (i.e. increased state anxiety) by fostering self-confidence and positive self-concept.

In a longitudinal study, Benson (2018) confirmed that a leader's self-confidence can be developed in youth in a leadership training program and that a leader's effectiveness and leader's self-confidence will persist over time to become permanent. Hollenbeck and Hall (2004) found that education enhances an individual's level of self-efficacy by providing knowledge and skills. Here we can see an opportunity in developing new study programs for future teachers and economists as future leaders. It would be appropriate to create more space for training in basic leadership skills especially in teacher education (during a Master's degree through a course of Managerial Psychology): decision-making, team-building, conflict solving, time management, delegation.... By developing these and other leadership skills, we can consolidate the students' positive self-concept and remove their doubts about their competence. Although we are aware of the limits of our research study (especially the composition of the research sample), we believe that our work can contribute to the study of the personality of the leader.

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Chapter #4

THE ROLE OF TRAIT EMOTIONAL INTELLIGENCE IN CAREER DECISION-MAKING DIFFICULTIES AND (CAREER DECISION) SELF-EFFICACY

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ABSTRACT

The emotional intelligence and career decision-making analysis contributes to research-based knowledge and to career-counselling practice. The study analyzes trait emotional intelligence (further on EI) in the process of career decision-making, i.e. career decision-making difficulties, general self-efficacy and career-decision self-efficacy assessed in a sample of 322 Slovak high school students before second career-choice. The measures: Trait Emotional Intelligence Questionnaire-Short Form (TEIQue-SF; Petrides, 2009), Emotional and Personality Difficulties Scale (EPCD; Saka, Gati, & Kelly, 2008), General Self-Efficacy Scale (GSES; Schwarzer, & Jerusalem, 1993), Career Decision Self-Efficacy Scale-Short Form (CDSE-SF; Betz, Klein, & Taylor, 1996). The statistical analysis: negative relations between global career decision-making difficulties and self-efficacy (general, career-decision), positive relations between self-efficacy (general, career-decision) and trait EI, and negative relations between trait EI and global career decision-making difficulties and their factors. The regression analyses: trait EI was a significant negative predictor of career decision-making difficulties, over and above career-decision self-efficacy. Trait EI is a predictor of more stable, pervasive emotional and personality-related aspects of career decision-making difficulties, above and over studied personality-related and career-related self-efficacy. Trait EI relevance and career decisions self-efficacy in the career-decision process are emphasized with practical implications for diagnostics and intervention within career-counseling.

Keywords: trait emotional intelligence, career indecision, career decidedness, career decision-making difficulties, self-efficacy (general and career decision).

1. INTRODUCTION

Career decision-making is typically a stressful experience, often manifested by decision-making difficulties. It is especially important at the end of adolescence period when high school students face challenges to make a choice regarding their future studies or a work profession. Career decision-making combined with personality variables is a well-researched empirical area. However, there is a place for further exploration by incorporating the emotional intelligence (EI) construct in relation to career decision-making constructs.

Career indecision is defined as difficulties encountered by individuals while making career-related decisions and refers to all problems and challenges that need to be addressed prior to, during, or after the decision-making process (Saka, Gati, & Kelly, 2008, p. 403). It can be differentiated between temporary, developmental indecision on one side and more pervasive, chronic indecisiveness derived predominantly from personality and emotional factors. Di Fabio, Palazzeschi, Peretz, and Gati (2013) describe the first construct, indecision, as momentary or short-term issues blocking individuals from decision-making. The construct of indecisiveness is described as a more chronic and consistent issue that hinders individuals'

abilities to make decisions in various contexts and situations and is considered closer to a trait than a state. A large body of evidence has provided support for the assumption that indecisiveness leads to many deficits in the decision-making process.

Career indecision denotes problems during the career decision-making process, and it has various sources being included in definitions or taxonomies of career decision-making difficulties domain or career indecision (Kelly, & Lee, 2002). Saka et al. (2008) developed a theoretical framework for analyzing the emotional and personality-related aspects of career-decision-making difficulties. Based on the existing literature the authors located variables consistently found to be correlated with career indecision and indecisiveness. Based on the proposed model the authors developed the Emotional and Personality Career Difficulties Scale (EPCD) and empirically verified the above-mentioned model (in Slovakia verified by Sollárová, 2016).

The literature reveals a growing interest in studying individual variables associated with the career decision-making process. The concept of self-efficacy offers a potential to be studied both as a personality-related as well as career-related variable in the process of career decision-making. Self-efficacy is regarded as a self-evaluation that leads to a belief in one's own abilities to complete tasks or attain a defined level of achievement (Bandura, 1997). Bandura's concept of self-efficacy was integrated into the career decision-making process by Hackett and Betz (1981) and defined as "career decision self-efficacy" explained as an individual's belief that s/he is capable of successfully completing tasks and specific behaviors required in career decision-making (Taylor & Betz, 1983). The concept is based on the theory of self-efficacy and the theory of career maturity, synthesized by Taylor and Betz (1983) who constructed the Career Decision Self-Efficacy Scale (CDSE) based on this conceptualization. The construct is based on the behavioral indicators that characterize the five areas of competency for making career choices – accurate self-appraisal, gathering occupational information, goal selection, making plans for the future and problem solving. The research by Betz and Klein-Voyten (1997) and Jaensch, Hirschi, and Freund (2015) showed that career decision self-efficacy acts as a significant predictor of career indecision. A meta-analysis by Choi et al., (2012) investigated the relationship between career decision-making self-efficacy and a selection of related variables including gender, age, race, self-esteem, vocational identity, career barriers, peer support, vocational outcome expectations, and career indecision. Self-esteem, vocational identity, peer support, vocational outcome expectations, and career indecision were all found to be correlated statistically significantly with career decision-making self-efficacy. Career indecision was found to have a strong negative correlation with career decision-making self-efficacy. Choi et al.'s work (2012) demonstrated that personality aspects can play a key role in career decision-making self-efficacy. Apart from personality traits, the specific role of the career decision-making process is generally recognized and agreed upon among researchers (Martincin, & Stead, 2015).

Emotional intelligence (EI) represents an additional potentially critical variable in the career decision-making process (Farnia, Nafukho, & Petrides, 2018; Di Fabio & Palazzeschi, 2009), yet being rarely studied. Research exploring the relations between EI and career difficulties is still limited, especially the relations between trait EI models (e.g., Cooper's, Sawaf's, Weisinger's, Higg's, Schutte's models or Petrides' model). Thus, investigating a role of trait EI as another EI model offers a new research opportunity. Trait EI, investigated in this paper, is explained by its author, Petrides (2009), as a constellation of emotion-related self-perceptions and dispositions located at the lower levels of personality hierarchies. The model consists of 15 facets (13 of them forming 4 factors: emotionality, sociability, well-being and self-control and 2 independent facets of self-motivation and adaptability stand

by themselves) forming the global level of trait EI (more detailed characteristics of the factors in Petrides, 2009; Kaliská & Nábělková, 2015). Petrides (2009) also created questionnaires to measure trait EI (Trait Emotional Intelligence Questionnaire – TEIQue) for three developmental stages (children, adolescents, and adults) of two forms (short and long form). In Slovakia, the satisfactory psychometric properties of full and short forms of the Slovak TEIQue versions were evidenced (Kaliská & Nábělková, 2015; Kaliská, Nábělková, & Salbot, 2015). For short forms of TEIQue, created from the original full versions, the author recommends assessing only the global level of trait EI, for the validity and reliability decreases with the number of items used to assess trait EI factors.

A very few investigations on EI in relation to career indecision have been conducted, specifically analyzing the relationship between trait EI based on Petrides' model and emotional and personality-related aspects of decision-making difficulties based on Saka, Gati, and Kelly's model (2008). The first attempts, conducted by Sollárová & Kaliská (2018), showed significant positive, though weak, relationships between global trait EI level and career decidedness, however significant negative moderate to strong relationship between global trait EI level and global career decision-making difficulties as well as its three factors (especially factor of self-concept and identity) in the sample of 156 Slovak high school students. Trait EI predicted a significant almost 7% of unique variance in career decision-making difficulties after controlling for decidedness level with remaining significant negative moderate correlation. In the US, the study conducted by Farnia et al. (2018), proved that trait EI accounted for a significant proportion of the variance in career indecisiveness that was not explained by the "Big Five" personality traits and that positive and negative emotions partially mediated the relationship between trait EI and career indecisiveness.

2. OBJECTIVE

The aim of this current research based on the previous results of the authors as well as on other findings in the topic of the role of EI in the career decision-making, was to 1) verify the already identified patterns of relationships between trait EI and career indecision variables, specifically between trait EI and emotional and personality-related aspects of career decision-making difficulties on a larger sample of Slovak high school students, involving also other personality and career related variables (general and career decision-making self-efficacy); 2) identify the character of relationships between trait EI and career decision-making difficulties; 3) explore trait EI as a predictor of the career decision-making difficulties, above other personality related and career related variables, specifically above both generalized as well as career decision self-efficacy.

In line with the research results mentioned above, we hypothesize the following: 1) H1: individuals with higher trait emotional intelligence level would display lower levels of career decision-making difficulties; 2) H2: individuals with higher level of career difficulties would self-perceive lower level of career decision-making self-efficacy and generalized self-efficacy; 3) H3: those ones with a higher level of generalized self-efficacy would have also higher level of career decision-making self-efficacy.

Based on the research findings it is hypothesized that 4) H4: trait emotional intelligence will explain a significant percentage of incremental variance above and over career decision-making self-efficacy and generalized self-efficacy in predicting the career decision-making difficulties.

3. METHODS

3.1. Research sample

The research sample consisted of 322 high school students (average age: 17.7 /SD=.46/; 58.4% of females) from three high schools of the central Slovak region. 7 of the students did not fulfill the GSES and CDS scale (mortality of 2.2%), and 9 students did not complete or finished CDSE scale (mortality of 2.8%). The research was conducted as a part of professional career counselling and personality testing during the second career decision making process offered at their schools to Junior high school students. Either the parental or individual (18-year-old ones do not need parental approval) informed consent was signed voluntarily two weeks before testing.

3.2. Research methods

Trait EI was assessed by the short Slovak version of *the Trait Emotional Intelligence Questionnaire-Short Form (TEIQue-SF)*, Kaliská, Nábělková, & Salbot, 2015) created by Petrides (2009). The instrument consists of 30 items answered by a seven-point Likert scale (1 – completely disagree to 7 – completely agree), a higher rating indicate a higher level of trait EI. Reliability estimate in the sense of inner consistency was for the whole sample: $\alpha=.87$.

To assess career decision-making difficulties, participants responded to the Slovak version of *the Emotional and Personality Career Difficulties Scale (EPCD)*, Saka et al., 2008). The scale consists of 53 items, each statement representing one of 11 difficulty categories, answered on a 9-point scale (1 – does not describe me to 9 – describes me well). The total score and the sum from the three clusters (Pessimistic Views; Anxiety; Self-concept and Identity) were calculated. Higher scores indicate greater career difficulties in that certain area. Reliability estimates in the sense of inner consistency were for the whole sample: $\alpha=.94$.

Career decision self-efficacy was assessed by *The Career Decision Self-Efficacy Scale – Short Form (CDSE-SF)* (Betz, Klein, & Taylor, 1996). The scale includes 25 items divided into five scales, namely, accurate self-appraisal, gathering occupational information, goal selection, making plans for the future, and problem solving. The answers were obtained using a scale with five alternatives, ranging from 1 = not at all confident to 5 = totally confident. The total score on the scale was calculated by adding the responses to the 25 items; higher scores indicated higher levels of career decision self-efficacy. Reliability estimates in the sense of inner consistency were for the whole sample: $\alpha=.91$. Studies of the dimensionality of the CDSE (e.g. Taylor & Betz, 1983) suggest that the scale is primarily a general measure of career decision-making self-efficacy rather than self-efficacy expectations for five career decision skills.

Generalized self-efficacy was assessed by *the General Self-Efficacy Scale (GSES)*; Slovak adaptation by Košč, Heftyová Schwarzer, & Jeruzalem, 1993). The scale is a 10-item scale that is designed to assess optimistic self-beliefs to cope with a variety of difficult demands in life. The scale with 5 options, ranging from 1 = not relevant at all to 4 = exactly true. The scale is unidimensional; higher score indicates higher generalized self-efficacy. Reliability estimate in the sense of inner consistency was for the whole sample: $\alpha=.82$.

Apart from descriptive statistics, *correlation analyses* were run to estimate the relations of trait EI to career decision-making difficulties, generalized self-efficacy and career decision self-efficacy. Further on a *hierarchical three-step regression analysis* was conducted to discover the determination on global level of the career difficulties as dependent variable. It

was predicted by the generalized self-efficacy, and also career decision self-efficacy level and above it by global trait EI level to support also the incremental validity of trait EI in our research sample.

4. RESULTS

The basic descriptive indicators for global trait EI assessed by TEIQue-SF questionnaire, for three main clusters and global level of career difficulties assessed by EPCD, and the level of generalized self-efficacy by GSES and of career decision self-efficacy by CDSE of our research sample are presented in Table 1.

Table 1.
Descriptive indicators of all variables in a sample of the Slovak adolescents (N=313).

		Min	Max	AM	SD	Skewness	Kurtosis	α
TEIQue-SF	Global Trait EI	2.47	6.63	4.83	.72	-.473	.345	.872
EPCD	Pessimistic views	1.50	7.33	4.89	1.01	-.253	.117	
	Anxiety	1.19	9.00	5.32	1.87	-.338	-.673	
	Self-concept and Identity	1.00	7.94	4.19	1.34	.119	-.357	.944
	Global Career Difficulties	1.79	7.89	4.89	1.22	-.280	-.379	
GSES	Generalized Self-efficacy	1.50	4.00	2.95	.46	-.254	.069	.817
CDSES	Career Decision Making Self-efficacy	1.84	4.88	3.47	.59	-.075	-.308	.907

Descriptive indicators in Table 1 enable to compare the global trait EI level of the research sample to the Slovak percentile norms for the late adolescence created by norm sample of $N = 387$; $AM_{age} = 16.6$; $/SD = 0.5/$ (Kaliská, Nábělková, & Salbot, 2015, p. 49). It can be concluded that the global trait EI level ($AM=4.8$) of this research sample is reaching the 57th percentile. It can be also concluded all of the observed inner consistencies of the instruments estimated by Cronbach's alpha coefficients reach acceptable values.

Statistical analysis of skewness and kurtosis proves the normal distribution of the analyzed variables therefore the relations were estimated by parametric statistical analyses. The variable relation estimate was carried out using parametric Pearson correlation analysis (r) enabling to determine the direction and strength of relations between variables (Table 2) followed by three-step regression analysis in Table 3 where global trait EI level was entered as the last one.

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Table 2.
Correlation analysis of the variables (N=313).

	2	3	4	5	6	7
TEIQue-SF 1 Global Trait EI	-.307 ***	-.343 ***	-.608 ***	-.476 ***	.618 ***	.552 ***
EPCD						
2 Pessimistic views	1.00	.547 ***	.472 ***	.682 ***	-.191 **	-.343 ***
3 Anxiety		1.00	.683 ***	.946 ***	-.358 ***	-.536 ***
4 Self-concept and Identity			1.00	.853 ***	-.481 ***	-.598 ***
5 Global Career Difficulties				1.00	-.417 ***	-.592 ***
GSES					1.00	.592 ***
6 Generalized Self-efficacy						
CDSE						1.00
7 Career Decision Making Self-efficacy						

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

Referring to the correlation analysis it can be stated that global level of trait EI was negatively correlated to all the scales and global level of career difficulties (supporting H1). The career decision self-efficacy entered into positive significant strong correlations with trait EI and generalized self-efficacy. Then career decision self-efficacy and generalized self-efficacy were strongly positively related to each other (supporting H3), and both constructs were strongly negatively related to career decision-making difficulties (supporting H2).

Further on there was a hierarchical three-step regression analysis conducted to determine if global level of the career difficulties as dependent variable could be predicted by the career decision-making self-efficacy level (Step 1), generalized self-efficacy level (Step 2) and global trait EI level (Step 3) to support also the incremental validity of trait EI. The results are presented in Table 3.

Table 3.
Hierarchical regression analysis.

	Career Difficulties		
Step 1	F(1,305)=171.360***, R ² adj. =.358		
Step 2	F _{change} (2,304)=2.421, R ² adj. =.361, R ² change =.005		
Step 3	F _{change} (3,303)=12.564***, R ² adj. =.384, R ² change =.025		
	Beta	T	Partial correlations
Career Decision Making Self-efficacy (Step 1)	-.600	-13.090***	-.600

Career Decision Making Self-efficacy	-.547	-9.648***	-.484
Generalized Self-efficacy (Step 2)	-.088	-1.556	-.089
Career Decision Making Self-efficacy	-.486	-8.322***	-.431
Generalized Self-efficacy	.005	.084	.005
Trait EI (Step 3)	-.211	-3.545***	-.200

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

A three-step hierarchical regression was performed to investigate the prediction potential of trait EI of career decision-making difficulties level and at the same time to prove the incremental influence of trait EI over and above the career decision self-efficacy and generalized self-efficacy. The career decision self-efficacy was entered at step 1, then the career decision self-efficacy and generalized self-efficacy at step 2 and at step 3, there were both constructs followed by the global level of trait EI.

We can summarize two models (at step 1 & 3) were statistically significant. The career decision-making self-efficacy level predicted almost 36% of the variance in career difficulties level. Then at step 3, trait EI, was entered on its own above the career decision self-efficacy and generalized self-efficacy. Only the model with trait EI was found to be a significant negative predictor of career decision-making difficulties, over and above career decision self-efficacy level (H4). The generalized self-efficacy lost its influence. Trait EI predicted a significant almost 3% of unique variance in career decision-making difficulties after controlling for career decision self-efficacy level supporting incremental validity of trait EI with remaining partial correlation of $r = -.200$.

5. DISCUSSION, LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

The research ambition aimed at exploring and verifying relationships between trait EI and career indecision variables, specifically between trait EI and emotional and personality-related aspects of career decision-making difficulties, involving also other personality and career related variables (generalized and career decision self-efficacy). They were based on the assessment of career decision-making difficulties, trait EI, generalized and career decision self-efficacy of high school students in the phase of their career decision-making before the second career choice.

First three hypotheses were aimed at studying relations among the variables involved. Correlation analysis showed negative relations between global career decision-making difficulties and both self-efficacy measures (generalized and career decision), positive relations between the two self-efficacy measures (generalized and career decision), and negative relations between trait EI and global career decision-making difficulties. The findings on negative relations between global career decision-making difficulties and both self-efficacy measures (generalized and career decision) support previous findings of Betz et al. (1996), Choi et al., (2012), Jaensch, et al. (2015) who have found inverse relationships between career decision self-efficacy and career indecision, specifically career decision-making difficulties as defined in Saka, Gati and Kelly's (1996)

model and identified by the CDDQ measuring almost exclusively developmental aspect of career decision-making difficulties. Using the EPCD in our study, the research results supported the above-mentioned findings as valid also for other measures of career indecision, specifically for emotional and personality-related aspects of career decision-making difficulties as defined in the model of Saka et al. (2008). The result suggests that students with more pervasive, stable emotional and personality-related career decision-making difficulties show lower self-efficacy regarding their own abilities. This result suggests that students who believe in their own ability show higher readiness to make career decisions. Conversely, individuals who do not trust their skills seem not to handle career choices well because they might avoid decision tasks and therefore remain undecided longer.

The findings on negative relations between global career decision-making difficulties and general self-efficacy provide the evidence that self-efficacy (both generalized and career decision) seem to be important in the career decision-making process, again not only in the context of more developmental aspects of career decision-making difficulties, but also in case of more pervasive, stable emotional and personality-related aspects of career decision-making difficulties (as specified in the model by Saka et al., 2008). The result confirms that a negative appraisal of individual worthiness is associated with more career decision-making problems. This could imply that negative self-perceptions lead to problems in career decision-making.

As expected, individuals who showed higher global trait EI displayed less career decision-making difficulties, both in overall difficulties and in all three clusters of difficulties as defined in the model by Saka et al. (2008). In studying the role of EI in career decision-making difficulties, Mayer-Salovey's ability-based model and Bar On's model as the so-called mixed model linking EI with personality and abilities, have been mostly investigated (Di Fabio, & Palazzeschi, 2009; Di Fabio, Palazzeschi, & Bar-On, 2012). The studies indicate that EI is inversely associated with decision-making difficulties. Research findings support these previous studies and support the higher generality of the pattern of relationship between EI and career decision-making difficulties as being independent from the EI model compared (apart from Mayer-Salovey's ability-based model and Bar On's model the pattern is valid also for trait EI model by Petrides). And also the independence from the taxonomy of career decision-making difficulties compared (besides Gati's model of developmental aspects of career decision-making difficulties, it is valid also for Saka, Gati, and Kelly's model focused on more pervasive, stable emotional and personality-related aspects of career decision-making difficulties) has been supported.

The results support the previous findings related to the role of other EI models, specifically Mayer-Salovey's ability-based model and Bar On's model in career indecision, (Di Fabio, & Palazzeschi, 2009; Di Fabio, et al., 2012) and extend the findings on EI inverse association as valid not only for relatively developmental aspects of career decision-making difficulties, but also for more pervasive, stable emotional and personality-related aspects of career decision-making difficulties. Trait EI also explains a significant percentage of the incremental variance when compared with other personality and career related variables (generalized and career decision self-efficacy) in explaining the impact on the career decision-making difficulties involved in Saka, Gati, and Kelly's model.

There have been several limitations, especially the choice of high school students from one region in Slovakia; the specific research sample does not allow to generalize the results to other subject groups; usage of self-report instruments interfering to minimize the desirability effect, and the study design itself. Despite the mentioned limitations of the present study, the results are encouraging.

6. CONCLUSION

The original contribution of the research study is in investigating the relations of trait EI and career indecision constructs using the models not studied together yet (i.e., the Petrides' model of trait EI and the Saka, Gati, and Kelly's model of emotional and personality-related aspects of career decision-making difficulties). The main results support quite general pattern of relations between EI and career indecision. Research findings of inverse relationships between career decision self-efficacy and emotional and personality-related aspects of career decision-making difficulties as defined by Saka et al. (2008) extended previous findings as valid also for more pervasive, chronic aspects of career indecision. It is also discovered that trait EI explains a significant percentage of the incremental variance when compared with personality and career related variables (generalized and career decision self-efficacy) in explaining the impact on more stable aspects of career decision-making difficulties. The result also empirically supports the relevance of both trait EI and especially career decision self-efficacy in the career decision process. The practical implications are seen in personality diagnostics and subsequent interventions within career counseling as a means to strengthen the effectiveness of career decision making in career choice and in career development. Trait EI has a potential to help especially the Junior high school students to cope better with challenging situations in their "second career-decision making phase".

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Chapter #5

MEANING OF FOREIGNERS AMONG ESTONIAN, LATVIAN, LITHUANIAN AND RUSSIAN UNIVERSITY STUDENTS

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ABSTRACT

The purpose of this pilot study was to explore Estonian, Latvian, Lithuanian and Russian university students' conceptualizations and perceptions of foreigners. The present study examines similarities and differences between Estonian (N=118), Latvian (N=101), Lithuanian (N=101), and Russian (N=92) university students' understandings about foreigners by self-reported open-ended questionnaire. The applied categorical quantitative analysis of the data was the basis for statistical analysis of results. Results revealed that the meaning of foreigners among university students was conceptualized in society level as an exclusion of people connected with different nationality and language, whereby Russian respondents emphasized more differences in citizenship/nationality and three Baltic states respondents in cultural attitudes and values. Overall acceptance or unacceptance of foreigners tended to depend on the level – foreigners were more accepted in personal level and unaccepted in society level. University students in four study groups generally agree that foreigners have influenced them more positive than negative way, but reasons were different: Lithuanians stress more sympathy and helping behavior; Estonian and Latvian more enlargement of knowledge's with increase of tolerance; and Russian students' opinions were more connected with indirect influence by means of media, art and literature.

Keywords: concept of foreigners, attitudes towards foreigners, university students.

1. INTRODUCTION

In the last century, immigrants have entered Europe in large numbers, leading to a drastic change in demographic build-up (McLaren, 2003) and the population of foreigners in the countries of the European Union has risen sharply in recent years playing a dominant role in population growth in some countries (Organisation for Economic Co-operation and Development, 2012). The growth of immigration in Europe has been associated with an increase of anti-foreigner attitudes in a variety of European countries (Gang, Rivera-Batiz, & Yun, 2013). Immigrants (or foreigners) are perceived not only as outsiders in their new societies but also as a threat to the social, political and economic order as well as a threat to the cultural homogeneity and the national identity of the state (e.g. Scheepers, Gijberts, & Coenders, 2002).

The growing body of research on attitudes toward out-group populations in general and foreigners in European and outside European countries reveal that most people express negative attitudes toward foreigners (Bessudnov, 2016; Blinder & Markaki, 2018; Gorodzeisky & Semyonov, 2009). Also, it was reported more prejudice toward foreigners perceived as culturally dissimilar as toward more similar foreigners (Asbrock, Lemmer, Becker, Koller, & Wagner, 2014).

Attitudes toward out-group populations are influenced by three major sources: individual-level characteristics (age, education, income, employment status and political orientation); country-level attributes (size of the out-group population, economic conditions, political climate of the host societies); and perception of the size of the foreign population (Semyonov, Raijman, & Gorodzeisky, 2008). For example, previous researches (e.g. Gang et al., 2013; Kaprāns & Mieriņa, 2019; Ostapczuk, Musch, & Moshagen, 2009) had showed that attitude toward foreigners were influenced by age and education – the more highly-educated and younger citizens tend to be more positive towards foreigners. Potential main reasons underlying the education effect include a different number of positive contacts with foreign people (Wagner, van Dick, Pettigrew, & Christ, 2003) and an increased commitment to democratic norms of equality possibly associated with a higher formal education (Condran, 1979). Research has indicated that higher education is the key for decreasing negative attitudes towards minorities, but few studies (e.g. Kim, 2004; Sakai & Koike, 2011) have taken university students opinions into consideration. Due to this, university students were respondents of the present study in order to get their perspective on this matter.

2. BACKGROUND

Estonian immigration policies are dependent on international law, especially EU law and Estonia has a rather developed legal system which is well adapted for solving immigration-related problems. The analysis of the immigration showed that while the immigration to Estonia is insignificant, in most cases people arriving are those from the former Soviet Union and the EU countries, and they are mostly “invisible” immigrants (Kovalenko, 2010). Despite the fact that Latvia is trying to implement European law in the area of immigration, the total number of immigrants remains relatively low. The migration of immigrants to other European Union member States is in the increase while Latvia is still not able to integrate and support its ethnic minorities (Mensah, 2010). Immigration is a new phenomenon in Lithuania, which increased after joining the EU with a particular flow of labor migrants. The main countries of origin of newly arriving immigrants are Belarus, Russia and Ukraine whereby there are also new migrant groups from China, Turkey, and Moldova. Lithuania is still a country of emigration with increasing flows of labor immigration and the beginning process of return migration (Leončikas & Žibas, 2010). Like in the EU countries, the effects of immigration are felt in Russian society, economy and demographics with students (from Azerbaijan, Belarus, Kazastan, Turkmesnistan, Uzbekistan and China) come the third after migrant workers (from Eurasian Unions) and fellow nationals in terms of number of immigrants arriving in Russia (Bisson, 2016).

In the era of globalization that accelerates personal and cultural exchanges across countries, understanding and respecting other cultures has become more important. This is true for the three Baltic countries and Russia as these countries had experienced new migration views. For example, intolerance towards foreigners is a problem in three Baltic countries young people – surveys (e.g., Torney-Purta, Lehmann, Oswald, & Schulz, 2001) suggest that in Estonia, Latvia and Lithuania adolescents hold relatively negative views

towards foreigners, whereby in most of the European countries' respondents had positive attitudes about immigrants. Previous studies among adults in three Baltic countries (Kaprāns & Mieriņa, 2019; Paas & Halapuu, 2012) have identified differences in attitudes toward foreigners – Latvians and Estonians were less tolerant towards immigrants and Lithuanians were more tolerant.

3. RESEARCH QUESTION AND OBJECTIVE OF STUDY

This research rises a new research question: What is Estonian, Latvian, Lithuanian and Russian university students' understanding of foreigners? The research is important because previous research (Hjerm, 2001; Kaprāns & Mieriņa, 2019; Ostapczuk et al., 2009) had indicated that higher education is one of the key factors for influencing attitudes towards minorities. The purpose of this paper is to analyze similarities and differences in conceptualizations and perceptions of foreigners among Estonian, Latvian, Lithuanian and Russian university students.

4. METHOD

4.1. Samples

Four samples of university students participated in the study: 118 Estonian (89 of them were women and 29 men), 101 Latvian (96 of them were women and 5 men), 101 Lithuanian (67 of them were women and 34 men), and 92 respondents (women 64 and 28 men) from Russia (Table 1, 2). Totally, there were 412 respondents.

*Table 1.
Age profile of the respondents.*

Samples	Estonia	Latvia	Lithuania	Russia
18-19 year olds	23%	39%	43%	21%
20-21 year olds	48%	40%	22%	42%
22-23 year olds	20%	11%	24%	26%
24 year olds and older	9%	10%	11%	11%

*Table 2.
Profile of the respondents according to the study field.*

Samples	Estonia	Latvia	Lithuania	Russia
Social science	53%	73%	52%	32%
Information and technical	10%	0%	23%	21%
Human sciences	26%	17%	20%	35%
Political sciences	11%	10%	5%	12%

4.2. Instrument

Self-reported questionnaire consists of four open-ended questions in five areas: Meaning of foreigners (*What is a meaning of foreigners for you?*); reasons for acceptance of foreigners (*Are you ready to accept foreigners or otherwise minded people? Why?*); reasons for non-acceptance of foreigners (*What would you never accept concerning with foreigners or otherwise minded people? Why?*); and influence of foreigners (*Have you been influenced by foreigners or otherwise minded people? How?*).

4.3. Data analysis

The research data were received in written form giving responses to the presented open-ended questions of the developed questionnaire. Quantitative content analysis was chosen to schematically and objectively describe, classify and count the numerous responses of the respondents (Neuendorf, 2002). The responses of five open-ended questions were coded by two independent raters with each code assigned in distinct category. Inter-coder reliability between two of the researchers was 97%, with disagreements settled with a third independent rater. After manually coding, the frequencies (in percentages) of the categories were calculated for each open-ended question separately as mutually exclusive categories. Finally, several pairwise chi-square tests were used to compare the frequencies of the categories across four study group respondents' responses.

5. RESULTS

Table 3 summarizes the results of the quantitative content analysis focusing on the meaning of foreigners among four samples of Baltic state and Russian university students as calculated as frequencies of key categories and between-group differences of categories analyzed by the pairwise χ^2 -test.

Table 3.
Frequencies of key categories of meaning of foreigners (f) and calculation χ^2 for comparison between four samples of students.

Category	EE (f)	LV (f)	LT (f)	RU (f)	EE vs. LV (χ^2)	EE vs. LT (χ^2)	EE vs. RU (χ^2)	LV vs. LT (χ^2)	LV vs. RU (χ^2)	LT vs. RU (χ^2)
Different nationality and language	19%	24%	15%	51%	ns	ns	45.12	ns	15.29	28.11
Different citizenship or no citizenship	2%	6%	4%	28%	ns	ns	78.82	ns	54.78	56.76
Poor economic situation and physical state	6%	7%	30%	4%	ns	20.32	ns	15.03	ns	23.21
Different attitudes and values	30%	39%	39%	5%	ns	ns	22.88	ns	32.98	33.74
Marginalization of people	12%	14%	11%	11%	ns	ns	ns	ns	ns	ns
Needs of individual people over the group	30%	11%	2%	1%	13.35	27.87	23.53	ns	ns	ns

Notes: Estonia (EE), Latvia (LV), Lithuania (LT), Russia (RU); statistically significant differences with pairwise chi-squared test in the level of $p < 0.001$

Research results showed that four samples of students conceptualize foreigners mainly in society level: (1) differences in nationality and language, and (2) marginalization, whereby Russian students emphasized more differences in nationality and language, and differences in citizenship; and three Baltic counties students evaluated more differences in

attitudes and values. Also, Lithuanian university students conceptualize foreigners more often in terms of individual physical differences between people and Estonians expressed their own individualistic personal viewpoint by separating self from other groups of people.

An analyze of reasons for acceptance of foreigners among university students reveal overwhelming positive attitude toward foreigners with emphasis to cultural enrichment (Table 4). Additionally, the reasons why young people in three Baltic countries accepted foreigners were different in personal level: (1) Estonian students were more prone to accept foreigners and otherwise minded people by expressing more often the attitude that all people are equal; (2) Latvian, Lithuanian and Russian students expressed more often the opinion to accept foreigners when there is a mutual respect, common values, moral and understandings between people.

Table 4.
Frequencies of key categories of reasons of acceptance of foreigners (f) calculation χ^2 for comparison between four samples.

Category	EE (f)	LV (f)	LT (f)	RU (f)	EE vs. LV (χ^2)	EE vs. LT (χ^2)	EE vs. RU (χ^2)	LV vs. LT (χ^2)	LV vs. RU (χ^2)	LT vs. RU (χ^2)
Acceptance: differences enrich culturally	31%	28%	30%	31%	ns	ns	ns	ns	ns	ns
Acceptance: mutual respect and common values	14%	32%	36%	36%	8.05	4.05	4.08	ns	ns	ns
Acceptance without dangerous and violent behaviour	14%	12%	13%	14%	ns	ns	ns	ns	ns	ns
Attitude: All people are equal	47%	20%	21%	19%	26.44	23.29	32.37	ns	ns	ns

Notes: Estonia (EE), Latvia (LV), Lithuania (LT), Russia (RU); statistically significant differences with pairwise chi-squared test in the level of $p < 0.05$ or $p < 0.001$

Results of analyze of reasons for non-acceptance of foreigners among three study samples are presented in the table 5. It was revealed that foreigners were less accepted on society level being not tolerant against aggression and violence, whereby three Baltic countries respondents tolerate less discrimination and religious extremism; and Russian compliance more cultural traditions and rules.

Table 5.
Frequencies of key categories of un-acceptance of foreigners (f) calculation χ^2 for comparison between four samples.

Category	EE (f)	LV (f)	LT (f)	RU (f)	EE vs. LV (χ^2)	EE vs. LT (χ^2)	EE vs. RU (χ^2)	LV vs. LT (χ^2)	LV vs. RU (χ^2)	LT vs. RU (χ^2)
Society level: aggression and violence	28%	22%	24%	30%	ns	ns	ns	ns	ns	ns
Society level: discrimination and extremism	49%	56%	50%	17%	ns	ns	18.63	ns	6.96	19.39
Society level: people do not follow cultural traditions and rules	4%	2%	3%	35%	ns	ns	31.92	ns	36.73	27.85
Group level: sexual minorities and disabled people	17%	20%	23%	18%	ns	ns	ns	ns	ns	ns

Notes: Estonia (EE), Latvia (LV), Lithuania (LT), Russia (RU); statistically significant differences with pairwise chi-squared test in the level of $p < 0.05$ or $p < 0.001$

The last question in the questionnaire was related with personal influence of foreigners and research results indicated that university students in four study groups had generally more positive than negative views toward foreigners connected with the influence on them, whereby negative feelings were related to personal experiences about insecurity and unpredictable behavior and different customs; and at the other side – foreigners as positive models as strong people who can survive and adapt in society. Additionally, some reasons why foreigners can positively influence personally students were different: (1) Lithuanians emphasized more sympathy and helping behavior, (2) Estonians and Latvians more enlargement of their knowledge with an increase of tolerance towards foreigners, and (3) Russian students' opinions were more connected with indirect positive influence by means of media, visual art, literature, music, movies, theatre, TV programmes and other art forms (Table 6).

Table 6.
Frequencies of key categories of influence of foreigners (f) calculation χ^2 for comparison between four samples.

Category	EE (f)	LV (f)	LT (f)	RU (f)	EE vs. LV (χ^2)	EE vs. LT (χ^2)	EE vs. RU (χ^2)	LV vs. LT (χ^2)	LV vs. RU (χ^2)	LT vs. RU (χ^2)
Positive influence: sympathy and helping behaviour	5%	8%	40%	4%	ns	16.1	ns	10.66	ns	14.82
Positive model of strong people	28%	27%	11%	5%	ns	ns	9.54	ns	8.70	9.73
Positive influence: knowledge's and experiences with increase of tolerance	31%	30%	10%	10%	ns	9.94	9.14	ns	7.51	ns
Negative influence: insecurity about peoples unpredictable behavior and customs	26%	25%	28%	25%	ns	ns	ns	ns	ns	ns
Indirect positive influence by music, literature, movies etc	10%	10%	11%	56%	ns	ns	37.98	ns	36.62	43.22

Notes: Estonia (EE), Latvia (LV), Lithuania (LT), Russia (RU); statistically significant differences with pairwise chi-squared test in the level of $p < 0.001$

6. CONCLUSION/DISCUSSION

The meaning of foreigners among Estonian, Latvian, Lithuanian and Russian university students was generally conceptualized in society level as an exclusion of people with different nationality and language, and marginalization of people. Braun, Behr and Kaczmirek (2013) analyzed the cross-national equivalence of the meaning of the term “immigrants” and found that the perception of immigrants was determined by a general representation of immigrants as well as a representation by the most dominant ethnic minority group, which differed from country to country. Also, Asbrock et al. (2014) found that the meaning of foreigners was dominantly connected with largest groups of people with migration background in the country. Present results indicated that university students conceptualized foreigners broader than ethnic minority group in society – socially excluded and marginalized people reflecting historical-philosophical roots of the condition of the migrant (Utrela, 2016). Following sociocultural perspectives present study reveal that university students’ conceptions of foreigners differed cross-culturally – Russian respondents emphasized more differences in citizenship/nationality and languages, and three Baltic states respondents in cultural attitudes and values. Additionally, it was revealed that the meaning of foreigners for Estonian university students was conceptualized more from individualistic than collectivistic cultural perspective, supporting corresponding tendencies among young peoples’ citizenship behavior (Krzywosz-Rynkiewicz, Zalewska,

Kõiv, Zuzeviciute, & Vidnere, 2018). Thus, the meaning of foreigners among Estonian, Latvian, Lithuanian and Russian university students mainly stem from cultural differences as the out-group from the society with referring to social identity theory (Bobo & Hutchings, 1996).

All four study group university students were generally open and tolerant toward foreigners in individual differences evoked from cultural enrichment, but their attitudes showed some variation: Estonian students expressed more the attitude that people are equal; and Latvian, Lithuanian and Russian respondents were more prone to express positive attitude towards foreigners when there is mutual respect and common values. Thus, acceptance of foreigners of university students tended to depend on the attitudes in the individual level, and the unacceptance of the foreigners reflects the polarization of opinions in the society level. Namely, negative attitudes toward foreigners among four groups of university students tended to be more pronounced against aggression, violence, discrimination and extremism in society, whereby the dominant reason for non-tolerance tended to be different – discrimination and extremism for three Baltic countries students, and not following of cultural traditions and rules for Russian students. Also, Sakai and Koike (2015) found that university students' attitudes towards foreigners were confounding, but dominantly positive and the same tendency was specified in the present study – an overall acceptance in the personal level, but un-acceptance in society level in terms of threatens of equality and security.

Although, university students tended to have tolerant attitudes towards foreigners, but ambivalent experiences concerning with influence of foreigners. At one side, the influence of foreigners in terms of personal positive experiences for three Baltic countries students was direct and to Russian university students tended to be indirect; and at one side – negative personal experiences for most of the respondents were related to insecurity evoked from peoples' unpredictable behavior and different customs. Also, Kim (2004) found that college students' attitudes toward minorities were more influenced by subjective factors than by demographic characteristics and family backgrounds.

This pilot study draws on questionnaire data exploring understandings of the foreigners with special focus on the difference between meaning of foreigners between one segment of young adults – university students, among four country samples; and the findings may not be generalizable to the broader samples of young adults in other countries. Regarding methodology, the constructs in the present study were assessed using self-report measures and future research using multiple methods is desirable to replicate the findings. Even though analyzing data among relatively small four countries' samples, it may be argued that the results are important for other countries as well, especially planning surveys for future research in the area of attitudes toward foreigners, there is a challenge for specification of the meaning of main concept for the specific target groups.

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Chapter #6

MEASURING PERSONAL ATTITUDES TOWARD SOCIAL NORMS

Development of the Descriptive/Injunctive Norm Preference Scale (DINPS)

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ABSTRACT

The development of the *Descriptive/Injunctive Norm Preference Scale (DINPS)*, measured individual differences in personal attitudes toward social norms, was reported. Cialdini, Kallgren, and Reno (1991) distinguished social norms into two types. Descriptive norm is what behavior most people engage in a particular situation, which is reflected in perceived typicality. Injunctive norm is what people approve/disapprove. A 90-item pilot scale inquired personal attitudes toward descriptive/injunctive norms was adopted to a research panel consisted of 400 Japanese adults. An exploratory factor analysis extracted 3 factors out of selected 55 items; F1: Apprehension of deviance from descriptive norms, F2: Regard for injunctive norms, and F3: Aversion to injunctive norms. The main study tried to replicate the factor-structure, and to examine the content validity of the scale, with an anew research panel of 400 Japanese adults. A confirmatory factor analysis indicated the goodness of fit to be fair to the 3-factor model. The 3 subscales were highly reliable ($\alpha > .85$), and significantly correlated to the *need for uniqueness scale* (Snyder & Fromkin, 1977), the *F-scale* (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1951), and the *individual and social orientedness scale* (Ito, 1993) as a priori hypothesized. These results provided some evidence for the validity and usability of the *DINPS*.

Keywords: injunctive and descriptive norms, scale development, factorial validity, content validity.

1. INTRODUCTION

1.1. Background

Social norms can be defined as common beliefs about behavioral standards that are considered socially acceptable or appropriate in a given situation. In spite of some criticism, a lot of psychologists regarded social norms as an important concept in explaining human social behaviors (e.g. Berkowitz, 1972; Deutsch & Gerard, 1955; Fishbein & Ajzen, 1975; McKirnan, 1980; Pepitone, 1976; Sherif, 1936; Staub, 1972; Triandis, 1977). A lot of studies provided evidence that social norms can affect on actual behaviors, such as looking up at the sky, littering in public places, consuming behaviors (Bickman, 1972; Milgram, Bickman, & Berkowitz, 1969; Venkatesn, 1966).

Some sociologists and social psychologists, however, criticized from the viewpoint of the equivocality which complicated its operational definition and empirical testing (Darley & Latane, 1970; Garfinkel, 1967; Krebs, 1970; Krebs & Miller, 1985; Marini, 1984; Mehan & Wood, 1975). Accordingly, Cialdini (1988) distinguished social norms into two types. Descriptive norm is decided by what most people do in a particular situation, which may

bring about perceived typicality. On the other hand, injunctive norm is defined by moral rules, which reflects what people approve/disapprove. In many cases, these types of norms agree with each other. People recognize thieving as vice, and most people do not engage in such a misdeed. In some cases, however, descriptive norms can conflict with injunctive norms. Although people think they should not litter in public places, rubbish on the ground may indicate that many people litter habitually. When the two types of norms are disparate, the descriptive norms have greater effects on individuals' behaviors than the injunctive norms do (Cialdini, Reno, & Kallgren, 1990).

Our previous researches tried to reveal affective states when people obey/violate social norms. Sano, Kuroishi, & Erlandsson (2010 September) showed Japanese people feel calmer and have less negative affects when they follow descriptive norms. These tendencies seemed to be robust across demographic and cultural backgrounds. Exploration about genders, age-groups, and some other individual differences such as fear of success among Japanese (e.g. Kuroishi & Sano, 2013), and especially individualism-collectivism and need for uniqueness across East Asian countries (Kuroishi & Sano, 2015; Sano & Kuroishi, 2015), indicated these factors were irrelevant to the affective states. Only the within-subject examination revealed rejection sensitivity moderate the affective reactions to social norms in Japan (Kuroishi & Sano, 2017).

1.2. Objectives

This study tried to construct a scale that assess directly how people prefer to obeying/violating descriptive/injunctive norms, named the *Descriptive/Injunctive Preference Norm Scale (DINPS)*. The first step was to explore the factor structure of the pilot version, and to select items for the main version of the *DINPS*. The second step tried to examine the factorial validity by a confirmatory factor analysis, and content validity by analyzing the correlation with other scales measuring the relevant psychological constructs.

Three scales were adopted to examine the content validity. First, the *need for uniqueness scale* was adopted, because this scale was developed by Snyder & Fromkin (1977), who looked at "deviation from group norms" from a positive perspective. Therefore, this scale can be considered to reflect a construct conceptually opposite to what *DINPS* measures. Second, the *F scale* was taken up as a scale related to the injunctive norm. The *F scale* was created by Adorno and his colleagues (see Adorno et al., 1951), and attempts to measure the potentially antidemocratic personality which has to do with the moral aspect of life. So the *F scale* can be said to be conceptually related to *DINPS*, especially to injunctive norm. Finally, the *individual and social orientedness scale* (Ito, 1993) was adopted, and this scale measures the process of orienting and adapting to others and society and the process of orienting and establishing oneself. In the process of orienting others and society, how to recognize and internalize norms plays an important role. From this point of view, it is considered that this scale conceptually overlaps with the content measured by *DINPS*.

2. METHODS

2.1. Data collection

Web questionnaire survey was applied to acquire two research panels who have registered with Neo Marketing Inc. Each panel consisted of 400 Japanese adults, which were planned to be obtained equally from four demographic groups; genders (males and females) x age-groups (aged 20-39 and 30-59). Data were collected successfully for all cells. The first sample consisted of 100 younger males (aged $M=33.7$, $SD=4.65$), 100 older males (aged $M=51.0$, $SD=5.25$), 100 younger females (aged $M=32.0$, $SD=4.63$), and 100

older females (aged $M=47.9$, $SD=5.21$). The second sample consisted of 100 younger males (aged $M=33.4$, $SD=4.87$), 100 older males (aged $M=51.0$, $SD=5.63$), 100 younger females (aged $M=32.8$, $SD=4.92$), and 100 older females (aged $M=49.0$, $SD=5.44$).

2.2. Measures

In the first survey, the pilot version of *DINPS* was applied to the respondents. The second survey included the main version of the *DINPS* and some other scales measuring the relevant psychological constructs to examine the content validity of the *DINPS*.

2.2.1. *DINPS*

In the first survey, 90 items were generated de novo for the pilot version of the *DINPS*, conceptually originated from the Cialdini's theory of social norms. Each of the items referred to cognition, emotion, or behavior along with when people obey or violate descriptive/injunctive norms. According to the exploratory factor analysis from the first survey data, 55 items were selected for the following study. The main version of 55 items was used in the second survey to examine the factorial and content validity of the scale. The *DINPS* asked the respondents to read the statements about descriptive/injunctive norms carefully, and decide how they agree to the opinion expressed in each item on 5-point rating, from "strongly disagree" (1) to "strongly agree" (5). The items were arranged randomly and displayed to each respondent.

2.2.2. Other Relevant Scales

In the second survey, three other scales which assess the relevant psychological constructs were included. 1) The *need for uniqueness scale* (Snyder & Fromkin, 1977, 1980); 32 items. 2) The *F scale* (Adorno et al., 1951); 29 items which composed 9 subscales as "conventionalism", "authoritarian submission", "authoritarian aggression", "anti-intraception", "superstition and stereotypy", "power and toughness", "destructiveness and cynicism", "projectivity", and "sex". 3) The *individual and social orientedness scale* (Ito, 1993); 30 items which measured two aspects of social orientedness (positive/negative) and individual orientedness (positive/negative). Respondents completed all of the three scales in the second survey.

2.3. Procedure

Participants were invited to participate in this study by the Neo Marketing Inc. They were guided to access to the website, and completed the questionnaire with agreement with providing their data for this study. Therefore, this study engaged no conflict with ethical issues.

3. RESULTS

For the first data set, an exploratory factor analysis by maximum likelihood extraction with a varimax rotation was conducted. Three-factor solution was adopted according to the scree plot. In consideration of a simple structure of the scale as a whole (i.e. the factor loadings on a principal factor were greater than .45, and on other factors were less than .30) and internal consistency of each factor, items were selected for a subsequent analysis. Subsequently, an exploratory factor analysis by maximum likelihood extraction with a promax rotation was conducted on the 41 selected items of the scale.

The results indicated 3-factor structure as assumed. The extracted factors were interpreted and named as follows. F1: Apprehension of deviance from descriptive norms (e.g. “I am worried about whether I behave differently from the surrounding people.”), F2: Regard for injunctive norms (“Rules are important for everyone to live comfortably.”), and F3: Aversion to injunctive norms (“Traditions and customs are stuffy.”). The inter-factor correlation coefficients were $r_{F1-F2}=.36$, $r_{F2-F3}=.08$, and $r_{F3-F1}=.08$, respectively. These results suggested approximately simple structure of the scale. The Cronbach’s α coefficients of the nisi subscales were $\alpha_{F1}=.96$, $\alpha_{F2}=.92$, and $\alpha_{F3}=.86$ respectively, which indicated substantially high reliability.

Subsequently, an exploratory factor analysis by maximum likelihood extraction with a promax rotation was conducted for the second data set. Three-factor solution was adopted according to the pilot analysis. All the items loaded the most on the expected factor. The factor structure of the pilot data was replicated by the current data.

Mainly, a confirmatory factor analysis indicated the goodness of fit to be fair to the 3-factor model which was hypothesized from the pilot study (RMR=.070; RMSEA=.068, 90%CI [.065, .070]). The factors were interpreted in the same way as the pilot analysis; F1: Apprehension of deviance from descriptive norms, F2: Regard for injunctive norms, and F3: Aversion to injunctive norms (see Table 1).

Table 1.
Standardized factor loadings estimated by confirmatory factor analysis.

Item Details	F1	F2	F3
I want to do the same with everyone.	.789		
It is embarrassing unless I do the same behavior as the surroundings.	.731		
I am worried about whether I behave differently from the surrounding people.	.718		
I'd like to do the same thing as everyone.	.727		
I want to do the same by looking at the behavior of people around me.	.798		
I am careful not to get out of what everyone is doing.	.724		
I am worried that I am not doing the same thing as everyone else.	.734		
I am relieved that I am doing the same as the surrounding people.	.753		
I want to adopt what many people do.	.762		
I am too embarrassed to behave in the different way from others.	.680		
I am concerned about being out of touch with other people.	.774		
I feel nervous when I am different from other people.	.715		
I act like people around me before I know it.	.761		
It is better to tailor to the behavior many people do.	.735		
I am okay when I follow the things people do.	.736		
I cannot stop looking at what everybody is doing.	.644		
I feel quite safe when keeping the same behavior as other people.	.741		
I often behave like the surrounding people at first.	.778		
It is safe to obey the major opinion, even though it is different from my own opinion.	.671		
It is better to do in concert with everyone.	.700		
I am concerned about the state of the surrounding people.	.721		
Apart from my opinions, it is better to behave in the same way as everyone.	.706		

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I look down on those who behave differently from everyone.	.540
I often slip my eyes attracted towards behaviors of the surrounding people.	.619
I don't want to act out of the surroundings.	.769
<hr/>	
I try to keep rules and regulations.	.756
It is better to keep rules.	.778
Rules are important for everyone to live comfortably.	.759
I want to act socially appropriate.	.784
It is natural to observe rules.	.781
It is not good to break rules.	.746
I feel anger for those who do not follow rules.	.677
It is not good to ignore customs and customs.	.513
I want to make rules so that confusion will not occur.	.617
I feel guilty when in breaking rules and regulations.	.662
An old custom has some meaning.	.527
There are many customs which do not fit the present era.	.406
There are some worthless rules.	.425
I am relieved when under rules and regulations.	.680
I feel uneasy when I don't keep rules and regulations.	.639
Rules and regulations are not necessary for our lives.	-.336
I am sensitive to the rule and the regulation to protect.	.572
<hr/>	
I do not want to obey customs and traditions.	.719
I am not concerned about customs and traditions.	.679
Traditions and customs are stuffy.	.659
I don't want to be tied down with customs.	.614
I don't want to be bound by rules.	.560
I don't like to behave in the same way as everyone else.	.491
I don't like customs or traditions.	.718
It does not matter whether I can follow customs and traditions.	.676
I don't mind even if I break customs and traditions.	.637
I don't care about customs and traditions.	.672
I really hate rules and regulations.	.542
I feel stressed in observing rules and regulations.	.509
One should carry the opinion once he/she believe to be right, even though contrary to the public convention.	.506

Note: The original version is in Japanese, and translated in English.

The inter-factor correlation coefficients were $r_{F1-F2}=.367$, $r_{F2-F3}=-.142$, and $r_{F3-F1}=.117$, respectively. These correlations suggested a structure in which the first and the second axes were oblique and other pairs of the axes were almost orthogonal.

Most of the subscales approximately followed normal distributions. Descriptive statistics of four scales were shown in Table 2. All the subscales showed moderate averages, and there were no worries concerning ceiling or floor effects. The standard deviations were less than 1.00 on all subscales, which indicated relatively low scatter.

Table 2.
Descriptives of the four scales.

Scales	<i>M</i>	<i>SD</i>
<i>DINPS</i>		
a: Apprehension of deviance from descriptive (23 items; $\alpha=.96$)	2.94	0.65
b: Regard for injunctive (9 items; $\alpha=.91$)	3.42	0.55
c: Aversion to injunctive norms (9 items; $\alpha=.86$)	2.93	0.56
<i>Need for uniqueness scale</i>		
d: Need for uniqueness (32 items)	2.89	0.34
<i>F scale</i>		
e: Conventionalism (4 items)	0.47	0.78
f: Authoritarian submission (7 items)	0.25	0.64
g: Authoritarian aggression (8 items)	0.10	0.72
h: Anti-intraception (4 items)	0.19	0.72
i: Superstition and stereotypy (6 items)	0.23	0.68
j: Power and toughness (7 items)	-0.09	0.65
k: Destructiveness and cynicism (2 items)	0.08	0.93
l: Projectivity (5 items)	-0.21	0.78
m: Sex (3 items)	-0.05	0.85
<i>Individual and social orientedness scale</i>		
n: Social Orientedness (positive) (9 items)	3.31	0.62
o: Social Orientedness (negative) (6 items)	3.02	0.66
p: Individual Orientedness (positive) (8 items)	3.20	0.55
q: Individual Orientedness (negative) (7 items)	2.97	0.61

Note: *DINPS*, the *need for uniqueness scale* and the *individual and social orientedness scale* were measured by 5-point Likert scale (1-5). The *F scale* used 7 point Likert scale (1-7) and transformed as follows: 1 into -3, 2 into -2, 3 into -1, 4 into 0, 5 into 1, 6 into 2, and 7 into 3. This was because, although measurement methods were from 1 to 7 due to implementation restrictions, the original scale ranged from -3 to 3. Some items of the *F scale* overlap among subscales.

Correlation analyses to examine the content validity of the *DINPS* were shown in Table 3. As expected, “apprehension of deviance from descriptive” and “regard for injunctive” were correlated negatively with “need for uniqueness” ($r=-.51, p<.001$ and $r=-.38, p<.001$, respectively), on the other hand, “aversion to injunctive norms” were correlated positively with “need for uniqueness” ($r=.36, p<.001$).

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Table 3.
Inter-subscale correlation coefficients.

	<u>DINPS</u>		
	a: Apprehension of deviance from descriptive norms	b: Regard for injunctive norms	c: Aversion to injunctive norms
<u>Need for uniqueness scale</u>			
d: Need for uniqueness	-.51***	-.38***	.36***
<u>F scale</u>			
e: Conventionalism	.10	.42***	-.07
f: Authoritarian submission	.27***	.39***	.04
g: Authoritarian aggression	.21**	.25***	.13**
h: Anti-intraception	.17**	.22***	.11*
i: Superstition and stereotypy	.19***	.34***	.21***
j: Power and toughness	.23***	.07	.24***
k: Destructiveness and cynicism	.27***	.15**	.11*
l: Projectivity	.19***	-.02	.31***
m: Sex	.24***	.13**	.18***
<u>Individual and social orientedness scale</u>			
n: Social orientedness (positive)	.28***	.54***	-.08
o: Social orientedness (negative)	.72***	.23***	.16**
p: Individual orientedness (positive)	-.38***	.16**	.08
q: Individual orientedness (negative)	-.05	-.00	.53***

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

Also, “apprehension of deviance from descriptive” and “regard for injunctive” were positively correlated with “social orientedness”. These results were consistent with an assumption. As “social orientedness” measured one’s concern for others/society and external adjustment, it was obvious that observing or concerning for descriptive and injunctive norms fitted conceptually with “social orientedness”. The *F scale* was related with injunctive norms. Specifically, “conventionalism” and “authoritarian submission” of the *F scale* were positively correlated with “regard for injunctive norms”. In addition, “aversion to injunctive norms” was positively correlated with “projectivity”, “Power and toughness” and “Superstition and stereotypy” ($r = .31, p < .001, r = .24, p < .001, r = .21, p < .001$, respectively).

4. FUTURE RESEARCH DIRECTIONS

This study examined a reliability and content validity of the *DINPS*. As results showed, the *DINPS* had high reliability and related adequately with three scales measuring the relevant psychological constructs. This study conducted only in Japan. As descriptive/injunctive norm preference is universal psychological process, and cross-cultural studies are needed in future. Although preferences for descriptive/injunctive norms are considered to be universal across cultures as noted earlier, the meaning and interpretation of those norms may differ from one culture to another. In particular, it is obvious that a culture with a large number of options in which individual freedom is respected, and a culture in which rules are to be prioritized over individual freedom have different meanings in keeping or breaking social norms.

The *DINPS* is considered possible to use practically. For example, one can distinguish between people who respond differently to descriptive/injunctive norms. In order to confirm the aptitude of the various tasks performed in the workplace, the *DINPS* can predict behaviors when a person responds in various concrete situations. There is a difference between those who are suitable for a conservative workplace that follows customary practices and those who are suitable for a workplace that requires free thinking and innovation. By using the *DINPS*, it is possible to qualify candidates and promote matches for their workplaces.

5. CONCLUSION/DISCUSSION

This study developed a scale to measure personal preferences for injunctive and descriptive norms named *DINPS*, and examined its reliability and content validity. First, the *DINPS* showed high reliability indicated by Cronbach's α coefficients of the 3 subscales.

Second, theoretical predictions were supported and content validity of the *DINPS* was found to be sufficiently high. The *DINPS* measured anxiety about deviance from descriptive norms and respect for injunctive norms. They were negatively associated with need for uniqueness and positively related with authoritarian personalities measured by the *F scale*. Both need for uniqueness and authoritarian personalities are closely connected to the *DINPS* conceptually. Also, observing or concerning for descriptive and injunctive norms fitted conceptually with the social orientedness. Although we had not achieved any prediction, "aversion to injunctive norms" was positively correlated with the negative scale of "individual orientedness". According to Ito (1993), "individual orientedness" measures an orientation to self and internal adjustment, which means putting values on one's own internal standards. And the negative scale of "individual orientedness" measured one's maladaptive state (Ito, 1993). Therefore, the aversion to the injunctive norms measured by the *DINPS* is considered to include personal values, especially with regard to maladaptational conditions.

The relationship between the *DINPS* and individual adaptation is an important topic to consider. Because the sensitivity of an individual to compliance or deviation from norms affects how well he/she adapts in the social environment. Complying with injunctive norms means following the rules of society, and observing to descriptive norms means maintaining a harmonious relationship with the people around them. Therefore, it can be said that the sensitivity to compliance and deviation from those norms functions as a monitor which reflects the state of adaptation.

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Chapter #7

RESTING STATE EEG POWER ANALYSIS IN FILIPINO CHILDREN WITH DYSLEXIA

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ABSTRACT

Dyslexia is a neurodevelopmental disorder characterized by severe and persistent reading difficulties despite normal intellectual functioning and appropriate schooling. To better understand the neural underpinnings of dyslexia, this study investigated the neurophysiological differences between normal readers (NR group, n = 4) and readers with dyslexia (DYS group, n = 5) by analyzing their brain activity at eyes-closed resting state using mobile electroencephalography (mobile EEG). The results revealed that the *DYS* group exhibited an overall larger power activation in the theta and beta frequency bands, as well as a dominance of delta, theta, and beta frequencies across all scalp sites. Increased delta and theta activity was found in the left frontal region, whereas significantly stronger beta power was found in the right hemisphere. Moreover, weaker alpha activity was observed in the left frontal and right posterior regions. These findings provide evidence of an atypical and less integrated linguistic network in dyslexia.

Keywords: dyslexia, reading, mobile EEG, resting state.

1. INTRODUCTION

1.1. Dyslexia

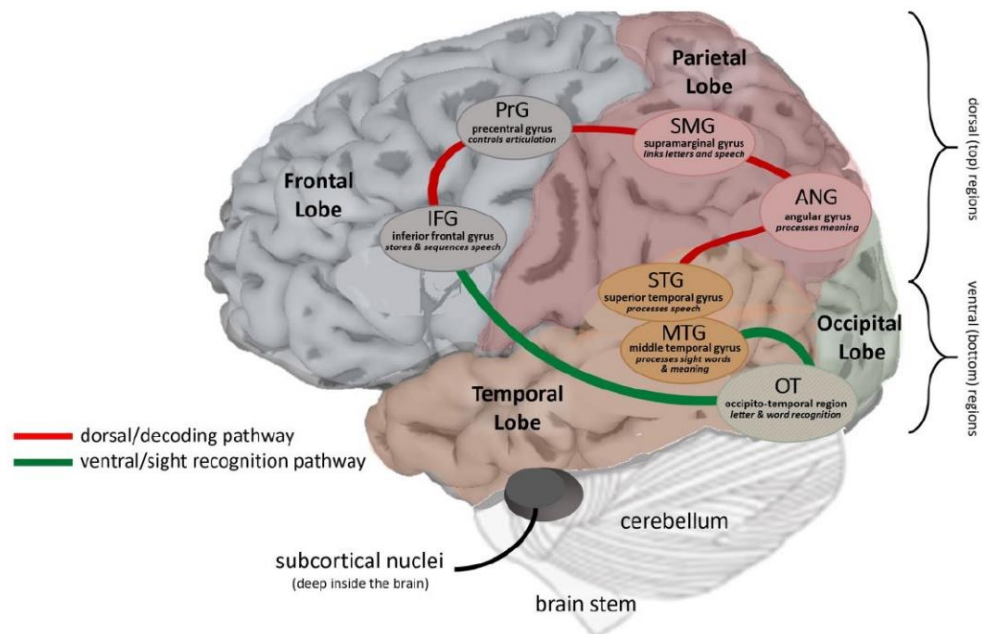
Dyslexia is a neurodevelopmental disorder characterized by severe and persistent reading deficits in both children and adults despite normal intellectual functioning and having been provided with educational opportunities (Pina Rodrigues et al., 2017). Over the years, dyslexia has been examined carefully and intensively by researchers who have attempted to determine its genetic, neurobiological, and cognitive components (Snowling, 2013). Although dyslexia is usually only diagnosed after two to three years of schooling, neuroanatomical precursors have been identified in pre-reading children at family risk for the disorder (Goswami, Power, Lallier, & Facioetti, 2014; Raschle, Zuk, & Gaab, 2012; Clark et al. 2014). Indeed, dyslexia is both familial and heritable, with family history as one of the most important risk factors. There is substantial evidence derived from twin and family studies for the genetic factors of dyslexia (Olson et al., 2013), and these findings have educational implications. That is, if a child has a parent or a sibling with dyslexia, it is important that the child is carefully observed for signs of reading difficulties (Caylak, 2010; Shaywitz & Shaywitz, 2008).

1.1.1. Neurobiology of reading and dyslexia

A number of interrelated neural systems, primarily located in the left hemisphere, are involved in reading (Shaywitz & Shaywitz, 2008). The *dorsal system* involves phonologically-based reading and facilitates grapheme-phoneme conversions. This network constitutes the left dorsal temporo-parietal circuit around Wernicke's area and includes the posterior superior temporal gyrus and the inferior parietal lobule. Next, the *ventral system*, which is associated with visual-orthographic word recognition, involves the left ventral occipito-temporal circuit, consisting of the lateral extrastriate, fusiform, and inferior temporal regions where the visual word form area (VWFA) is found. Finally, the *anterior system* facilitates speech articulation and word analysis, and includes the left inferior frontal circuit around Broca's area consisting of the inferior frontal and precentral gyri (Martin, Schurz, Kronbichler, & Richlan, 2015; Richlan, 2014).

Figure 1.

The cortical reading framework (Kearns, Hancock, Hoeft, Pugh, & Frost, 2019).



In learning how to read, children must be able to transform visual symbols (graphemes) into their corresponding units of sound (phonemes). A very critical portion of the brain involved in this process is the posterior brain region, which is comprised of the angular gyrus and supramarginal gyrus in the inferior parietal lobule, as well as the posterior aspect of the superior temporal gyrus. Readers with dyslexia experience a disruption in these areas which requires compensation in the anterior region, including the inferior frontal gyrus and right posterior areas playing an important role in speech articulation. This anterior system is believed to help readers with dyslexia develop an awareness of the sound structure of the word by forming the word with their lips, tongue, and vocal apparatus, allowing them to read albeit very slowly and inefficiently. The posterior system, which includes the right occipito-temporal region, facilitates visual pattern recognition, thereby compensating for the impaired word analysis that occurs in the left posterior regions.

1.2. EEG

In the field of neurodevelopmental research, traditional neuroimaging modalities such as electroencephalography (EEG) have a long and productive history (Loo, Lenartowicz, & Makeig, 2015; McLoughlin, Makeig, & Tsuang, 2014). EEG is the oldest non-invasive tool to record human brain activity by means of capturing summed electrical field activity (measured in voltage) produced by pyramidal cortical neurons that are aligned parallel to the scalp, allowing the investigation of brain responses to external stimuli (Lau-Zhu, Lau, & McLoughlin, 2019). EEG data are commonly analyzed in terms of brain frequencies which are obtained using data extraction techniques (i.e., extracting frequency bands, usually between 1–70 Hz). These frequency bands range from low to high: delta (δ ; 0–4.0 Hz), theta (θ ; 4–8 Hz), alpha (α ; 8–12 Hz), beta (β ; 12–25 Hz), and gamma (γ ; 25–100 Hz).

Despite its poor spatial resolution, EEG has excellent temporal resolution in the order of milliseconds, thereby permitting the examination of fast neuronal dynamics in the brain. Traditional EEG systems present one major limitation: They are restricted to the laboratory due to heavy amplifiers and an extensively wired system with many cables and connections, which can limit its potential to study a variety of processes with a wide range of populations and address research questions (Lau-Zhu et al., 2019). Other disadvantages include lack of mobility and high cost of equipment (Nooner & Kerupetski, 2017). Meanwhile, the last decade has witnessed the rapid development of novel brain imaging tools and among these is mobile electroencephalography (mobile EEG), which allows researchers to flexibly record real-time brain activity (de Vos & Debener, 2013).

1.2.1. Mobile EEG

Several terms are associated with mobile EEG – portable, wearable, wireless, and dry – and they all highlight the flexibility and convenience it offers (Poulsen, Kamronn, Dmochowski, Parra, & Hansen, 2017; Wascher et al., 2016). Commonly involved in a wide range of consumer-oriented applications such as motor imagery (Lopez-Gordo, Perez, & Minguillon, 2019), gaming control (Cattan, Mendoza, Andreev, & Congedo, 2018), sleep monitoring (Baron et al., 2018; Burgdorf et al., 2018), ‘brain training’ (Kimura & Okuda, 2018; Olfers & Band, 2017), and sports performance enhancement (Park, Fairweather, & Donaldson, 2015), rapid developments and dramatic changes continually take place to further promote its utility as a research-grade system that is suited to medical and scientific research (Rough, Chapman, Bartolomeo, Gonzalez, & Strauss, 2019). Eventually, researchers in the field of neuroscience began to perceive mobile EEG as a more accessible form of neurotechnology that can obtain information about underlying neural processes in a quick and expedient manner. Furthermore, several academic journals have even released special issues dedicated to the efficacy of mobile EEG as a neuroscientific tool.

Why Mobile EEG? Whereas traditional EEG systems have incredibly complex laboratory based set-ups, mobile EEG devices are ‘wearable’ wherein participants are free to stand up and walk at any point during recordings (Bateson, Baseler, Paulson, Ahmed, & Asghar, 2017). Recent developments have led to the use of dry electrodes which reduces preparation time and eliminates the need to apply conductive gel or a saline patch that is typically required in traditional EEG (Liao et al., 2012). Moreover, mobile EEG has proven to be flexible and convenient for task stimuli presentations on computers and laptops (Soto et al., 2018), smartphones and tablets (Debener, Emkes, De Vos, & Bleichner, 2015; Griffiths, Mazaheri, Debener, & Hanslmayr, 2016), and augmented-reality eyewear (Duvinaige et al., 2013). For pediatric populations, mobile systems minimize both equipment burden and burden on participants and their families from travelling by allowing testing in convenient locations such as homes and schools (Lau-Zhu et al., 2019).

Mobile EEG as an assessment tool for dyslexia. Mobile EEG has been considered to be an excellent candidate as a quantitative neurobiological measure that is much more feasible and less expensive than other neuroimaging modalities, including traditional EEG and magnetic resonance imaging (MRI) (Loo et al., 2015). An increasing number of studies looking into the functionality of mobile EEG have considered its suitability for children with neurodevelopmental disorders, especially dyslexia.

Dyslexia is a complex, multifaceted disorder that impacts brain function across the lifespan and it is unlikely that different children with dyslexia manifest the same clinical presentation (Snowling, 2013; van der Leij, 2013). Although a plethora of studies have reported that dyslexia is caused by impaired phonological awareness (Goswami et al., 2014; Goswami, 2016; Pammer, 2014; Ramos, 2013), there is an increasing amount of evidence that supports the possibility of a core visual deficit (Bogon, Finke, & Stenneken, 2014; Franceschini, Gori, Ruffino, Pedrolli, & Facoetti, 2012, Franceschini et al., 2013; Gabrieli & Norton, 2012; Giovagnoli, Vicari, Tomassetti, & Menghini, 2016). Given the complex nature of dyslexia, there is a need for brain-based assessments that can directly identify each child's strengths and weaknesses and develop specialized treatments to address individual issues. Whereas current methods of brain-based assessments are generally costly and not widely available, an increasing number of researchers are realizing the potential of mobile EEG as a means to bring these to schools and the community. However, more research is needed to examine whether research-grade mobile EEG systems can outweigh investment in a traditional EEG lab, and if signal quality can be maintained in these systems as they are used on neurodevelopmental populations.

1.3. Resting State EEG

One approach to understanding dyslexia is through analyzing resting state activity, an area of interest in cognitive neuroscience wherein intrinsic functional connectivity at rest permits the brain to allocate resources and prepare itself for changes stemming from the internal or external environment. This allows researchers to make predictions about the resting state network as a determining factor of underlying neural activity. Research in this area has provided valuable evidence on deviant network organization for neurological disorders and generated much understanding about the neural characteristics of healthy brain development (Alcauter et al., 2017; Gracia-Tabuenca, Moreno, Barrios, & Alcauter, 2018).

1.3.1. Resting state EEG studies on learning disorders

Typically, a resting state EEG experiment involves the participant wearing the EEG device for a period of minutes, at rest, and with no specific external stimuli. Prior to the experiment, the researcher provides the participant with instructions to relax and be still during the recording. This approach allows researchers to assess which brain regions are most active when no external tasks demand attention (Duncan & Northoff, 2013). Moreover, the eyes-closed resting state condition eliminates the impact of confounding factors, such as of visual noise, experimental tasks, fatigue, task-related anxiety, and other experiences that are associated with external task performance (Duncan & Northoff, 2013). Of course, care should be taken to minimize sources of these factors as the aim of the resting state EEG experiment is to obtain measures of "true," "pure," and unbiased baseline brain activity (Shephard et al., 2018). By studying resting state activity in children with dyslexia, we can determine underlying processing difficulties in the left reading and language network. These disruptions are characterized by functionally disrupted connectivity patterns and slower spontaneous neural activity, which are correlated with reading problems in dyslexia (Schiavone et al., 2014).

At resting state, learning disorders are characterized by greater theta activity which is reflective of cortical hypoactivation (Alahmadi, 2015; Lenartowicz & Loo, 2014; Lenartowicz, Mazaheri, Jensen, & Loo, 2018; Roca-Stappung, Fernandez, Bosch-Bayard, Harmony, & Ricardo-Garcell, 2017; Rommel et al., 2017; Woltering, Jung, Liu, & Tannock, 2012). This prevalence of slow oscillations serves as the basis of the “maturational delay hypothesis” wherein a maturational delay in brain structure leads to deviant neural functioning in children with learning disorders (Jäncke & Alahmadi, 2016). Resting state EEG studies on dyslexia generally indicate remarkably elevated low frequency activity in the left hemisphere which reflects a less integrated language network (de Vos, Vanvooren, Vanderauwera, Ghesquière, & Wouters, 2017; Fraga González et al., 2016; Pagnotta et al., 2015; van der Mark et al., 2011). A study by Roca-Stappung and colleagues (2017) reported the presence of greater delta and theta power as well as weaker alpha and beta power in children with dyslexia and other learning disorders. Likewise, Papagiannopoulou and Lagopoulos (2016) applied global and region-by-region analyses to examine hemispheric asymmetry in closed eyes resting state EEG. Their findings confirmed the existence of an atypical linguistic network that is characterized by a dominance of theta power in the left frontal regions, implicating the presence of brain abnormalities in children with dyslexia prior to reading acquisition. In a study by Farris et al. (2011), children with dyslexia were found to have reduce connectivity between the left and right inferior frontal gyri, which are crucial for both reading and listening comprehension. Analyzing both resting state and syllable processing using intra-cortical power spectra EEG, Morillon, Liégeois-Chauvel, Arnal, Bénar, and Giraud (2012) found that stronger theta power in the right hemisphere and low gamma power in the left hemisphere, suggesting that left-hemispheric regions sample and integrate acoustic information at a gamma rate, whereas right-hemispheric regions do so at a theta rate. At rest, higher theta power dominance was detected in the left hemisphere as compared to the right hemisphere. Moreover, Babiloni et al. (2012) found abnormal alpha rhythms, whereas a number of studies have observed abnormally stronger beta power in the right hemisphere, indicating task-related overexcitability (de Vos et al., 2017; Dimitriadis, Laskaris, Simos, Fletcher & Papanicolaou, 2016; Dimitriadis, Simos, Fletcher, & Papanicolaou, 2018; Hoeft et al., 2011; Jiménez-Bravo, Marrero, & Benítez-Burraco, 2017; Lizarazu et al., 2015; Power, Colling, Mead, Barnes, & Goswami, 2016; Simos et al., 2011).

2. RESEARCH OBJECTIVES

Using mobile EEG as a research tool, this study was aimed at measuring differences in resting state EEG power between normal reading children and children with dyslexia. This study also illustrates the advantages of mobile EEG in studying resting state activity for children with dyslexia, such as its efficiency in data gathering and its less demanding set-up. Because mobile EEG is lightweight and more comfortable than the traditional EEG, it is more suitable for extensive periods of data collection. As children may find long assessments demanding, it will be easier for them to sit still and relax. Additionally, mobile EEG systems require a shorter preparation process of only five to 10 minutes. In this manner, it be less effortful for the researcher to collect high-quality EEG data.

3. DESIGN

We utilized a non-equivalent control group posttest-only design. Also, purposive sampling was used wherein the selection of participants was based on predetermined criteria set by the researchers.

4. METHODS

4.1. Participants

Two groups participated in this study: the dyslexia (DYS) group and the normal reader (NR) group. For both groups, the following criteria were set: 1) Between ages 9 to 11 years; 2) Non-verbal IQ within the normal range (at least at the 75th percentile) as obtained from the Raven's Colored Matrices (Raven, Raven, & Court, 2003); 3) Normal vision (e.g., not wearing eyeglasses) as assessed by their respective physicians; 4) Right handed; and 5) Male. Specific to the DYS group, participants should be : 1) Enrolled in a special education school or center; 2) Have been previously diagnosed with Specific Learning Disorder with an impairment in reading by a professional (medical doctor or clinical/school psychologist); and 3) Should have no co-morbid disorders (i.e., attention-deficit/hyperactivity disorder, autism spectrum disorders, speech/language and visual impairments). For the NR group, an additional criterion is that the participants should not have any history of reading difficulties.

To decrease the possibility that the DYS group received formal reading intervention, a younger group was chosen. Also, right-handed participants were selected due to studies on handedness and cerebral lateralization indicating that right-handers have a remarkable advantage over left-handers in developing language and reading skills (Haberling, Badzakova-Trajkov, & Corballis, 2011; Vlachos & Bonoti, 2018).

Table 1.
Participants' characteristics according to group.

	Dyslexia group (DYS group)	Normal reader group (NR group)
Number of participants	N = 5	N = 4
Mean age (in years)	9.61 (1.70)	9.61 (1.00)
Mean IQ	103.2 (5.72)	102 (5.83)
Years of schooling	6.4 (0.55)	6.5 (0.58)

4.2. Data gathering procedure

After the study was approved by the Ethics Review Committee of the University of Santo Tomas Graduate School, emails and letters describing the study's objectives, significance, and methodology were sent out to 14 schools and centers in Metro Manila. Among these, only three centers agreed to participate. Reading specialists from each center assisted the center administrators in selecting the participants using standardized achievement tests (e.g., Wide Range Achievement Test-4, Wechsler Individual Achievement Test-3). They also reviewed reports and other important documents from neurodevelopmental pediatricians and school psychologists that specify a diagnosis of dyslexia. After one month of screening, eight participants were selected for the DYS group. Three participants were eventually excluded from the study after their parents reported that aside from dyslexia, they also had a diagnosis of attention-deficit/hyperactivity disorder (ADHD). For the NR group, a total of four participants were selected by the center administrator of one tutorial center. After finalizing the selection of participants, we met with the parents to have a more thorough discussion of the study, to address any concerns, and to obtain informed consent prior to data gathering.

The experiment took place in a vacant classroom at the centers where the participants attend. The researcher specified beforehand that the rooms where the experiments were to take place should have no windows, and materials that were initially present inside the room (e.g., toys, books, drawings, pictures, and other fixtures on the wall) were removed to avoid distractions. The tables that were used for the experiment were placed against the wall and the researcher was seated to the right of the participant, far enough so as not to distract the participant from any movements. Data gathering was conducted individually for a total of 30 minutes including set-up. Prior to beginning the experiment, each participant was instructed to close his eyes and relax. They each completed a 5 minute eyes-closed resting state EEG recording. The researcher facilitated the experiment, while a research assistant monitored the recordings using a laptop. Data gathering was completed within a month.

4.3. Description of instruments

4.3.1. Intelligence test

Raven’s Colored Progressive Matrices (CPM; Raven, Raven, & Court, 2003) was used to measure the non-verbal IQ of the participants by assessing their ability to perform perceptual matching, closure, symmetry, and reasoning by analogy. Designed for children ages 5 through 11 years, it consists of 36 items equally divided into three sets (A, Ab, and B) comprising of 12 items each. It can be administered within 30 minutes. The total score from the 36 items is computed by obtaining the sum of correct answers in the three sets. Participants who obtained a non-verbal IQ within the normal range (at least at the 75th percentile or an IQ of 90) were included in the study.

4.3.2. Mobile EEG device

Brain signals were obtained by the Emotiv EPOC Neuroheadset (Emotiv Systems, Inc., 2013), a non-invasive, high-resolution, neuro-signal acquisition and processing wireless headset designed for contextualized research (see Figure 2). It has 14 channels (AF3, F7, F3, FC5, T7, P7, O1, O2, P8, T8, FC6, F4, F8, and AF42) distributed according to the internationally accepted 10-20 system of electrode placement and includes two references in the CMS/DRL noise cancellation configuration P3/P4 locations. Only 12 channels were included in the study (i.e., T7 and T8 were excluded).

Figure 2.
The Emotiv EPOC Neuroheadset and its scalp locations.



Data were transferred via Bluetooth to the computer and raw EEG signals were acquired using the EmotivPRO software. Using EEGLAB, signal processing was carried out wherein the recordings were segmented into epochs, which were then extracted and cleaned for artifacts. Power analyses were performed using fast Fourier transform for delta (1–4 Hz), theta (4–8 Hz), alpha (8–12 Hz), beta (12–25 Hz), and gamma (25–45 Hz). According to a number of validation studies, the EPOC has high accuracy and validity (Badcock et al., 2013, 2015; Bobrov et al., 2011; de Wit et al., 2017; Ousterhout & Dyrholm, 2013). In this study, the participants wore the EPOC headset throughout the experiment. Before putting on the headset, the 14 electrode recesses were fitted with a moist felt pad. If the pads were not already moist, saline solution was applied using a medicine dropper to carefully moisten the pads. The headset was then placed on the participant's head and subjected to software set-up. After verifying that the built-in battery was fully charged and the wireless signal reception was reported as good, the experiment began. Each participant wore the headset for an estimated total of 15 minutes.

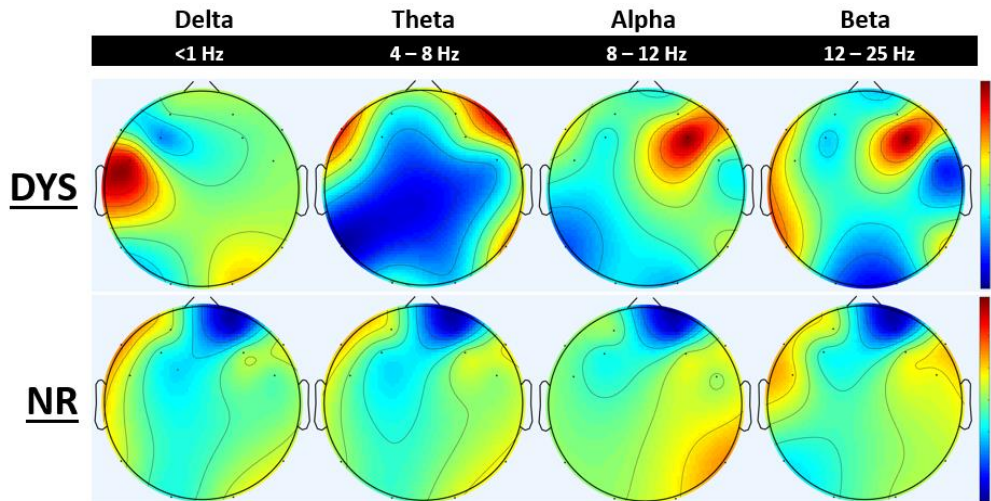
4.3.3. Mobile EEG software

EmotivPRO (Emotiv Systems Inc., 2017) is an integrated software for neuroscience research and education, built for the EPOC headset. It features a real-time display of data streams including raw EEG, motion data, data packet acquisition and loss, and contact quality. Recordings, data streams, and frequency analyses are saved to a cloud storage where they are available for playback or export for analysis at any time. Frequency data were analyzed in two modes. Firstly, the Raw EEG data feature displayed the voltage fluctuations detected from each sensor on your headset. Secondly, the Fast Fourier Transform or Band Power feature performed a frequency analysis on single channel EEG data in real time or on recorded data. Moreover, EmotivPRO consisted of a control panel that displayed the contact quality of each electrode according to color: green for good signal, yellow for fair signal, orange for poor signal, red for very poor signal, while black meant no signal.

5. RESULTS

Significant group differences were observed for the theta ($U = 1$, $p = .03$) and beta ($U = 0$, $p = .01$) frequency bands, wherein the DYS group exhibited overall stronger power for these bands. Tests comparing electrode sites indicate that the DYS group obtained significantly stronger theta power in the frontal and left parietal regions. Stronger beta power was mostly observed in the right frontal and left parietal regions. On the other hand, the NR group demonstrated stronger alpha power values in the left frontal and right occipital regions. Significant inter- and intra-hemispheric differences were limited to the delta, theta, and alpha bands (see Figure 3). For the DYS group, delta power is significantly left-lateralized in the frontal region, whereas theta power is bilaterally distributed. Alpha and beta power are notably right-lateralized. The NR group, on the other hand, demonstrate a more stable resting network.

Figure 3.
Power distributions according to frequency band for Resting State. Power (in dB) is represented by colors (dark red = very high, orange = high, yellow = average, light blue = low, dark blue = very low).



6. DISCUSSION

The results revealed that the DYS group demonstrated a distinct neurophysiological profile compared to the NR group, wherein the former exhibited an overall larger power activation in the theta and beta frequency bands, as well as a dominance of delta, theta, and beta frequencies across all scalp sites. The NR group presented a more stable resting network characterized by a dominance of alpha frequencies. According to Shephard and colleagues (2018), a resting network marked by frequencies that are either too slow (i.e., delta and theta) or too fast (i.e., beta) would signify an inhibitory/excitatory imbalance and, consequently, a dysfunctional brain network. Alpha frequencies, on the other hand, are correlated with passive attention and are therefore dominant at resting state (Kamel & Saeed Malik, 2015). As the DYS group were observed to have significantly weaker alpha activity, it can be inferred that the DYS group had difficulty in sustaining attention and inhibiting distracting environmental stimuli (Schivone et al., 2014). Comparable results were obtained by Babiloni et al. (2012) and Papagiannopoulou and Lagopoulos (2016).

In the DYS group, increased delta and theta activity was found in the left frontal region, which has been considered to be a critical area in reading development (Richlan, 2012). Abnormalities in the theta band (i.e., overactivation) at resting state have been implicated as a distinct neural signature in dyslexia, suggesting a less integrated network, as well as reduced communication in readers with dyslexia compared to controls. Thus, the observed increase in low frequency activity during eyes-closed resting state in children with dyslexia is a strong indicator of the presence of an atypical network (de Vos et al., 2017; Fraga González et al., 2016; Pagnotta et al., 2015; Papagiannopoulou & Lagopoulos, 2016). Specifically, this resting state atypicality in the left frontal region is manifested by slow and effortful reading as it is correlated with difficulties in phonological processing (Schivone et al., 2014). Moreover, the frontal reading network involves the left inferior frontal gyrus

which plays a key role in speech articulation. Left-hemispheric hypoactivation characterized by an abnormal modulation of delta and theta frequencies is reflective of altered connectivity patterns that have been found to have crucial consequences in processing speech input (van der Mark et al., 2011).

An attenuation of beta frequencies was observed in the left hemisphere as compared to the right hemisphere. The current findings agree with other studies that have reported abnormally stronger beta power in the right hemisphere (de Vos et al., 2017; Dimitriadis et al., 2016, 2018; Jiménez-Bravo et al., 2017; Lizarazu et al., 2015; Power et al., 2016). The beta band is associated with active attention and other activities such as thinking, focusing, and problem solving (Kamel & Saeed Malik, 2015). Thus, beta power activation during resting state can be interpreted as neural hyperactivation. This right-lateralized overexcitability at rest may be attributed to a compensatory mechanism for children with dyslexia (Hoeft et al., 2011; Simos et al., 2011). According to Richlan (2012), right hemisphere compensation in dyslexia increases as phonological demands increase, and that activation in the right hemisphere, whether during reading or at rest, is a mechanism for children with dyslexia to cope with difficulties in visual coding.

These results illustrate that Mobile EEG is an accessible research tool that boasts a capacity to investigate a wider spectrum of research questions for special populations, especially children with dyslexia and other learning disorders, thereby deepening our understanding of neurodevelopmental populations. As we were able to determine differences between normal reading children and children with dyslexia at rest, we are gaining more evidence that mobile EEG can be provide objective assessments of functional brain activity, as well as highly individualized profiles of cognitive functioning.

7. LIMITATIONS

We acknowledge possible limitations of the current study. Firstly, a small sample of children with “pure” dyslexia (i.e., absence of co-morbid conditions) participated in this study. It must be noted that studies involving a highly specific and vulnerable group such as children with dyslexia tend to involve small sample sizes (Franceschini et al., 2013; Franceschini, Bertoni, Giancesini, Gori, & Facchetti 2017; Łuniewska et al., 2018; Ramus, Altarelli, Jednoróg, Zhaod, & Scotto di Covella, 2018), which can potentially weaken the generalizability of the findings. Also, as this study included only male participants, it would be important to also examine resting state EEG involving female children with dyslexia.

8. CONCLUSIONS AND FUTURE RESEARCH DIRECTIONS

8.1. Conclusions

In this study, we were able to confirm that dyslexia can be studied using mobile EEG as an assessment tool. This provides evidence that mobile EEG presents a novel opportunity to make brain-based assessments more convenient and available to researchers outside of the laboratory. Analyzing eyes-closed resting state EEG rhythms is essential to better understand the role of abnormal cortical sources in brain-based deficits. The findings of this study confirmed a less integrated language network as evidenced by a dominance of theta activity in the left frontal region at resting state in children with dyslexia. Moreover, atypical alpha and beta activity were also observed. More studies are needed to further explore the neurophysiological characteristics of resting state activity in children with dyslexia.

8.2. Future research directions

For our future research, we plan to investigate preliteracy measures of brain function using resting state EEG between children with a family history of dyslexia and those without, which could allow us to uncover the neurophysiological mechanisms of the predisposition to reading difficulties. We will also explore whether reading intervention can affect the neural dynamics of children with dyslexia as revealed by resting state EEG. Future studies should consider using larger and more diverse samples, as well as a wider range of cognitive tasks.

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KEY TERMS & DEFINITIONS

Dyslexia: sometimes called a *reading disability* or *disorder*, it is a type of specific learning disorder characterized by difficulties in reading (Kearns et al., 2019).

Electroencephalography (EEG): a typically noninvasive electrophysiological monitoring method used to record electrical activity in the brain by placing electrodes along the scalp (Kamel & Saeed Malik, 2015).

Mobile EEG: refers to portable, wireless, wearable, and dry EEG systems (Lau-Zhu et al., 2019).

EEG frequency bands: quoted in Hertz (Hz), these refer to EEG rhythms that are defined as delta (δ ; 0–4.0 Hz), theta (θ ; 4–8 Hz), alpha (α ; 8–12 Hz), beta (β ; 12–25 Hz), and gamma (γ ; 25–100 Hz).

EEG power: values indicating the relative amplitudes of individual EEG bands that reflect the degree of activity of certain brain areas.

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Chapter #8

PARENT-CHILD STRATEGIES AND PROBLEM BEHAVIOUR IN SCHOOL ENVIRONMENT: THE MEDIATION EFFECT OF PERSONALITY AND RULES INTERNALIZATION

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ABSTRACT

This study explores two different parenting strategies of rules setting to test the hypothesis that an autonomy-supportive strategy would relate negatively, whereas controlling strategy would relate positively, to adolescents' problem behaviour. Moreover, mediation analyse was explored to test whether associations among parenting strategies and adolescents' problem behaviour could be explained by personality domains and internalization of parental rules. A cross-sectional representative dataset from elementary schools was used (N=580, M=12.51 years, SD=0.59, 51.7% of boys). Problem behaviour of adolescent were measured by 21 items scale. Autonomy-supportive and psychological control were explored as two types of parental strategies. Internalization of parenting rules consist from four separate scales (1) identification; (2) introjection; (3) external regulation and (4) rebellion. Personality domains were assessed by Children personality questionnaire. Linear regression models and mediation analyses were used. Higher autonomy-supportive strategy related with less problem behaviour. Higher controlling strategy was related to higher rates of problem behaviour. The association among autonomy-supportive and psychological control strategy and problem behaviour was partially mediated by personality and by rules internalization. The results of this study point to importance of parental strategies in adolescence period as autonomy and controlling ways of setting rules may have opposite effect on problem behaviour.

Keywords: internalization, problem behaviour, parental strategies, psychological control, personality.

1. INTRODUCTION

Problem behaviour of Slovak school aged children has increased in recent years. The international study on teaching and learning by OECD (Jensen, Sandoval-Hernández, Knoll, & Gonzalez, 2012) has given alarming results in terms of school pupils' behaviour. Teachers in participating countries of the study has reported late arrivals (39.4%; in Slovakia: 13%) and absence of students (45.8%; in Slovakia: 39.8%). Given the absence and late arrival of pupils, the situation of Slovak teachers compared to the international average appears to be more flattering. However, other aspects of the discipline are to the detriment of Slovak school pupils. Compared to the international average, Slovak school teachers are more often confronted with distracting pupils during their lessons, their lies and cheating, vulgarity or the destruction of school furniture.

There is no doubt about the increase in non-discipline in schools, but it should be borne in mind that the issue of discipline goes beyond the institution of the school, because the level of discipline reflects the social situation. Discipline at school is to some extent a

mirrored reflection of discipline in society and family in particular. School and society in this sense represent continuous vessels (Bendl, 2001). But what is the society that produces an increasing number of problem behaviour pupils other than "previous" society? On such question, there can be multiple answers, and one of them is the nature of the relationship, which is no longer based on the asymmetry of the "superior and subordinate" relationship compared to traditional society and family as well. The relationship between a child and adults (parents) is based on partnership in a democratic structure and the child's obedience is then more difficult to claim.

There is considerable research interest how parents supervise and regulate the behaviour of their children. Regarding literature, the most frequently used terms to describe such parenting strategy are being parental 'behavioural control' and parental 'psychological control' (Symeou & Georgiou, 2017). In both strategies the primary aim of parents with regard to children is to evoke accepted behaviour or decrease the unwanted behaviour without any negative psychological consequences (Bačíková-Slěšková, 2019). Behavioural control (BC) is often described as a complex set of parental activities with aim to regulate children's behaviours in line with family, social and cultural norms. Behavioural control by operational definition includes aspect of monitoring as parents set and requires clear and consistent rules, supervision and management of children behaviour. Such parental monitoring may function as a protective factor also in situations directly exposed to risk factors outside of family (school environment, peers, going out with friends, etc.), (Berinšterová, Janovská, Gajdošová, Kalina, & Bačíková, 2015). However, recent approaches interpret parental monitoring as more as an interaction of mutual communication between parents and adolescents than a matter of pure observation. Therefore, the effectiveness of parental monitoring might be dependent on the quality of parent-adolescent communication. The issue that puts parental monitoring into specific position is adolescents' higher need for autonomy and independence and the fact that they spend more time outside their parental home in comparison to previous years (Berinšterová et al., 2015).

On the other hand, the concept of psychological control (PC) refers to parental control of the child's or adolescent's psychological world parents are usually and often purposely lack quality of response to the children's psychological and emotional needs. Basically, it may refer to control attempts (e.g., importance, affiliation, appreciation or love withdrawal, devaluation, guilt induction) that 'constrain, invalidate, and manipulate a child's psychological and emotional experience and expression' (Barber, 1996) by keeping the child emotionally dependent on the parent (Symeou & Georgiou, 2017). Psychological control has been associated with several types of health risky behaviour including internalizing types of behaviour such as depression and a lack of self-confidence (Pettit, Laird, Dodge, Bates, & Criss 2001). It was confirmed association between parental psychological control and depressed mood in sample of adolescent boys. This can be explained by experiencing the psychological control from parents – non-responsive to adolescents emotional and psychological needs, and this encumbers the adolescents' abilities to trust their own uniqueness and ideas (Barber, 1996). Further research also bring evidence that psychological control may be associated with externalizing symptomatology (Rogers, Buchanan, & Winchell, 2003) as study by Cui, Morris, Criss, Houlberg, and Silk (2014) found an indirect significant association between psychological control and adolescent aggressiveness.

For such reasons the psychological control is considered a destructive form of parental control regarding adolescents vulnerable to ill-being (Barber, 1996). Research concerning psychological control has shown that such parenting is associated with negative

developmental outcomes during different life periods, ranging from early adolescence to emerging adulthood (Costa, Hausenblas, Oliva, Cuzzocrea, & Larcana, 2015). Several studies have underlined the necessity of understanding the associations between psychological control and negative outcomes (Gugliandolo, Costa, Cuzzocrea, & Larcana, 2015). Some authors suggested that mechanism among psychological control and negative behaviour outcomes can be partially described within the Self-Determination Theory (SDT), (Soenens & Vansteenkiste, 2010). Specifically, SDT examines the degree to which human behaviours are autonomous or self-determined, as well as the personal and contextual factors which facilitate or undermine people's intrinsic motivation, psychological development and well-being (Ryan & Deci 2000). Crucial role in this process is assign to satisfaction of basic psychological needs as SDT postulates three universal psychological needs (autonomy, competence, and relatedness) and their satisfaction is related to effective people's survival, growth, integrity and psychological functioning and health (Ryan & Deci 2000; Ryan, Sheldon, Kasser, & Deci, 1996). The desire to self-organize own experience and to feel own behaviour as freely chosen is characterized by individual with high fulfilled need of autonomy. The need of connected to others, to love and to care express the relatedness and finally the need for competence refers to the desire to feel effective and skilful in activities (Baumeister & Leary, 1995).

Current research on parental psychological control suggest that it could have a direct influence on all three needs and could explain why parental psychological control is related to ill-being (Soenens & Vansteenkiste, 2010). If parents frequently use intrusive techniques they may create a psychological pressure on children to comply with their own personal standards and needs, what is irrespective of the children's needs and values thus psychological control thwarted experiences of autonomy in children and adolescents (Vansteenkiste, Zhou, Lens, & Soenens, 2005). It was thought to disrupt the development of emotional autonomy by interfering with adolescents' ability to establish and express their own thoughts and feelings and by disturbing the psycho-emotional boundary between parents and their children (Barber, 1996).

Whereas parents with psychological control type of parenting would represent need thwarting behaviours, autonomy supportive parenting type would represent need supportive behaviours (Vansteenkiste & Ryan 2013). The parental autonomy support seems to be crucial especially in the period of adolescence what is considered as period of emergence of various autonomous functioning (Ryan & La Guardia, 2000; Steinberg, 1989). Parental autonomy support should be understand as active support of the child's capacity to be self-initiating and autonomous therefore youngsters should develop their own opinion and try to get their ideas across even when their parents disagree with them (Ryan & Deci, 2006). Parental autonomy support should not shift to promoting permissiveness, or neglect. Permissiveness, in fact, would reflect the opposite of parental structure while neglect would reflect the opposite of parental involvement rather than a lack of autonomy support (Chirkov, Ryan, & Sheldon, 2010).

The issue whether parental strategy will outcome in desirable child behaviour is also function of internalization of parental rules as several different personality approaches converge to suggestion that internalization of parental rules is an important determinant of the likelihood that parental rules will result in desired outcomes (Deci & Ryan, 2000; Kochanska, 2002; Reitzel, Dekovic, & Meijer, 2006). Internalization is generally described as individual, active process through which external regulations is transformed into personally held values and through which they may integrate regulations into the self (Deci, Eghrari, Patrick, & Leone, 1994). The Self-determination theory distinct four levels of internalized form of behavioural: (1) *Rebellion, behaviour is characterized to be against or*

rejection of parental authority following the feeling of being controlled by parental rules (e.g. children purposely act in opposite way as they are requested by parents). (2) *external regulation*, behaviour is characterized only to comply with an external demands in order to get a reward or to avoid a punishment therefore individuals may perceive pressure and control to comply with an externally imposed rules (e.g. children may follow their parents' guidelines regarding problem behaviour to avoid parental punishment); (3) *introjected regulation*, in often characterized as motivation from an internalized pressuring voice as the source of motivation for behaviour is guilt, shame or worry (Assor, Vansteenkiste, & Kaplan, 2009). For instance, adolescents may follow parental guidelines for problem behaviour domains to avoid feeling guilty about their behaviour; (4) *identified regulation*, in which person has personally identified with the importance of a behaviour and accepted it as a regulation of her own. E.g. adolescents follow parental rules regarding problem behaviour because they understand why their parents ask them to do so and because they view their behaviour as conducive to their self-endorsed goals.

Self-determination theory also propose that a lack of internalization and the behavioural problems associated with such a lack may increase controlling and decrease autonomy-supportive parenting (Grolnick, 2003). Parents usually prohibit their child from numerous types of problems behaviours by threatening to punish the child or by withdrawing privileges. Moreover, parents also use emotional type of pressure as they appeal to the child's feelings of guilt and shame or by limiting their love and acceptance when the child does not follow the rules. These types of covert control are consistent with the concept of psychological control (Assor, Roth, & Deci, 2004; Soenens, Vansteenkiste, Luyten, Duriez, & Goossens, 2005). In contrast to controlling styles of prohibition, parents may use an autonomy-supportive style of prohibition, as they take the adolescent's frame of reference and provide a relevant and clear rationale for prohibition while also minimizing pressure (Deci et al., 1994).

We expected that adolescents in this study would be more likely to internalize their parents' rules regarding problem behaviour when they perceive their parents using an autonomy-supportive style. In other words, an autonomy-supportive style is facilitative of the process of internalization and thus would be associated with identified regulation. In contrast, we expect that adolescents in this study would be less likely to internalize parental rules when parents will use a controlling style. A controlling style of prohibition would thus foster more controlled and less internalized reasons for adopting parents' guidelines regarding problem behaviour.

In recent years the attention of research regarding family processes has been more focused to the personality of each child involved in this processes (e.g. Van Leeuwen, Mervielde, Braet, & Bosmans, 2004; Manders, Scholte, Janssen, & De Bruyn, 2006). Previously, the process of nurture was perceived as a major role of parents while now most of the researches perceived this processes as mutual interaction between parents and child. Therefore, factors on adolescent side (e.g. personality, decision making styles, internalization of rules) are important moderators and may significantly shape the effect of behavioural or psychological control from parents. The role of personality characteristic in context of parental control has been explored mostly regarding big five personality structure as the specific traits of big five were explored as moderators (Mabbe, Soenens, Vansteenkiste, & Van Leeuwen, 2016). However, the study by Mabbe et al. (2016) confirmed only small amount of interactions among personality traits of adolescents and psychological control by parents what indicates negative impact of psychological control – independent from personality. In our study we decided to explore personality factors as mediator of relationship among autonomy-supportive or psychological control

parenting strategy and problem behaviour. We expected that certain personality tendencies may be influenced by types of parental strategies (e.g. autonomy-supportive or psychological control strategy) and may have also influence the internalization of parental rules (Graph 1).

Therefore, the aim of this study is to explore the association among two types of parental strategies and problem behaviour of adolescent in schools. We also expect that personality traits and rules internalization will mediate this relationship.

2. METHODS

2.1. Sample

Participants were recruited from the national project VEGA focused on parental processes in context of health risky behaviour of adolescents. The stratified data collection among 12 basic school from Slovakia was used to reach the high level of representativeness. In each school students of all 7th grades we asked to participate in this study. Students voluntarily filled out questionnaire without presence of their teachers. The final sample consisted from 580 (51.1% males; mean age = 12.51; SD = 0.59).

2.2. Measures

Problem behaviour of adolescent in school environment as outcome variable was measured by 21 items scale (e.g. "Did you take something what did not belongs to you?") as each respondent indicate the answer on first 18 items on five-point scale (*never – almost every day*) and last three items on four-point scale. The score ranges from 21 to 106 point as the higher score indicates higher level of problem behaviour. Cronbach's alpha for problem behaviour was 0.840.

Two types of parental strategies were explored:

(1) autonomy-supportive parental strategy was measured by 7 items scale (e.g. "My father/mother allows me to make decision by my own") using the Autonomy Support Scale of the Perceptions of Parents Scale (Grolnick, Ryan, & Deci, 1991). The score ranges from 7 to 35 points as the higher score indicates higher level of autonomy-supportive strategy. The sum score was computed separately for mother and father. Cronbach's alpha for mother/father autonomy-supportive strategy was 0.527/0.578.

(2) psychological control parental strategy was measured by 8 items scale (e.g. „My father/mother reminds me my previous mistakes whet criticizing me”) using Psychological Control Scale–Youth Self-Report (Barber, 1996). The score ranges from 8 to 40 points as the higher score indicates higher level of controlling strategy. The sum score was computed separately for mother and father. Cronbach's alpha for mother/father controlling strategy was 0.747/0.721.

Internalization of parenting rules was assessed by Internalization of parental rules in the moral domain (Soenens & Vansteenkiste, 2010) questionnaire which consist from four separate scales for (1) identification (e.g. "I understand why this rule is important for me"; (2) introjection (e.g. "I will accept this rules, otherwise I would have bad feeling from myself"); (3) external regulation (e.g. "I will keep such rules, otherwise I would lost all privileges which I have") and (4) rebellion (e.g. "I am doing exactly the opposite what my mother wants from me"). This questionnaire regards only internalization of rules provided by mother. The sum score was computed separately for mother and father. Cronbach's alphas for these scales ranges from 0.728 to 0.866.

Personality of adolescents were assessed by Children personality questionnaire (REF) a self-report personality test for children from ages 8 to 12. It can be used to measure their personal, social, and academic development and aspects of their personality that mediates performance in school and social adjustment both inside and outside the classroom. The test measures 14 dimensions of personality in children. For the purpose of this study we select three dimensions: (1) Reserved (detached, critical, cool, aloof) vs. Warm-hearted (outgoing, easy-going, participating); (2) Obedient (mild, accommodating, easily led) vs. Dominant (assertive, competitive, aggressive, stubborn); (3) Expedient (disregards rules) vs. Conscientiousness (persevering, staid, rule-bound). Cronbach's alphas for these scales ranges from 0.620 to 0.792.

2.3. Statistical analyses

Firstly, we selected only those respondents which completely answered the questionnaire regarding problem behaviour and other explored variables. After that using regression models we explored whether types of parental strategies were associated with problem behaviour of their children and similarly we explored whether type of internalization of rules will mediate this relationship.

3. RESULTS

As it was predicated the parenting strategies were significantly associated with level of problem behaviour of adolescents. Higher autonomy-supportive strategy by mother and father was related with less problem behaviour ($B = -0.124^*$ in mothers; $B = -0.147^*$ in fathers). On the other hand, higher psychological controlling strategy by mother and father was related to higher rates of problem behaviour ($B = 0.172^*$ in mothers, $B = 0.201^*$ in fathers). Regarding personality traits, we found that Reserved- Warm-hearted trait was not significantly associated with outcome variable ($B = 0.043$), therefore was not used in further mediation analyses. However, traits Obedient-Dominant and Expedient-Conscientiousness were positively ($B = 0.324^{***}$) and negatively ($B = -0.298^{***}$) associated with problem behaviour. As we have been able to analyse only internalization of rules by mothers the following results – presented in four mediation models includes only parental strategy (control / autonomy) by mothers.

Mediation model (Figure 1) explored the associations among parental psychological control strategy and problem behaviour through personality domain Obedient-Dominant and rebellion (type of rules internalization). The presented overall model explained 21.9% of variance of problem behaviour and significantly predicted indirect effect of parental psychological control on problem behaviour through two mediators. However, the effect of psychological control after adding two types of mediators significantly decreased but still remains significant ($B = 0.203^{**}$).

Mediation model (Figure 2) explored the associations among parental psychological control strategy and problem behaviour through personality domain Obedient-Dominant and external regulation n (type of rules internalization). The presented overall model explained 16.2% of variance of problem behaviour and significantly did not predicted indirect effect of parental psychological control on problem behaviour through mediators. The effect of psychological control after adding two types of mediators decreased but still remains as significant ($B = 0.274^{***}$).

Mediation model (Figure 3) explored the associations among parental autonomy support strategy and problem behaviour through personality domain Expedient-Consciousness and introjection (type of rules internalization). The presented overall model explained 21.3% of variance of problem behaviour and significantly predicted indirect effect of parental autonomy support on problem behaviour through two mediators. However, the effect of parental autonomy support after adding two types of mediators significantly decreased but still remains significant ($B = 0.215^{**}$).

Mediation model (Figure 4) explored the associations among parental autonomy support strategy and problem behaviour through personality domain Expedient-Consciousness and identification (type of rules internalization). The presented overall model explained 22.2% of variance of problem behaviour and significantly predicted indirect effect of parental autonomy support on problem behaviour through two mediators. However, the effect of parental autonomy support after adding two types of mediators significantly decreased but still remains significant ($B = 0.193^{**}$).

4. FUTURE RESEARCH DIRECTIONS

This study confirmed important role of parental strategies in context of problem behaviour among adolescents in school behaviour. It was also found that children themselves may play an important role by their personality setting and by capacity of parental rules internalization. A further research should run a longitudinal study design, especially looking at involved family members as the maternal and paternal role could differ. These sources could increase the understanding of some inconsistencies in the field of family processes and problem behaviour research. Finally, our results are strongly dependent on the assumption of what participants say is what they did. Therefore, self-reported perception of parental strategies and problem behaviour may be vulnerable to various types of information biases, like memory effects and social desirability bias.

5. DISCUSSION AND CONCLUSION

The aim of this study was to explore the relationship among two different parental strategies (autonomy support strategy and psychological control strategy) and children problem behaviour. Also the role of personality and types of rule internalization were tested as mediators. It was that different parental strategies differently affect the problem behaviour - autonomy support strategy with negative associations and psychological control with positive associations. Moreover, we also expected specific personality traits together with rules internalization will mediate the parental strategy and problem behaviour relationship.

The results in line with other studies (Barber & Xia, 2013) confirmed that parental psychological control has increased the level of problem behaviour among adolescents. Problem behaviour was also positively associated with personality domain Obedient-Dominant and rebellion (type of rules internalization) as these two variables partially mediate the role of psychological control.

Contrary to psychological control the parents with more autonomy support strategy towards children are more likely to decrease their problem behaviour. However, this relationship was partially mediated by personality domain Expedient-Consciousness and by two types of rules internalization (identification and introjection).

In contrast to parental expectation the psychological control based on manipulative strategies such as guilt induction, disappointment, shaming, isolation, personal attacks or love withdrawal is not associated with desirable behavioural outcomes of their child. Contrary, many studies showed negative consequences of psychological control on full range of adolescents' behaviour. However, such findings should be interpreted carefully as research demonstrates discrepancies between parental reports and youth self-reports as longitudinally links between problem behaviour and psychological control emerged primarily from adolescent reports what may indicate that designate that links between behaviour and control is, in fact, in the mind of the adolescent due to a negative cognitive bias (Rogers et al., 2003).

To conclude, that results of this study point to importance of parental strategies in adolescence

period as autonomy and controlling ways of setting rules may have opposite effect on problem behaviour. Moreover, both strategies may impact the personality traits and the processes of rules internalization (identification, introjection and rebellion) which seems to be very important in this context.

Figure 1.
Mediation model predicting relationship among parental psychological control and problem behaviour through rebellion.

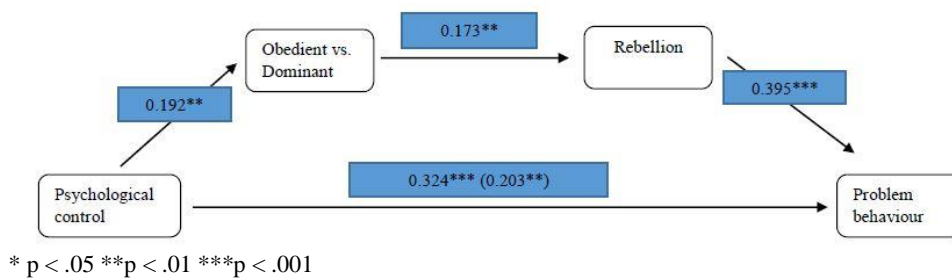


Figure 2.
Mediation model predicting relationship among parental psychological control and problem behaviour through external regulation.

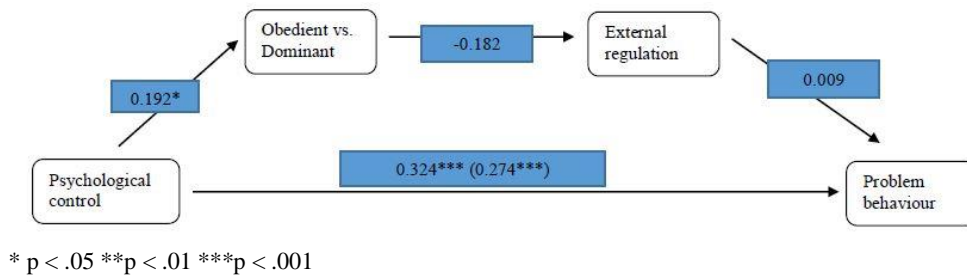


Figure 3.
Mediation model predicting relationship among parental autonomy support and problem behaviour through introjection of parental rules.

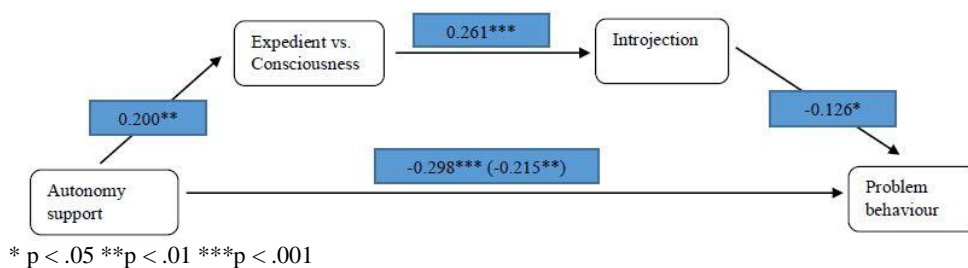
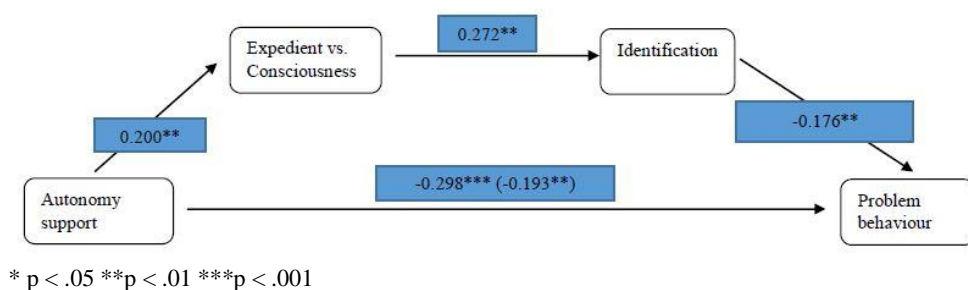


Figure 4.
Mediation model predicting relationship among parental autonomy support and problem behaviour through identification with parental rules.



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Chapter #9

AN INNOVATIVE METHOD FOR INTRODUCTION OF WRITTEN LANGUAGE: EXPERIENCE IN MEXICO

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ABSTRACT

Introduction of written language at primary school represents one of the important aspects of school learning. In Mexico, as in many other countries, common methods of teaching are repetition, memorization and reproduction of provided information. This chapter shows an example of implementation of a new method for introduction of written language based on activity theory and concept of guided orientation and comparison of the results with traditional methods. Our method implies fulfilment of joint actions of children guided by teacher. Children learn how to codify and represent oral words of Spanish language with the help of external materialized and perceptive schemes. Specific symbolic means are provided by teacher and used by children. The results of application of the method show correct pronunciation of all known and unknown words, usage of correct space between words in writing, reduced number of orthographic mistakes. After working with the method for one year, children commit less mistakes in reading and writing in comparison with the pupils who learn according to traditional methods. Our proposal may serve as an example of creation of similar method for introductive teaching of written process for other languages and organization of teaching and learning process according to activity theory.

Keywords: innovative education, methods of teaching, written language, primary education, orientation in teaching.

1. INTRODUCTION

The process of teaching of reading and writing at primary school represents one of the most important aspects of child's life during this period. Learning to read and write is the point of attraction for psychologists and teachers. However, there are no real intents for searching of new ways of psychological understanding of the child's actions during introduction of reading and writing at school.

From psychological point of view, the period of school learning should be based on gradual formation of concepts by steps (Galperin, 1979; Talizina, 2009) instead of traditional training of separate habits and abilities of pupils. The basic activity of this age is the directed school learning divided between two participants: teacher and pupil. According to Vigotsky's psychological only school this activity guarantees the establishment of such neo-formations as complete self-voluntary regulation and self-reflection as important characteristic of personality (Vigotsky, 1992). Another important achievement of primary school is the capacity of theoretical thinking instead of empirical thinking predominant in pre-school age (Talizina, 1984, 2009; Obukhova, 1995; Davidov, 2001).

Obviously, the success of a child in acquisition of reading depends on the level of previous preparation for school learning (Akhutina & Pilayeva, 2012; Solovieva & Quintanar, 2009, 2016). Nevertheless, we also consider that traditional methods of school teaching are very far at this moment to solve the problem of learning disabilities and low success in school learning including poor reading and language comprehension.

According to pedagogical psychology developed on the bases of cultural-historical conception of Vigotsky (1992), it is possible to create more productive methods of education. Since proposal of Talizina (1984, 2009) such methods could be called “invariant methods” if they satisfy the following theoretical methodological principles of modern activity theory of learning process:

- 1) Cultural and historical nature of child’s abilities.
- 2) Straight relation between pedagogical method (cultural sphere) and child’s learning abilities (individual sphere).
- 3) Learning process is a specific kind of directed activity divided between teacher and pupil.
- 4) Learning activity has specific structure: motive, objective, orientation base of action, operations, result.
- 5) Construction of orientation base of action from external level with posterior gradual interiorization as essential part of the actions.
- 6) Reconsideration of school object (reading in this case) as a system of concepts and actions instead of empiric or chaotic organization of learning process.
- 7) Gradual formation of these concepts and actions starting from the most general in the direction to the most particular.
- 8) Usage of Vigotsky’s concept of the zone of proximal development in real process of formation of concepts and actions according to the level of presentation of action and of joint elaboration of orientation base of action between teacher and pupil (Vigotsky, 1995; Solovieva, 2014; Solovieva & Quintanar, 2016).

Activity theory is a new option for proposal of new alternative methods for initial education and especially for introduction of reading and writing in primary school. The main challenges of activity theory are preparation of specific orientation for each part of knowledge. Our presentation shows an example of usage of orientation for initial introduction of reading and writing process in primary school. The method of orientation is based on previous methodological conceptions of Elkonin (1980, 1995), Galperin (1979, 1992), Talizina (1988, 2009) as main representatives of activity theory and cultural psychology. Reading and writing process is understood as a reflective and voluntary process of symbolic codification and de-codification of oral words by a subject (Luria, 1980, 1997).

Educational system in Mexico, as in many other countries, is facing strong difficulties, especially in teaching of reading in primary school. The process of reading and writing at school traditionally is based on isolated training of this cognitive ability. Strong difficulties in reading and in comprehension of texts persist up to high school and university levels. Common methods of teaching of reading and writing are repetition, memorization and reproduction of given information: letters or syllables. In public schools in Mexico, children never read entire books. Only pages or paragraphs of reduced and simple texts appear in official programs for primary school. Even in private schools reading acquisition is a mechanic process, which starts from the first grade of pre-school age and continues up to the sixth grade of primary school (Quintanar et al., 2011). Cognitive tests measure the quantity of words, which the child can read loudly in a minute. Understanding of the meaning and sense of texts is never taken into account. Situation with reading and understanding at all education levels in Latin America is a serious problem. Such countries as Mexico and Colombia normally occupy last places within OGEDA tests. Alternative methods within active school and global reading can’t solve this problem. These methods never take into account orientation, analysis of content of actions and reflexive participation

of the children in their own school actions (SEP, 2010). Alternative methods are always based on the theory of constructivism or conceptions of competences.

The objective of our study is to show the possibilities of elaboration and application of such method for initial training of reading for Spanish language. The method was created on the bases of the theory of Historic and Cultural Development and Activity Theory using the former proposal of Elkonin (1986) elaborated for Russian language. There were no correspondent proposals for introduction of written Spanish language according to activity theory.

According to Activity Theory, teaching process is considered as shared activity between teacher and pupils. The basic concept of such activity is the concept of orientation (Talizina, 2009; Galperin, 1992; Solovieva & Quintanar, 2019). In all occasions, teacher has to present clear and optimal orientation for each task in the classroom. Clear and optimal orientation depends on specific thematic analysis of each topic, which is studied. In our case, the topic is the type of phonemic representation by graphic signs (letters) typical for specific language (Spanish language). Consequently, the start point of such orientation consists in identification of the level of sounds and the level of graphic signs (letters). Such situation is never taken into account in traditional way of introduction of learning process, when children (and often teachers) have no reflection about the difference between level of sounds and level of letter of the language. Additionally, all tasks should be presented as collective guided activities instead of isolated individual tasks as it happens in traditional form of education.

According to activity theory and conception of interiorization (Vigotsky, 1992; Galperin, 2000; Solovieva, 2014), school tasks should be presented as intellectual actions of pupils by stages: 1) materialized actions, 2) perceptive actions and 3) oral and written actions. The tasks should be presented by stages, starting from external materialized actions of pupils. On this level, the pupils work with external symbolic objects. Orientation base, at this stage, should also be presented on materialized level. Materialized actions should be followed by perceptive stage, on which pupils work with images and produce their own images and schemes and models. Orientation base becomes also perceptive, while children work with images and perceptive models. After work with materialized and perceptive actions, the pupils might be able to pass to oral and written actions. Orientation base is presented by oral and written words and instructions. On this stage, pupils might achieve more independent and reflexive actions. Obviously, all orientations are related to identification of specific linguistic feature of concrete language to be studied (Spanish language, in our case). Specific kinds of orientation, on each stage, should be designed, explained to the teacher and applied in classroom with children.

The previous considerations imply correspondent preparation of teacher before implementation of the method in order to guarantee proper understanding of linguistic and psychological aspects of the method. Our original method took into account important linguistic, psychological and pedagogical aspects (Solovieva & Quintanar, 2016, 2019), which were explained to the teachers who work with the method. These aspects are as follows:

- 1) Consideration of all linguistic features of sounds in Spanish language.
- 2) Types of co-relation between verbal sounds and letters used in Spanish language.
- 3) Necessity of special work on images and graphic activity with children of first year of school education.
- 4) Necessity of stressing of the order of sounds on oral level and of letters on written level.
- 5) Inclusion of clear distinction between materialized and perceptive levels.

- 6) Work with all phonematic differentiations at both materialized and perceptive levels.
- 7) Inclusion of guided orientation by teacher at all levels.
- 8) Election of the order of introduction of vowels and consonants.
- 9) Particular orientation for differentiation of simple and combined sounds.
- 10) Particular orientation for combinations of letters in case of only one sound.
- 11) Work in group together with the teacher at all levels.

2. METHOD

The method was used consistently with the first grade of primary school during six years in a small experimental private school, founded by the authors in the city of Puebla, capital of the state of Puebla in Mexico. The school uses methodology according to activity theory for all subjects of primary school. This article describes only the method used for introduction of written speech for first grade of primary school. The groups of children included from six to twelve pupils in classroom. One professional teacher of secondary school was invited and trained by the authors for implementation of the method. The article describes general methodology with qualitative result of progress of children according to the work with the method. Each year, the method is applied during one-hour session at school five days per week during first school year from August to June.

The authors of the method present detailed analysis of phonological and phonetic system of Spanish language as the base for introduction of symbolic codification and graphic representation of kinds of sounds of Spanish language. The Program for Training of Written language implies fulfilment of joint actions of children guided by teacher (Solovieva & Quintanar, 2016). On each stage of the work with the method, the teacher shows children what and how should they do. The work in classroom is always collective and interactive process with no kind of individual tasks. The teacher helps children always in cases of difficulties. Children are encouraged to ask and answer questions collectively, to help each other to correct mistakes or to put examples of words and sounds. All kinds of initiative and interest of children are taken into account by teacher (Obukhova, 2006). All tasks are shared in the group and are fulfilled collectively together with the teacher (Solovieva, Torrado & Quintanar, 2018).

All procedures of the method are based on the concept of the zone of proximal development introduced by Vigotsky (1995). According to this concept, children learn don't learn independently and individually, but together with an adult. This means that children work collectively and are assisted by teacher constantly. The teacher takes part as another mate of the children and as a guided of intellectual activity. Collective dialogue is the main type of interaction and children are free to move from place to place in the classroom. Children learn how to codify and represent oral words of Spanish language with the help of external materialized schemes. Collective dialogue and joint creative tasks are the main type of interaction and children are free to move from place to place in the classroom. On perceptive stage, children draw these schemes in notebooks together with examples of drawings corresponding to the words they choose.

The method includes introduction of actions of codification at materialized, perceptual and verbal levels (Solovieva, 2015). Gradually, children pass to the level of reading and writing of words and sentences in Spanish. Different creative tasks and work in groups are used during the work with the method. Children use reflective orientation of all kinds of types of correspondence between the sounds and letters in Spanish language.

Seven stages of the Innovative Method for introduction of reading and writing are as follows:

1. Oral phonetic analysis of sounds in words. On this stage children say loudly different words they like. The teacher helps children to identify orally the sounds in each pronounced word.
2. Phonetic analysis with the help of external materialized action. On this stage, the teacher shows the scheme for words, in which the quantity of squares corresponds to quantity of sounds in the word. Children choose correspondent scheme according to the quantity of sounds and fill the schemes with the circles in correspondent places.
3. Introduction of general phonological differentiation of vowels and consonants, work with types of consonants. The vowels are symbolized as red circles, while the consonant sounds as green circles in external schemes. Long and short sounds are presented by symbolic means, as well as hard and soft sound.
4. Stage 4. Perceptive actions of analysis of words. On this stage, children fulfill similar tasks as during previous stages, but on perceptive level: children draw schemes of word in their notebooks.
5. Introduction of letters with the help of materialized external action:
 - Introduction of letters which correspond to vowel sounds;
 - Introduction of letters which correspond to consonant sounds (according to the order of rules for correlation between letter and sound of Spanish language);
6. Introduction of the action of writing and reading of words without external scheme:
 - Writing and reading of letters which determine vowels of Spanish language;
 - Writing and reading of letters which determine consonants of Spanish language;
7. Independent reading and writing of words, sentences and short texts.

Procedure and examples of tasks and exercises in classroom.

During the work with the Method the adult (teacher in group or neuropsychologist in correction individual session) directed all executions of the children. The external scheme of the word served as orientation base of action of phonetic analysis of the words. Initially, the teacher presented known words, later on new words were presented gradually to the children.

Stage 1. Oral phonetic analysis of sounds in words.

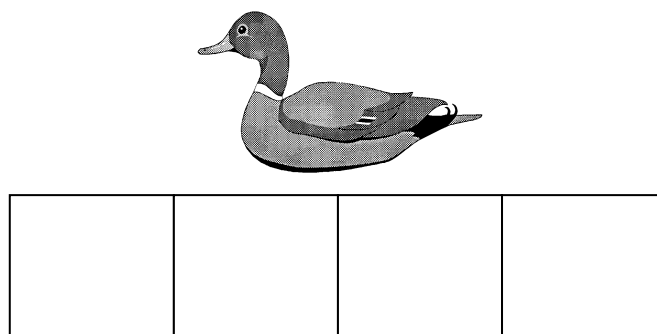
At the first stage, the child pronounced the word with help of an adult and tried to fill the presence of different kind of sound in the words. All children pronounce altogether the words. The teacher pays children's attention to the presence of different sound in each word.

Stage 2. Phonetic analysis with the help of external materialized action.

At the stage of materialized action, the child has to learn not only to fill the existence of sounds, but also to determine the amount of sounds in each word and to represent it with the help of the scheme.

Example of materialized scheme of the word "*pato*" (*duck*). In Spanish this word consists of 4 sounds.

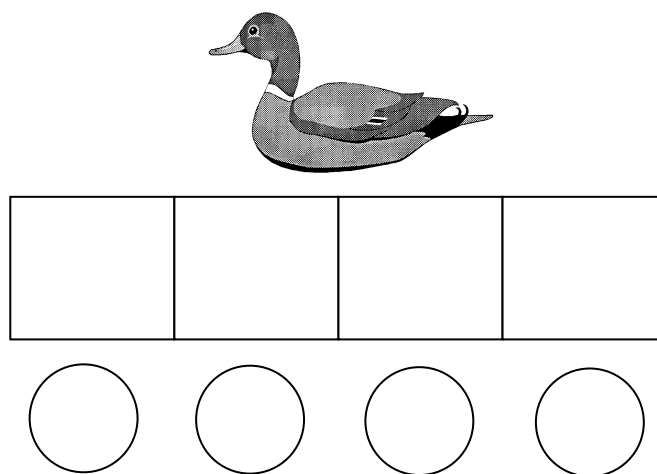
Figure 1.



Later on, the white circle is placed on the scheme. At this stage the child does not know types of sound, neither names of letters. Instead of that, the child learns to perceive and to identify reflexively the order and the structure of each oral word.

Example: Stage 3. Introduction of general phonological differentiation of vowels and consonants (white circles), work with kinds of consonants.

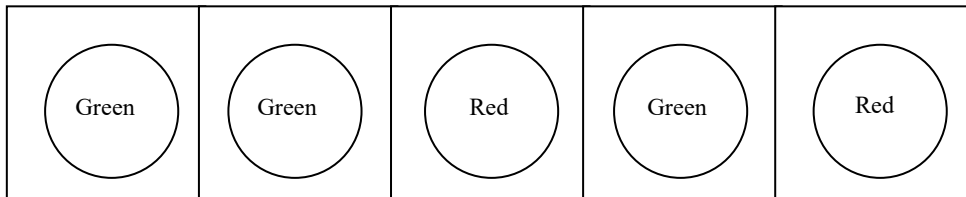
Figure 2.



Gradually, always with the help of orientation of adult, the child learns to differentiate the types of sounds: vowels and consonants. The child has to substitute the white circle by red (for vowels) or green circle (for consonants) in the scheme of the word.

Figure 3.

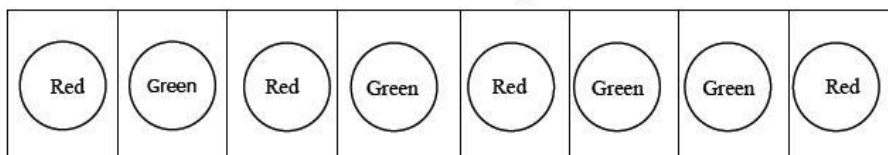
Example: "fresa" (strawberry). This word consists of 5 sounds.



The child also learns to discriminate stressed and unstressed vowels (tonic and atonic vowels) in oral words. The special external "stress" is used in the schemes in order to mark tonic vowels.

Figure 4.

Example: "elefante" (elephant). The word has 8 sounds.



During the next stage the child has to fill and to determine the soft sound "Ñ" in comparison with oral sound "N". The teacher has to give examples of the words with these sounds and to stress the difference in their meaning. These differences are marked in external schemes of the words.

Figure 5.
Example: "mono" (monkey).

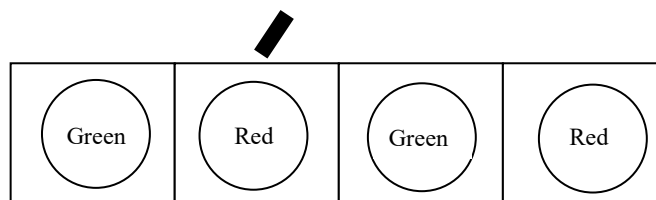
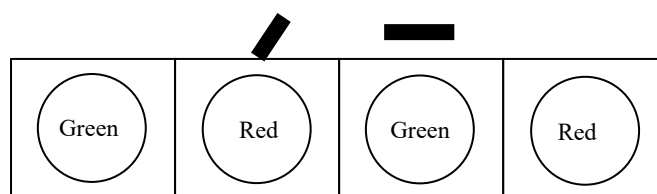
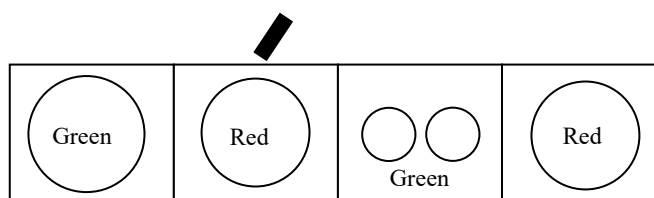


Figure 6.
Example: "moño" (bow).



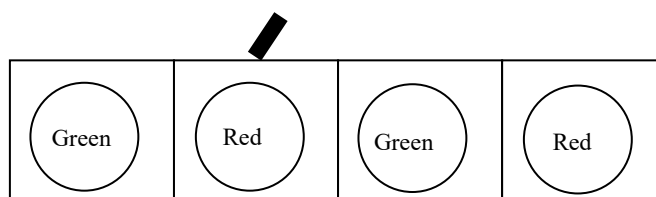
Another important phonematic characteristic in Spanish is differentiation of long consonant sound "RR" and short consonant sound "R". The teacher or therapist gives the examples of such words and the child learns to differentiate these sounds by marking it with 2 little green circles or 1 one green circle as for any consonant sound.

Figure 7.
Example: "perra" (feminine gender in Spanish dog).



Example: "pera" (pear). In order to differentiate these two words in Spanish it is necessary to perceive the difference between long and sort sound. Normally, children are confused in this situation very often and commit mistakes in their writing. Implementation of reflection about differentiation of long and short sounds helps children to use correct letter in these words, when the letters would be introduced.

Figure 8.



Stage 4. Perceptive actions of analysis of words.

On graphic stage the child fulfils the same kind of tasks. The difference is that instead of elaboration of material schemes, the child has to draw the schemes and the circles.

Figure 9.
Example "oso" (bear).

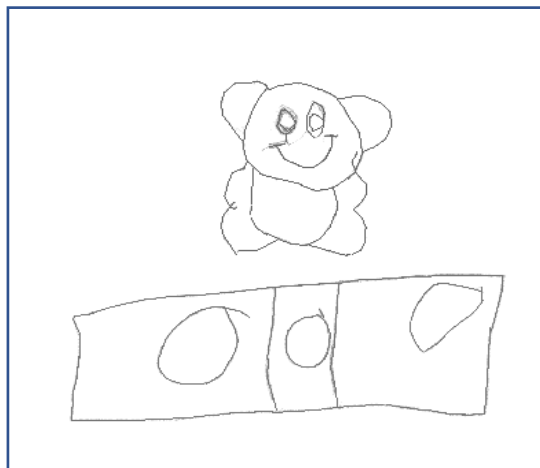
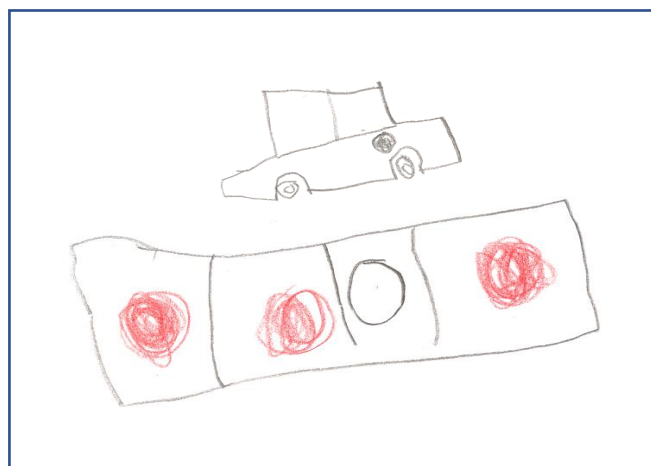
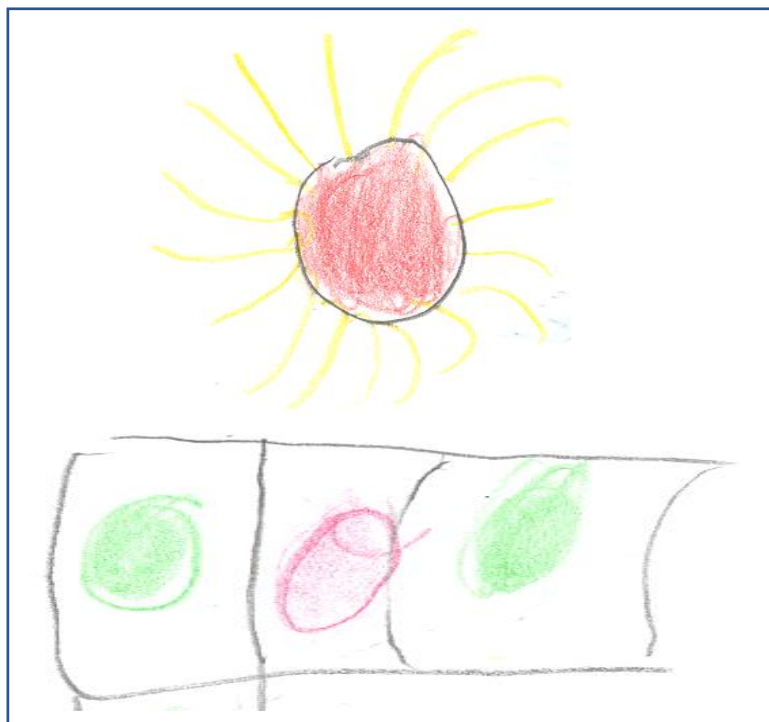


Figure 10.
Example: "auto" (car).



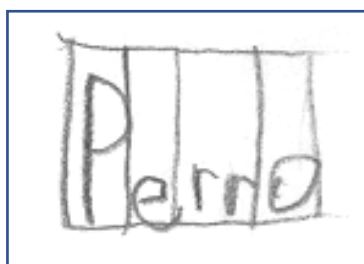
Letters are gradually introduced on the next stage: first, for vowels and later for consonants.

Figure 11.
Example: "sol" (sun).



Stage 5. Introduction of letters with the help of materialized external action.
Finally, the child learns to read and write the words with all conventional letter of Spanish alphabet.

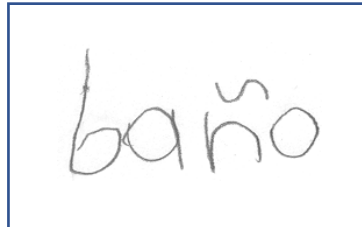
Figure 12.
Example: written word "perro" (dog).



Stage 6. Introduction of the action of writing and reading of words without external scheme.

At this stage, the scheme is eliminated on the last stage of the work with the method.

Figure 13.
Example: "baño" (bathroom).

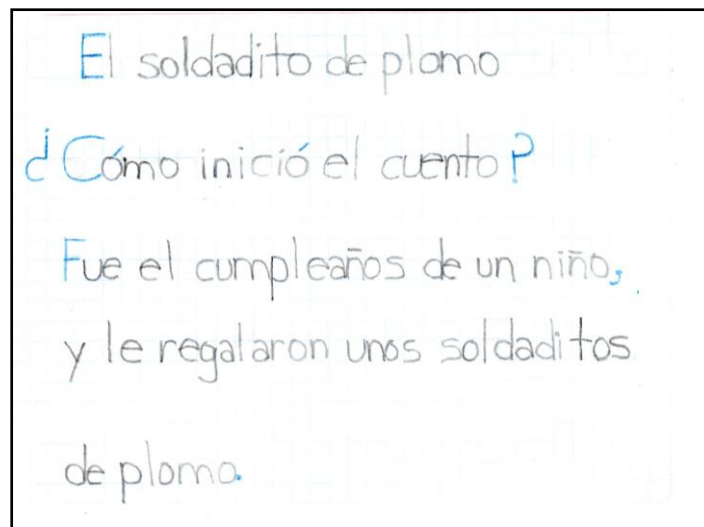


The last example shows the writing of the word independently by a child without the help of external scheme of the word.

Stage 7. Independent reading and writing of words, sentences and short texts.

Finally, the children were able to read and write independently sentences and short stories. The sentences produced by children in classroom and at home were of their own invention and were not copied or produced by dictation. There were no mistakes or lack of comprehension while reading after application of the method during one school year.

Figure 14.
Example: written text produced by a pupil at the final stage of the method.



The text is produced in the month of May. The text contains free exposition of the content of fairy tale "Little Soldier" by H.C. Andersen.

3. RESULTS

The results obtained as the consequence of the usage of the method show positive achievements in writing, reading and general linguistic abilities after application of method during a school year or as a part of correction sessions with children who have difficulties

in their development. Usually, children were interested in all kinds of proposed tasks and enjoyed the sessions in classroom.

We find it useful to divide the achievements on the implementation of our method into theoretical conceptual knowledge about language, practical help for reading and writing process at school.

During six years of implementation of the method, each groups of pupils of the first grade has formed the following theoretical reflexive knowledge about the language:

1) Sound and letter is not the same and letter is not the name of the sound. There is a level of sound in our words and the letters are the symbols, which represent sound and their combinations. For example, the children were able to say that the sound “k” may be represented by several letters in Spanish and that the letter “g” may correspond to two different sounds.

2) There are 2 main kinds of sound: vowels and consonants. Sounds may differ according to other characteristics (long – sort; soft – hard). After the work with the method children knew that sound “r” has long and short variants in Spanish, and sound “n” has soft and hard variants.

3) The words can consist of different quantity of sound and also of vowels and consonants. Children were able to give examples of short and long words and of words with different quantity of consonants and vowels. Children could give examples of words, in which the sounds, vowel and consonants, have special place and order in the words.

4) It is possible to change the words (meaning) by changing the sounds. Children were able to give examples of changing of meaning by changing one or more sound in words: “misa” – “mesa” (“mess – table in Spanish”) and many others.

Important achievements were noticed in reading and writing of all children who took part in the work with the method, while studying in the first grade of primary school. Positive characteristics of the reading process were the following:

- The children never read by syllables, but by whole words in all occasions from the very beginning.
- The children never committed mistakes of confusion between letters, omission of sounds or sound anticipation in the words.
- The children were able to read at once sentences and short text corresponding to their age with good comprehension at the end of the work with the method.

In the process of writing the positive results were:

- The children were able to separate accurately one word from another in their writing.
- No letter in the words was wrongly separated by children.
- The usage of space organization of letters in words and between the words were always correct.

A considerable number of common orthographic mistakes in Spanish language were prevented with the help of the Method (confusion between “N” and “Ñ”, confusion between “R” and “RR”, wrong usage of special cases with letters “G”, “C”, “K”, “Q” and others). The work on introduction of specific rules for sound-letter correlation forms an important part of the method (this part of the Method was not included in the present report).

The teacher who worked with the children noticed essential differences between possibilities of this group and other children who were learning by traditional (analytic or global) training of reading. After the work with the method for one school year the children

were successful in reading and writing according to the program of Mexican Secretariat of Education for the first school year.

At the present time, our method has been applied as teaching method in a small primary school in the city of Puebla in Mexico. This school is organized by the authors of the article according to proposals of historical and cultural psychology and activity theory. The results obtained during application of the method have shown correct pronunciation of all known and unknown words, usage of correct space between words in writing, reduced number of orthographic mistakes. The teachers who work now using our Method expressed notable differences between possibilities of this group and other children who were learning by traditional (analytic or global) training of reading. They were able to pass naturally to reading of complex narrative and artistic texts at the end of the first year of primary school. High cognitive motivation permitted introduction of profound analysis of meaning and sense of stories and short novel for children with good understanding. Children were eager to read books independently, which rarely happen in traditional Mexican schools.

4. DISCUSSION

Among strong advantages of the method is correct pronunciation of all known and unknown words in Spanish, usage of correct space between words in writing, reduced number of orthographic mistakes. The method guarantees better understanding of all regularities and exceptions of correspondence between phonological level of words and its representation with graphic symbols (letters). After working with the method for one year, children commit less mistakes in reading and writing in comparison with the pupils who learn according to traditional methods (Solovieva, Torrado & Quintanar, 2018). In each group, where our method was applied, it was possible to use other kinds of creative activities with children, such as play “guess the word”, “change the word by modification of first, second or third sound and so on. Collective analysis of long complex difficult words was always accessible for children.

Another important achievement of the method is the platform for gradual introduction of theoretical thinking instead of empirical thinking predominant in pre-school age (Talizina, 1988, 2009; Davidov, 1988). We are sure that the main starting point of our Method is usage of specific orientation for oral and written analysis of words. Such orientation, introduced from external level by joint collective actions between teacher and children, permitted correct fulfillment of intellectual verbal actions of analysis and production of words and sentences. We would like to stress that the introduction of new methods elaborated according to theoretical and methodological proposals of cultural-historic psychology and activity theory could be very useful and productive (Davidov, 1996, 2001). Specific orientations might be created for correction in cases of learning disabilities and prevent mistakes of confusion, inversion, omission, wrong separation and anticipation in reading and writing. Intellectual reflexive analysis of words and separation of level of sounds and letter might be used as the basis for but also as a method for acquisition of foreign language (Solovieva, 2015), which is especially important in modern global world of communication.

The authors are convinced that high interest and constant motivation for learning depend on orientation of each action of a pupil introduced by guidance of the teacher. Such kind of pedagogical proposal is completely based on the principles of activity theory applied to teaching process (Talizina, 1984, 1988). Our proposal might be a new alternative method for initial education and especially for introduction of reading and writing in

primary school. The main challenges of activity theory consist in preparation of specific orientation within conception of the zone of proximal development.

In the case of our study, the concept of the zone of proximal development was adapted to the situation of initial introduction of written language. Specific orientation, based on the precise analysis of the system of grapho-phonemic relations in Spanish language, was created. Each content of the learning process related to introduction of initial abilities in reading and writing at school should be analyzed and systematized according to particular characteristics of each language, especially in concern of correlations, which exist between level of oral sounds and the level of graphic representation of the phonemes and their combinations. In future, it would be necessary to continue similar studies and experiences in different social contexts for diverse languages and levels of education. One of our future interests and possibilities consist in modifications of the method for introduction of written speech for English and Portuguese.

We would like to stress that the introduction of new invariant methods elaborated according to theoretical and methodological proposals of cultural-historic psychology and activity theory could be very useful and productive not only as a method of education and correction of learning disabilities but also as a method of prevention of many other kinds of difficulties, mistakes and confusion in future steps of education and in acquisition of second or third (etc.) language which is especially important in modern global communication.

5. CONCLUSIONS

The objective of the article was to describe theoretical background and procedure of implementation of Innovative method for introduction of written language according to Activity Theory. The method is introduced and applied by authors in small groups of children during the first school grade of primary school. The method shows reflective and conscious way of working with basic linguistic abilities such as phonemic and graphic representation and differentiation. These abilities conform the background for proper acquisition of reading and writing of words and simple sentences with less quantity of typical mistakes such confusion of letters, sounds, spaces between letters in words and space organization of graphic elements in writing. Specific orientation for materialized, perceptive and verbal oral and written actions were used in the method. All participants, children and their teacher, have shown interest and high motivation during six years of implementation of the method in private primary school.

Final conclusions of our experience are as follows:

1. The Innovative Method for Introduction of Written Language (Solovieva & Quintanar, 2016) showed positive results in the process of initial acquisition of written language.
2. Such positive results are related to concepts of orientation and acquisition (intellectual development) and practical usage of reading and writing correspondent to the age of the children.
3. The theoretical and methodological bases of the method open the possibility for creation of such methods for different languages and their broad usage in pedagogical and psychological day to day practice during the initial stage of introduction of written speech.
4. Other invariant methods for other steps of language acquisition, for example, for initial introduction of grammar in primary school should be created in future.
5. Frequently, learning disabilities and low success in school learning might be related to the absence of adequate pedagogical methods.

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Section 2
Cognitive Experimental Psychology

Chapter #10

EMOTIONAL REACTIONS TO ECONOMIC PREDICTIONS AND THEIR EFFECTS ON REASONING AND LOGICAL THINKING

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ABSTRACT

This chapter explores the possibility that emotions evoked by media views about the future of Portuguese economy could affect logical reasoning, particularly in problems related to financial issues, and how this effect may vary depending on the valence of emotion produced by the news. Positive or negative emotions were induced by presenting participants with paragraph excerpts of news media with financial or non-financial content (all positive or all negative). Afterwards, participants judged the logical validity of several syllogisms with neutral, negative financial or negative non-financial content and expressed their confidence in each judgment. Results indicate that negative emotions, evoked either by the priming or by the syllogisms content, lead to better performance but lower confidence. These results are in line with research showing that negative emotions promote deeper, analytical, reasoning and more cautious (less confident) judgments, while positive emotions trigger more superficial and heuristic-based judgments.

Keywords: reasoning, emotion, syllogism, decision-making, economic crisis.

1. INTRODUCTION

After the bailout loan in 2010, the Portuguese society was besieged by severe austerity (e.g., growing unemployment, salary reduction, increased taxation) due to so-called punitive interest rates often justified as the consequence of years of collective overspending. We posit that the effects of such economically and financially intimidating social environment are that more and more people become mentally preoccupied with making ends meet, which triggers increased needs of self-regulation and snowballing adverse effects on consumers' judgment, reasoning and decision making.

More recently, the Portuguese economy has shown signs of recovery from this economic crisis (e.g., decrease in unemployment rates and reduction of the austerity measures). However, experts and opinion makers are divided as to how solid and stable this recovery really is. This divide has been well captured by the media, with commentators presenting conflicting views concerning the country's economic future. There are those who convey the notion that the Portuguese economy is in the path of structural recovery, generating in consumers' positive emotions and hope in the future; whereas other opinion makers find the signs of recovery illusive (resulting mostly from the European conjuncture) and argue that the Portuguese economy is on the verge of another crisis, potentially generating negative laden emotions, stress and preoccupation among consumers.

The present study was intended to explore how the consumer's emotions, reasoning and decision behavior may be affected by these opposing views. Emotions were manipulated between-participants by priming participants with news from one of the two aforesaid media

views about the future of Portuguese economy. As expected, emotional valence was positive after priming with encouraging news, and negative after priming with deleterious news about the evolution of the economy (a similar contrast was found when participants were primed with other positive and negative media news, which content matter was unrelated to economical or financial issues). Participants then responded to several conditional reasoning problems (syllogisms). The problems' valence was either neutral or negative. Half of the problems with negative valence had financial contents and the other half had non-financial contents (see the Method section for examples).

2. BACKGROUND

Thoughts about financial demands (experimentally induced or naturally occurring) reduce cognitive performance among participants with financial difficulties (Mani, Mullainathan, Shafir & Zhao, 2013). Although Mani et al. (2013) argued that these findings could not be fully explained by emotional laden responses of stress or anxiety (but rather by the exhaustion of cognitive resources), previous research has shown that activation of emotions (both positive and negative) impairs performance in reasoning tasks. This has been found both for incidental affect (Melton, 1985; Oaksford, Morris, Grainger, & Williams, 1996; Palfai & Salovey, 1993) and for integral affect (Blanchette, 2006; Blanchette & Richards, 2004). Incidental affect refers to emotions that are evoked from a source not directly related to the reasoning task or its material (e.g., an unrelated priming task before the reasoning task). Integral affect, on the other hand, is generated by the reasoning task, more frequently by the emotional content of the reasoning problem (Blanchette & Richards, 2010).

However, research in this domain is not without controversies. Besides the aforesaid evidence of emotional content leading to low performance on logical reasoning, some studies also show that integral emotions that are personally relevant to the participant produce better performance in reasoning tasks (specifically judgment of logical validity in syllogisms – Blanchette & Campbell, 2012; Blanchette, Richards, Melnyk & Lavda, 2007). Other studies show, more generally, marked difference in styles of cognitive processing between positive and negative emotions. While positive emotions tend to promote a more superficial and unfocused processing style, negative emotions tend to promote more focused and systematic processing of information (Bless, Bohner, Schwarz & Strack, 1990; Worth & Mackie, 1987). In contrast, recent research by Sidi, Ackerman and Erez (2018) suggests that positive affect enhances participants' confidence and increases participants' cognitive performance (see also Isen, 2008).

The current study aims at contributing to this debate by testing the effect of financial pessimism (versus financial optimism) on participants' emotions and on participants' reasoning performance (as well as confidence). Financial optimism versus pessimism was primed between participants using encouraging versus deleterious news about the Portuguese economy. In order to control for valence effects and evaluate to what extent the financial domain played a distinctive role two more conditions were added which primed participants with pessimistic and optimistic news about other non-financial social issues. Logical reasoning was measured using syllogisms. The valence and content matter of these syllogisms was manipulated. Syllogisms were either neutral or emotionally negative. Emotionally negative syllogisms had financial or non-financial contents. Such manipulation allowed us to test the differential effect reported by Blanchette et al. (e.g., Blanchette & Campbell, 2012) of integral versus incidental emotions on logical reasoning. According to these previous findings, financially preoccupied participants (i.e., primed with the pessimistic view of the Portuguese economy) should show better performance in syllogisms with financial content (as these problems would be more relevant for Portuguese participants who have experienced the recent economic crisis).

3. METHOD

3.1. Participants

A total of 118 participants (66 women), with ages ranging between 18 and 52 years old ($M = 25.6$; $SD = 7.88$) participated in the study. Data was collected in Portugal via an online questionnaire.

3.2. Material

Table 1.
Examples of the 4 configurations of problems with neutral, non-financial and financial contents.

Credibility	Content	Valid	Not valid
		Non-conflict	Conflict
Credible	Neutral	All flowers need water. All roses are flowers. Therefore, all roses need water.	All fruits have vitamins Oranges have vitamins. Therefore, oranges are fruits.
	Negative Non- Financial	All cancer treatments are painful. Chemotherapy is a cancer treatment. Therefore, chemotherapy is a painful treatment.	All contagious diseases are serious. AIDS is a serious disease. Therefore, AIDS is a contagious disease.
	Financial	All minimum wage workers have financial difficulties. Call-center workers are payed the minimum wage. Therefore, call-center workers have financial difficulties.	All financial products have bank fees. Credit cards have fees. Therefore, credit cards are financial products.
		Valid	Not valid
		Conflict	Non-conflict
Not credible	Neutral	All animals have eyes. Viruses are animals. Therefore, viruses have eyes.	All birds have wings. Dogs have wings. Therefore, dogs are birds.
	Negative Non- Financial	All criminals cause suffering to their victims. Psychotherapists are criminals. Therefore, psychotherapists cause suffering to their victims.	All infectious diseases cause many deaths. Gastritis cause many deaths. Therefore, gastritis is an infectious disease.
	Financial	All government companies charge fees. NGOs are government companies. Therefore, NGOs charge fees.	All motor vehicles are taxed. Bicycles pay taxes. Therefore, bicycles are motor vehicles.

Twelve syllogisms were created with different contents: four with neutral content, four with negative non-financial content (e.g., content matter involving diseases) and four with negative financial content (e.g., content matter involving debts and interest rates). The syllogisms' validity and credibility was manipulated orthogonally. As a result, there were four possible configurations for each type of content. Syllogisms in which credibility and validity did not match (credible but not logically valid or not credible but logically valid) were considered conflict problems (as they present a conflict between the logical deduction and the credibility of the conclusion) and the remaining were considered non-conflict problems (as the logical validity and credibility of the conclusion converge in the same answer; see Table 1).

3.3. Design

The study had a 4 x 3 x 2 x 2 experimental design, with Emotional priming (financial positive, N = 26; financial negative, N = 37; non-financial positive, N = 28; non-financial negative, N = 28) as a between-participants factor and syllogism contents (neutral, non-financial, financial), syllogism credibility (credible, not credible), syllogism validity (valid, not valid) as within-participants factor.

3.4. Procedure

Participants were invited to participate in two separate studies. In the first study, they were asked to respond to a pre-test of items to be included in a questionnaire concerning people's perception of the present state of the national economy (the emotional priming task). In the second study, they were requested to respond to a series of conditional reasoning problems or syllogisms (the reasoning task).

The priming task was inspired in priming manipulations developed by Salancik (1974; Salancik & Conway, 1975), and consisted in presenting participants with six paragraphs (presented in pairs with each paragraph accompanied by a related image to reinforce the emotional response). All paragraphs were real excerpts from the news media. For each pair of paragraphs, participants were asked to choose the one they considered more relevant and striking. For each participant, the six paragraphs were either all about the Portuguese economic context or about content unrelated to economic or financial issues (e.g., sports). Additionally, for each participant the six paragraphs were all positive or all negative in valence, thus creating four conditions (financial positive or negative and non-financial positive or negative). After evaluating the six pairs of paragraphs, participants responded to a manipulation check in which they indicated, for each of 19 emotions (obtained and expanded from Gross & Levenson, 1995), how intensely they felt them during the presentation of the news (pairs of paragraphs) in a scale from 1 ("did not feel at all") to 7 ("felt totally").

Following the priming task, participants were debriefed, thanked for their participation in the first study and directed to the second study. The second study was introduced as a pre-testing of reasoning problems in the form of syllogisms to be used in a future study. Participants were asked to respond, for each syllogism, if its conclusion derived logically from the premises and how confident they were in their response - in a scale from 1 ("not confident at all") to 7 ("completely confident"). Participants were informed that in all syllogisms they should accept the premises as true and focus only on evaluating the logical validity of the conclusions (this warning was repeated before the presentation of each syllogism). After responding to the 12 syllogisms, participants were debriefed and asked how many studies had they performed, what was each study's goal and if they thought there was any relation between studies. These questions were used to verify the credibility of the two independent studies cover story.

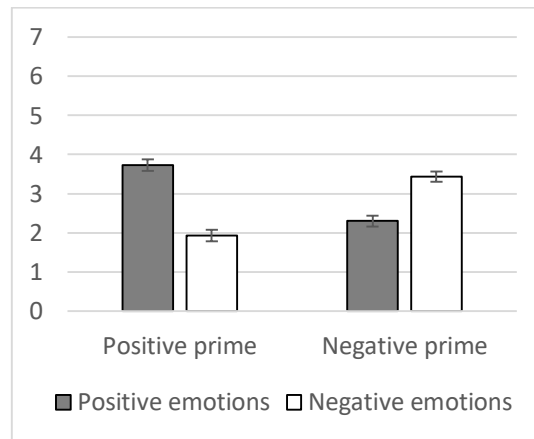
4. RESULTS

4.1. Manipulation check

Ratings of the emotions felt during the evaluation of the news were included in an exploratory factor analysis. Two main factors emerged, explaining 53% of the total variance. The first was a negative valence factor composed of 13 emotions (alert, anxious, unmotivated, disgusted, irritated, insecure, annoyed, nervous, apprehensive, outraged, tense, sad and angry) that explained 40% of variability with loadings varying between .421 and .864; the second was a positive valence factor composed of 4 emotions (confident, entertained, hopeful, satisfied) that explained 14% of variability with loadings varying between .464 and .663.

Responses from emotions in each factor were averaged by participants and included in a 2 X 2 X 2 ANOVA with Emotion Valence (positive, negative) as a within-participants factor, Priming Valence (positive, negative) and Content (financial, non-financial) as between-participants factors. A significant main effect of Emotion Valence showed that mean intensity of positive emotions ($M = 3.01$, $SE = .10$) was significantly higher than mean intensity of negative emotions ($M = 2.68$, $SE = .10$). The only significant interaction was between Emotion Valence and Priming Valence $F(2, 228) = 104.54$, $p < .001$, $\eta_p^2 = .48$, showing the expected pattern of more presence of negative than positive emotions after negative valence priming when compared to positive valence priming (see Figure 1). This indicates that the priming manipulation elicited the desired emotions in participants.

Figure 1.
Intensity of positive and negative emotions by emotions primed.

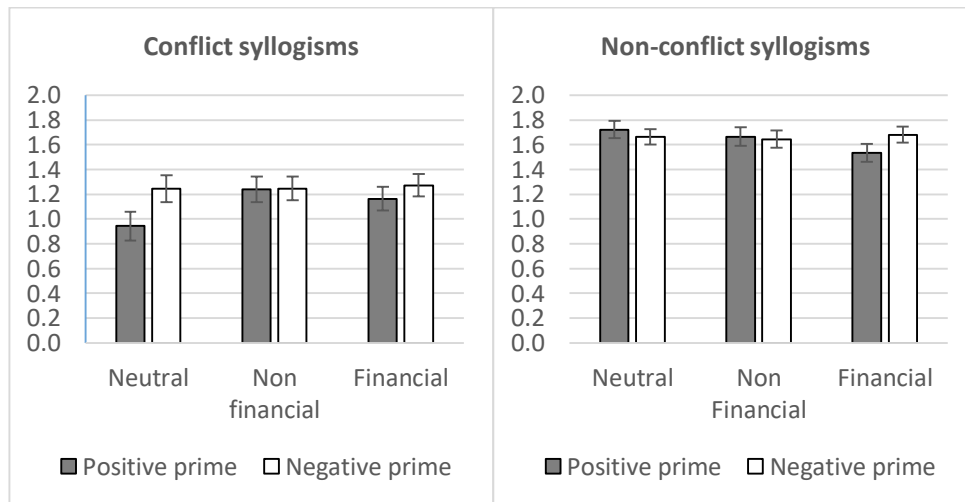


4.2. Accuracy in syllogisms

Number of correct responses to syllogisms by participant were analyzed in a 2 X 2 X 3 X 2 ANOVA with Priming Valence (positive, negative) and Priming Content (financial, non-financial) as between-participants factors, and Syllogism Content (neutral, non-financial, financial) and Syllogism Type (conflict, non-conflict) as within-participants factors.

There was a significant main effect for Syllogism Type, $F(1, 115) = 77.64, p < .001, \eta_p^2 = .40$, indicating, as expected, more correct judgements for non-conflict problems than for conflict problems. There was an interaction between Syllogism Content and Syllogism Type, $F(2, 230) = 4.07, p = .018, \eta_p^2 = .03$, indicating that conflict problems with neutral content led to lower accuracy ($M = 1.09, SE = 0.08$) than both non-financial ($M = 1.24, SE = 0.07$) and financial content problems ($M = 1.22, SE = 0.07$), $F(1, 115) = 5.22, p = .024, \eta_p^2 = .04$, while in non-conflict problems accuracy for neutral content ($M = 1.69, SE = 0.05$) was not significantly different from accuracy for both non-financial ($M = 1.66, SE = 0.05$) and financial content problems ($M = 1.61, SE = 0.05$), $F(1, 115) = 1.81, p = .181, \eta_p^2 = .01$. A second order interaction between Syllogism Content, Syllogism Type and Priming Valence, $F(2, 230) = 3.58, p = .029, \eta_p^2 = .03$, indicate that the pattern of lower accuracy for conflict neutral problems is observed only after positive valence priming and not after negative valence priming. This is confirmed by a significant difference in accuracy between problems with neutral content ($M = 0.94, SE = 0.12$) and problems with both financial ($M = 1.16, SE = .10$) and non-financial content ($M = 1.24, SE = .10$), $F(1, 115) = 8.74, p = .004, \eta_p^2 = .07$, after positive priming but not after negative priming, $F < 1$ (see Figure 2).

Figure 2.
Proportions of corrects judgments of conflict and non-conflict syllogisms with different contents under positive and negative priming.



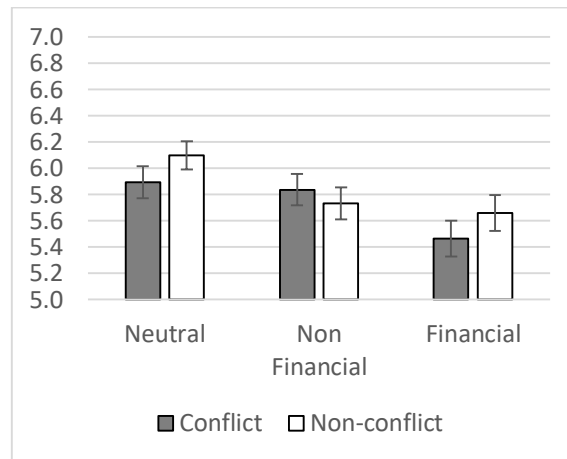
4.3. Confidence in responses to syllogisms

Response confidence in syllogism judgments correlates positively (albeit not strongly) with judgment performance for all types of contents (with correlation coefficients ranging between .19 and .34, $ps < .034$). The same $2 \times 2 \times 3 \times 2$ ANOVA used for accuracy in responding to the syllogisms was performed with participants' confidence on their responses as a dependent variable. There was a significant main effect of Syllogism Content, $F(2, 230) = 18.27, p < .001, \eta_p^2 = .14$, indicating that response confidence for problems with neutral content ($M = 5.99, SE = .11$) was higher than response confidence for both financial and non-financial contents, $F(1, 115) = 28.15, p < .001, \eta_p^2 = .20$, while response confidence for problems with non-financial content ($M = 5.78, SE = .11$) was higher than response confidence for problems with financial content ($M = 5.56, SE = .13$), $F(1, 115) = 9.22,$

$p = .003$, $\eta_p^2 = .07$. There was also an interaction between Syllogism Content x Syllogism Type, $F(2, 230) = 3.45$, $p = .033$, $\eta_p^2 = .03$. Response confidence for conflict problems ($M = 5.89$, $SE = .12$) and non-conflict problems ($M = 6.10$, $SE = .11$) with neutral content were significantly different, $F(1, 115) = 5.78$, $p = .018$, $\eta_p^2 = .05$; while the difference in response confidence in problems with financial content between conflict syllogisms ($M = 5.46$, $SE = .14$) and non-conflict syllogisms ($M = 5.66$, $SE = .14$) were marginally significant, $F(1, 115) = 3.72$, $p = .056$, $\eta_p^2 = .03$. However, response confidence in problems with non-financial content showed no significant difference between conflict ($M = 5.83$, $SE = .12$) and non-conflict versions ($M = 5.73$, $SE = .12$), $F(1, 115) = 1.30$, $p = .257$, $\eta_p^2 = .01$ (Figure 2).

Figure 3.

Confidence means for conflict and non-conflict syllogisms with different contents.



4.4. Mediation analysis

To further explore the impact of the positive and negative valence priming manipulations on accuracy and confidence in responding to the syllogisms, we first computed the difference between positive and negative relevant emotions (as identified in the factor analysis) to create an affect score for each participant (positive values indicate a mean positive affect whereas negative values indicate a mean negative affect). We then computed overall accuracy and confidence scores aggregating the syllogisms with different contents. Two mediation analysis were then conducted. The first one tested the hypothesis that the impact of the priming valence on accuracy in responding to syllogisms is mediated by the emotions. In other words, if negative priming (compared to positive priming) would lead to an increase in mean negative affect (i.e., more negative emotions and/or less positive emotions), leading to worst performance in logic syllogisms. Indeed, besides a direct effect of priming valence on accuracy 95% CI = [.0145; .3372] a bootstrapping analysis (5000 resamples) using the PROCESS macro (Hayes, 2012), shows that mean affect scores mediated the effect of priming valence (i.e., positive or negative priming) on accuracy, 95% CI = [-0.2417; -0.0041]. The second mediational analysis tested if the impact of priming valence on confidence was mediated by emotions (i.e., participants' affect score). Using the same statistical procedure, we found a direct effect of priming valence on confidence ratings, 95% CI = [0.1924; 1.3941] and also an indirect effect, showing that mean affect mediated the effect of priming valence on confidence, 95% CI = [-0.09804; -0.0162].¹

5. DISCUSSION

The results from our study suggest an effect of emotion valence on logical reasoning performance. There is a consistent difference in performance between neutral problems responded under a positive priming condition and the remaining ones. Interestingly, this is the only instance in which there are no negative emotions evoked. In all other instances there are negative emotions evoked by either the negative priming, the negative content of non-financial and financial syllogisms, or both. Negative priming (financial or non-financial) and/or responding to negative valence problems (regardless of the financial or non-financial content of these problems) seem to be enough to enhance decision behavior in logic deductive tasks such as syllogisms that present a conflict between logic validity and credibility.

To further explore the impact of the positive and negative priming manipulations on accuracy and confidence, we conducted two mediation analysis, which showed that the effect of the valence of the priming on participants' accuracy and confidence in responding to conflict syllogisms was mediated by participants' emotions. In other words, generally negative and deleterious news versus positive and encouraging media news (regardless of the financial or non-financial content matter of the news) induced net negative emotional states, which then lead to improved accuracy and confidence in responding to logical deductive tasks (syllogisms).

These results are in line with the argument that negative affect leads to more analytical processing whereas positive affect leads to more heuristic processing (Worth & Mackie, 1987). In order to account for the differential effects of negative and positive affect on cognitive processing, Schwarz and Clore (2007) proposed the affect-as-information theory, which suggests that affect serves an adaptive signaling function that directs cognitive processing (Schwarz, 1990, 2010). More specifically, positive affect signals a safe and benign environment and consequently leads individuals to rely on more shallow top-down processing (e.g., heuristics); whereas negative affect signals threat or the presence of a problem and consequently more systematic processing (e.g., Huntsinger, Isbell, & Clore, 2014).

The effect of subjectively appropriate integral emotions found in Blanchette et al. (2007) and in Blanchette and Campbell (2012) was not replicated. The enhanced performance in judgment of syllogisms with financial content was the same after priming with financial and priming with non-financial content. We are not the first to fail to replicate this result. Eliades, Mansell and Blanchette (2013) have also failed to find the effect (although the reasoning task used was a base-rates neglect task instead of syllogisms). In our case, the way we operationalized integral emotions was through priming financial preoccupation and responding to financial content syllogisms, whereas Blanchette and Campbell (2012) tested performance of army veterans on combat-related emotional syllogisms. There probably was in their problems a stronger link to personal (integral) experience. More research is certainly needed to further explore the differential effect of integral and incidental emotions.

Interestingly, syllogisms content seems to have had somewhat opposite effects on judgment performance and confidence in the case of conflict problems. When compared to neutral content, negative (financial and non-financial) content improved performance but lead to a decrease in confidence (particularly in the case of financial content). Such pattern of results suggests that financial related negative content enhanced attention and recruited participants' cognitive resources to more carefully deliberate and respond to logical reasoning problems. However, such content simultaneously increased subjective uncertainty and hesitation translated into lower confidence levels on participants' own answers. This result is also in line with the affect-as-information theory, which proposes that positive affect

increases confidence and thus promotes reliance on short-cut strategies (see Efklides, 2016, for a review).

As aforementioned, Sidi et al. (2018) found that positive affect enhanced participants' confidence (as well as success in cognitive processing). In contrast, in our results positive priming (compared to negative priming) lead to lower performance and lower confidence. However, there are potentially relevant differences between the two studies. First, Sidi et al. (2018) only used positive emotional priming and neutral priming conditions; second, they used general knowledge questions as the cognitive task rather than a logical reasoning task. Further research could explore more systematically the extent with which these differences may explain the disparity in results.

Finally, the increase in deliberation and decrease in subjective confidence found in our study might signal the beginning of a response to a context pointing to the risk of future economic difficulties. Had this context been maintained and the mental (and physical) weariness brought about by long-term deliberation efforts and preoccupation it could have increased levels of stress and deteriorated performance (Lund et al., 2010). In fact, this is in line with Mani et al. (2013) interpretation of their own results according to which, cognitive impairment can be the product of long-term financial preoccupations. In the short term, however, priming negative scenarios of economic difficulties seems to evoke negative emotions that improve logical decision-making.

6. FUTURE RESEARCH DIRECTIONS

An interesting venue for future research would be to show increased and decreased reasoning performance under emotional stress from financial issues over a time lapse. Priming participants with scenarios of economic difficulties could trigger a coping mechanism to a stress related response (e.g., Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986), leading participants to engage in additional cognitive effort, thus improving logical reasoning in the short run. However, overtime, the depletion of cognitive resources could lead to a decrease in performance.

In responding to syllogisms, as the ones used here, participants are thoroughly warned to ignore the believability of the syllogism content and focus on its logical validity. This is deemed a necessary condition to guarantee that when participants fail to respect the syllogism logic, they are actually failing to inhibit the intuitively appealing (but wrong) believable answer and not just misunderstanding the task. As a result, participants never fail to detect the conflict because they are explicitly told about it. This is unfortunate because one of the key aspects of rational behavior is the ability to detect the conflict between alternative responses in reasoning problems (e.g., Stanovich, 2009). Indeed, conflict detection triggers the need to engage in more reasoning before responding. If participants fail to detect the conflict, they will not engage in effortful deliberate reasoning (even if they have the ability and cognitive resources to do so). This was something that, by design, the current study could not address. However, there are other reasoning tasks that do not involve the need of such explicit warnings. These reasoning tasks (e.g., base-rates neglect task) could be used in future research to assess not only participants' ability to inhibit intuitive responses but also their ability to detect the conflict that calls for such inhibition effort in the first place. In sum, a relevant follow-up for the present study would be to verify if negative priming valence (i.e., financial or non-financial pessimism) could improve reasoning performance even in tasks where conflict detection is a necessary first step to respond rationally or if it only improves reasoning performance once the conflict (in reasoning tasks) is pointed out to the participants as it happened in the current study.

7. CONCLUSION

Our manipulations of a positive or negative perspective of the country's economic future did not improve reasoning problems with financial contents specifically, but financial content in reasoning tasks promoted focus and systematic processing akin to a processing style derived from negative moods. Negative emotions, either evoked by the priming task or by the problem content, lead to better performance and worse confidence, in line with affect-as-information theory (e.g., Schwarz & Clore, 2007) but in contrast with other research (e.g., Sidi et al., 2018). Our findings add to the extant literature concerning the ongoing debate on the relation between emotions and reasoning. By studying the effects of media news valence and content, we bring this discussion to more applied settings extending its implications to how people's socio-economic environment might affect their judgment accuracy and how these effects are at least partially mediated by emotions.

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¹ In the mediation analyses, the direct effects of priming valence on accuracy/confidence are positive because positive priming was coded "1" and negative priming was coded "2". Hence, increase from "1" to "2" is associated with an increase in performance / confidence. The indirect effects are negative because net affect was computed as "mean rating of positive emotions – mean rating of negative emotions". Hence, a decrease in net affect is associated with an increase in performance / confidence.

Section 3
Legal Psychology

Chapter #11

ADOLESCENT FRONTAL LOBE BRAIN DEVELOPMENT: DISPROPORTIONALITY EFFECTS OF SOCIAL AND ECONOMIC DEPRIVATION AND IMPLICATIONS FOR JUVENILE COURT CASE DISPOSITION, CHILD WELFARE REFORM, AND EDUCATION REMEDIATION

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ABSTRACT

Neuroscience has documented the substantive growth of frontal lobe gray matter during the adolescent years, similar to the brain growth spurt in early childhood – both precursors of preparation for quantitative and qualitative adaptive learning. Several United States Supreme Court decisions (*Roper v. Simmons*; *Graham v. Florida*; *JDB v. North Carolina*; *Miller v. Alabama*) have affirmed the historical chronological age of ‘majority’ being 18 years old, is inconsistent with what it means to be an adult. Mature cognitive processing is more appropriately characterized by the “Jean Piagetian” formal operations stage, i.e., abstract thinking, logical thinking, decision-making, and long-term planning. Formal operations is now acknowledged to be achieved during a young adult’s mid-20’s years of age. Not yet answered is what are the effects on ethnic minority young adults (mid -20’s), who have social, economic, academic, and/or educational deprivation? This chapter will explore these issues.

Keywords: brain, adolescent, judges, child welfare, ethnic minority youth, juvenile justice reform.

1. INTRODUCTION

Neuroscience has documented the substantive growth of frontal lobe gray matter during the adolescent years, similar to the brain growth spurt in early childhood – both precursors of preparation for quantitative and qualitative adaptive learning. Several recent United States Supreme Court decisions.

(*Roper v. Simmons*¹; *Graham v. Florida*²; *JDB v. North Carolina*³; *Miller v. Alabama*⁴) have affirmed that the historical chronological age of ‘majority’ being 18 years old, is inconsistent with what it means to be an adult. Mature cognitive processing is more appropriately characterized by the Jean Piagetian formal operations stage (Wadsworth , 1996), i.e., abstract thinking, logical thinking, decision-making, and long-term planning. Formal operations are now acknowledged to be achieved during a young adult’s mid-20s years of age.

Adult (mature) cognitive functioning is a combination of adequate brain tissue (gray matter), and learning (white matter). White matter is accumulated as a person grows, develops adaptive schema, has experiential practice, is taught, learns from modeling, and observations. We can thus infer that the more diverse are these ways of becoming an adult, the more competent the young adult will be.

Not yet answered is what are the norms for ethnic minority young adults (mid -20s), who have social, economic, academic, and/or economic deprivation?

If such life experiences result in less white matter, and less complex white matter – are consequently, the normative data on economically, educationally, and socially deprived ethnic minority youth significantly different from majority youth? If yes, the implications are enormous for such issues as: (1) educational remediation; (2) juvenile court case disposition, (3) character development, (4) self, and (5) familial sufficiency.

This paper will explore these complex issues and make recommendations for policy reforms.

2. LITERATURE REVIEW

Child and developmental psychologists for many years have explored and chronicled historical perspectives on the emerging and developing human. The identified important milestones (e.g., crying, crawling, talking walking, toilet training, cognitive development, moral reasoning) were reflected among theorists such as Sigmund Freud, Erik Erikson, Jean Piaget, Margaret Mahler, Ivan Pavlov, B.F. Skinner, Abraham Maslow, Albert Bandura, and Lawrence Kohlberg (Myers & DeWal, 2015). However, since Jay Giedd's (2008) groundbreaking neuroscience research on the adolescent brain, adolescent and young adulthood maturation views adulthood not categorically (i.e., as at age 18 or 21 years of age); but more dimensionally (with brain growth continuing until the mid-twenties), and cognitive mastery likely continuing for years later (some suggestions of early 30s years of age (Adamson, 2016).

The focus of this paper is on how adolescent brain development may be impacted by socioeconomic factors for ethnic minority youth particularly as related to their involvement in the child welfare system, school education and discipline policies, case processing in the juvenile and criminal justice systems. But first we will consider some of the important research published to date on neuroscience and adolescent development.

2.1. Legal issues and adolescent brain development

Some of the early publications began to question legal decisions made regarding juvenile competency and legal responsibility. Bradley et al. (2012), note that when compared to adults, juveniles do not have the same understanding and thus lack the decision-making skill necessary to consult with their lawyer. These are important attributes. As noted in *Dusky v. United States*⁵, whether the accused has sufficient present ability to consult with his lawyer with a reasonable degree of rational understanding—and whether he has a rational as well as factual understanding of the proceedings against him. “In a similar context, an article by Steinberg (2013) observes, that adolescents and adults are similar on some cognitive attributes (e.g., logical reasoning about moral, social, and interpersonal matters). However, adolescents are not equally mature on capacities such as impulse control, sensation seeking, reward sensitivity, and resistance to peer influence. Bonnie and Scott (2013) also authored an article on the adolescent brain and law. They write, “[T]his new research provides the basis for understanding why many adolescents become involved in risky activity and desist as they mature into adulthood...The research indicates that the prefrontal cortex matures gradually (into early adulthood) (over time resulting in improvement in impulse control and emotional regulation)...This gap between early increase in sensation seeking and later development of emotional and behavioral controls has been described by one scientist as ‘starting the car without a skilled driver’(Bonnie & Scott , 2013, p. 159). Luna, Paulsen, Padmanabhan, and Geier (2013), also stress the important nexus

between the teenage brain, cognitive control, and development of the (maturing) prefrontal cortex.

It is sometimes difficult to understand the creative ways children and adolescents seem to get themselves into trouble, and at the same time understand the research that indicates their brains are still developing. Much of it is explained by the uneven development of the brain. We have long observed these differences in the physical development of adolescents as they enter the phase of puberty; i.e., primary characteristics (sexual organs) and secondary characteristics (height and shape). Monahan, Steinberg and Piquero (2015), identify ways in which the brain's neurological development helps explain the uneven, and risk-prone decision making of adolescents. Their Abstract notes that, "Adolescents are less blameworthy than adults. Responses to juvenile offending should take account of malleable aspects of psychosocial functioning in a developmentally informed manner." At page 584 of the article they state, "[O]ne reason why susceptibility to peer pressure declines as adolescents mature into adulthood; they are better able to put the brakes on an impulse aroused by friends." Further insights into the inconsistent and reckless behavior has been observed by Kramers-Olen (2015) in the article on neuroscience, moral development and the criminal capacity of youth. She writes, "[P]rior to adulthood, there is less communication between brain regions involved in rational decision making and the regulation of emotional arousal. Hence, in adolescence, strong emotional material is less likely to be regulated by those parts of the brain that regulate impulse control and compare risks and rewards." (Kramers-Olen, 2015, p. 470).

Policy advocates increasingly advocate for ways in which traditional system reforms should be modified based on adolescent brain development research. The National League of Cities (Furr, 2016) highlighted the following issue, "First offenses committed by young adults often occur as a consequence of their stage of development, rather than any deep-seated criminality. Recent brain development research concluded that the risk-taking and poor decision-making characteristic of adolescence continue through age 25. Second, the young adult age range represents the most common time as which serious mental illness first appears and when substance use peaks." Given that many decisions that lead to negative outcomes for youth, the issue of moral development was explored in a study by Chiasson, Vera-Estay, Lalonde, Dooley, & Beauchamp (2017, pp. 515-516) Their perspectives on the impact of moral development indicate that, "Moral reasoning (MR) is an important socio-cognitive skill that refers to the ability to analyze and evaluate social situations in light of moral criteria in order to establish judgments about right and wrong behaviors ... From a neuropsychological point of view, this higher order socio-cognitive skill is underpinned by neural networks that combine affective, cognitive, and motivational processes across development and are rooted in social experience. As such, MR development promotes the establishment of healthy social behaviors and positive interpersonal interactions while regulating and inhibiting the emergence of socially inappropriate behaviors." Kemp, et. al. (2017), in the conclusion of their study wrote, "Continued integration of adolescent development research findings across multiple specialties, such as independent functioning, decision making, emotion regulation, and cognitive ability, may help to improve outcomes for juvenile justice-involved youth." (p. 90). To these important considerations must now always include the impact of socio-economics of adolescent brain development, particularly for ethnic minority youth. Although intuitively most would agree this dimension is important, in order for all related research communities to embrace this aspect, we must be intentional and insistent that all future research include this overly neglected component. Failing to do so has resulted in disparate treatment of ethnic minority youth in the child welfare, education, behavioral health, juvenile justice and criminal justice systems. Laurence Steinberg (2017) has been a prolific contributor to the important implications adolescent brain development must inform every part of the way we see, raise, educate, and socialize children and youth.

We now have rigorous teeth to the folklore maxim that, *children are different... they are not just little adults*. In a recent article he writes, “Although the United States today continues to punish juveniles who commit serious crimes more harshly than does the rest of the industrialized world, research has played a role in pushing the pendulum back toward a more progressive position, in which legislators, practitioners, and judges have become more likely to acknowledge that juveniles differ from adults in important ways that warrant their differential treatment under criminal law” (Steinberg, 2017, p. 411). He also states, “Adolescence is a critical period with regard to many aspects of development, not only academic achievement, such as social relationships, mental health, vocational preparation, and psychological maturity. Life events (such as incarceration) that disrupt functioning in one or more of these areas may have greater long-term consequences for adolescents than they do for adults (p. 417)”. And, finally in his conclusion he writes, “It is astonishing that it took more than a decade of concerted effort to persuade policymakers, practitioners, and the public that, “kids are different ... (p. 418).” Although, many lives will have been negatively affected by these delays in attention – it is hoped that in less than a decade policy will also bring to the undeniable conscious that many ethnic minority adolescents are different than some of their peers, not because of any inherent deficit, but because we have not brought their needs to the attention of service providers, policy makers, and researchers that inadequate socioeconomic access creates anemic environments for healthy brains to grow. With this acknowledgement future adolescent brain development research must include this variable in their studies. The absence – now known, if not addressed approximates ethical malpractice in research on these populations.

2.1.1. Socioeconomic impacts on adolescent brain development

The literature in this area is emerging. In 2018, Farah published this article, *Socioeconomic status and the brain: prospects for neuroscience-informed policy*. Her conclusions seem to reflect the somewhat kneejerk reactions to established paradigms in most fields of inquiry. First, she tempers this area of research with the following statements, “The neuroscience of SES (socioeconomic status, *added*) is a young field. Many of the questions and controversies discussed in this Perspective can be traced to its fledgling status... Scientifically, we have only scratched the surface of the SES-brain function relationship, and many questions remain open. Which findings will replicate and generalize and which will not? What can we say with confidence about the mechanisms linking SES and the brain? To what extent do the answers to these questions depend on specific dimensions of SES, such as income or neighborhood characteristics, or on poverty per se as opposed to graduations between higher levels of SES?... Do they vary across cultures or ethnicities or between urban and rural communities? There is little that we can say with confidence. This is particularly true when we remember the findings on adverse experience more generally (including trauma, maltreatment and institutionalization) cannot be applied automatically to the understanding of socioeconomic adversity” (Farah, 2018, p. 436). One of the critics she cites said the following, “Neuroscience has little or nothing to contribute to addressing these problems [of low SES] and is unlikely to add anything of significance in the future” (Farah, 2018, p. 436). This critic should consider how socioeconomics may affect a kindergarten child whose reasoning and decision making may result in being led out of school in handcuffs. Or, how poor ethnic minority male and female youth are arrested when initially only stopped for questioning. Or those youth who are die from police shootings. The absence of effective parenting styles, problem solving experiences and dialogue with poor youth deprive them of important cognitive processing skills that can be protective factors mediating life altering and life ending risk factors. The criticism seems more than a critique; it seems

cynical – not new for disenfranchised populations. Just a reminder that the world too, was thought to be flat.

Notably, this vein of important research continued with report of the following study, *Childhood socioeconomic status and executive function in childhood and beyond* (Last, Lawson, Breiner, Steinberg, & Farah, 2018). In the discussion they write, “It suggests that the SES disparity in EF (executive function, *added*) is established early in life and holds steady into adulthood... [T]he present findings provide the most relevant evidence at hand on the stability of SES effects on the EF from childhood through adulthood. It suggests that SES disparities in EF observed in childhood cannot be expected to be resolved in adulthood” (Last et al., 2018, p.6).

3. 21st CENTURY SOCIETAL CONSEQUENCES OF SOCIOECONOMICS, RACE, CHILD, AND ADOLESCENT DEVELOPMENT⁶

Before chronicling the troubling reports that are included in this section, I am recall how often – when presenting these data – particularly in community settings, I was reminded that many ethnic minority families (parents, caretakers and the children) overcome these odds, and lead successful lives, and go forward to raise other healthy children. Those children say thanks to their mothers and fathers, older siblings, other extended family members, neighbors, babysitters, child care workers, kindergarten teachers, Head Start, elementary and secondary teachers, faith community, coaches, enrichment and intramural programs, mentors, and others who helped. But for those who were not so helped; those who we say may have fallen through the cracks, the following statistics are far too normative.

4. DISPROPORTIONALITY EFFECTS ON ADOLESCENT BRAIN DEVELOPMENT

4.1. Racial disproportionality effects in child welfare

- The child welfare community has moved from acknowledging the problem of racial and ethnic disproportionality and disparity in the child welfare system to formulating and implementing possible solutions (Child Welfare Information Gateway, 2016, p. 1).
- A significant amount of research has documented the overrepresentation of certain racial and ethnic populations – including African Americans and Native Americans – in the child welfare system when compared with their representation in the general population (Child Welfare Information Gateway., 2016, p. 2).
- Although there is widespread recognition of the problem, there is a paucity of research about the causes (and consequences, *emphasis added*) of disproportionality and disparity and of promising practices to address them (Child Welfare Information Gateway, 2016, p. 17).
- Disproportionality of Minority Children in Child Welfare Investigations
- Even a cursory look at the number of children in “substantiated” cases of child maltreatment versus the number of children in the general population reveals a startling and concerning level of disproportionality based on race or ethnicity. (“Substantiated” is not the same as a finding of guilt in a criminal court. It means only that the agency believes abuse or neglect occurred. In most states, the investigator need only believe that there is slightly more evidence of maltreatment than not, to reach this conclusion) (Child Welfare Information Gateway, 2016, p. 7).

- Forty-seven states and D.C. (District of Columbia) show a clear pattern of disproportionality in at least one race/ethnic group, whether it involves primarily African-Americans; Hispanics; those of mixed race; or even Whites. Ten states showed disproportionality in the number of African Americans and those of Multiple Races, which may be related. And more than twenty states showed significant disproportionality against several minority groups across the board (at The Parental Rights Foundation, 2018, p. 8).

4.1.1. Disproportionality Effects on Adolescent Brain Development in School Discipline

- Major racial disparities in student discipline rates have been documented for decades. Most recently, the 2013-14 Civil Rights Data Collection (CRDC) documented that black students, who make up 16 percent of enrollment, accounted for 40 percent of suspensions nationally (Gordon, 2018, p. 1).
- Racial inequity in school discipline practices is a major civil rights challenge in U.S. schools. Non-dominant students, particularly Black students, are referred, suspended and expelled from K-12 public schools at significantly higher rates than White students (Gordon, 2018, p. 4).
- It is also important to note that when Black students are disciplined they are more likely to be disciplined for subjective offenses, such as “disrespect” or “defiance,” and more likely to receive harsher punishments than White students for the same infractions” (Gordon, 2018, p. 4).
- The consequences of exclusionary discipline practices are significant. A recent study estimated that lost instruction due to school discipline amounted to over 12 million days each year. Importantly, when students are removed from classrooms and schools due to harsh disciplinary policies and practices, often they do not receive the adequate opportunities to learn. Not only are suspensions and expulsions correlated with negative academic outcomes, the long-term effects are significant as well. Students who have been suspended or expelled have higher rates of entry into the juvenile justice system and incarceration as adults (Tefera, Siegel-Hawley, & Levy, 2107, p. 5).

4.1.2. Disproportionality Effects on Adolescent Brain Development of Ethnic Minority Youth in the Justice System

- The landmark 1988 report to Congress, *A Delicate Balance*, highlighted concerns regarding disparate *confinement*, and led to an amendment to the Juvenile Justice and Delinquency Prevent Act (JJDP) of 1974 to track those differences through the Disproportionate Minority Confinement (DMC) core requirement. Later amendments, passed in 2002, expanded the concept of DMC, seeking to measure disproportionate *contact* beyond the point of *confinement* (The Sentencing Project., 2014, p. 1).
- What is not in dispute is that the differences exist. The extent to which jurisdictions experience racial and ethnic disparities has been exhaustively studied. A 2002 literature review found that two-thirds of studies on minority overrepresentation in the criminal justice system showed negative race effects at one or more steps in the process (The Sentencing Project., 2014, p. 1).
“He’s not crazy. He’s hurting”: Suicides are rising for black and Latino men in Texas

Adolescent Frontal Lobe Brain Development: Disproportionality Effects of Social and Economic Deprivation and Implications for Juvenile Court Case Disposition, Child Welfare Reform, and Education Remediation

As if on cue, I saw this article on the front page of the *Dallas Morning News* (Jaramillo, 2019). Here are some highlights from the article.

- For communities of color in Texas, suicide rates are on the rise for young men, as are reported thoughts of suicide.
- Suicide was the third-leading cause of death for black and Latino males under 24 in Texas, after accidents and homicide.
- While mental health problems affect every demographic, these young men are more likely to live in poverty, experience trauma or be exposed to violence. And, they are less likely than whites to seek help. The cost of mental health treatment adds another barrier to care.
- And for some, the ongoing immigration crisis causes anxiety, with fears about deportation.
- The Rev. Donald Parish Jr., who founded A Steady Hand, a mentoring organization for boys at Carter High School in Oak Cliff (Dallas), said he often sees anxious and depressed students. Ninety-eight percent of Carter students are black or Latino and 73 percent are low-income.
- “I think mental health has been stigmatized for black men, and my Latino brothers. We can’t have that conversation because we worry that our brothers are going to laugh at us,” Parish said.
- “We just say stuff like, ‘Man he’s crazy,’” he said. “He’s not crazy. He’s hurting.”

5. STRATEGIES FOR IMPROVING ADOLESCENT BRAIN DEVELOPMENT FOR SOCIOECONOMICALLY DEPRIVED ETHNIC MINORITY YOUTH

When I provided direct services to, principally, African American male youth in the juvenile justice system – sometimes I had to make home visits. After a number of these visits I was struck by after spending more than 90 minutes with a parent, I had few progress notes about my male youth client. What I realized was the time was consumed by the parent telling me the stories of their pain(s). It was not that they weren’t interested in help for their child. The problem was that here, they had a relationship with a professional they could talk to, and they savored this opportunity. Telling ‘stories’ is important. As my career progressed from individual service delivery to consulting – I was again struck with what seemed like such little progress when bringing all the community “stakeholders” to the table. The beauty of these forums was that everyone got a chance to speak. All voices were heard. Such was the devil in the details. The judge, police officer, minister, lawyer, probation officer, parent, youth teacher all had an equal voice. The professionals wanted to problem solve, to create action plans, outcome measures, and accountabilities for next steps. Though each participant agreed on the agenda – most community members did not easily move beyond their turn to tell their story. Even when a previous speaker’s comments were poignant – and “nailed” the issue – the next person effectively said, “Let me tell you how this has happened to me.” As a planner it can be frustrating because it does not seem during these forums like much progress has been made. And, from an action perspective that is probably true. But, what has occurred is the need for community members to vent, to exercise some degree of catharsis; to validate, “Me too.”

It is impossible to generalize across the vast United States, but I often listen to talk radio, and some programs on those stations that have urban African American audiences have callers that seem to be living in a time warp, given that it is now the 21st Century. The

comments mirror reflections of the 1960's – and not because they are not valid now; but because many in those communities do not feel the progress that has been made. Some say there are no more black businesses. Of course, there are, many on much larger scales. However, those businesses are not accessible to residents who may have to rely on public transportation to get around. There are complaints that blacks who have made it, do not reach back to help others. On the contrary, there are many who have made it, who have established programs in communities, and in other ways contribute. But for the radio callers, they don't feel the benefits of those who are paying it back or paying it forward. Some general perspectives are that the system is corrupt, and the little guy will never get ahead. And, there is not much conversation about climate change, yoga, meditation, childhood obesity, and mindfulness. It can be tough to talk about planting grass when your house is on fire.

I recall many years ago I was asked to speak during a plenary session at a national conference. My notes included comments on the issue of the over representation of minority youth in the juvenile justice system; then as an emerging issue in the United States. The program coordinator asked me not to bring up that topic because it was not on the conference agenda. I agreed not to do so. But during my extemporaneous comments from the podium, the overrepresentation issue very naturally came up because of how important the issue was to me. Whether because of the conscious press of the subject to me, or a Freudian slip – I talked about the issues of disproportionality and overrepresentation. After my comments the program coordinator said with some irritation that I was told not to bring up that issue. Today, that organization is a major champion of disparate treatment of youth in child welfare, education, behavioral health, juvenile justice, etc. In a similar vein, organizations that I am a member, if invited to make suggestions for agenda topics, I began to request that we include the issues of disparate treatment of minority youth on the agenda. Increasingly, it was, but always the last item on the agenda. And, when the meeting was short on time you can fill in the blank on what we did not have time to discuss. Fortunately, now for those youth and families it is a no brainer that disproportionality is the headliner issue in meetings and at conferences. There remains a bit of a dog chasing its tail phenomena to resolving the issue. Since many efforts are funded by state agencies, somehow when new personnel are brought on board instead of moving the issue forward from where the responses were prior to them being hired (or assuming a new position), they go back to some of the very elementary steps of how to address the problem. There was often a request for a new study of the issue; almost assuredly another twelve to eighteen months before strategies would be implemented.

It is against this backdrop that the critical issues regarding child and adolescent brain development for youth in socioeconomically deprived communities are discussed. These points are likely familiar to career veterans in human services, education, and the justice systems. We can claim success when they are the also conversational among those whose lives are most negatively affected by them.

When future research is conducted on adolescent brain development, and when forum are planned for related discussions it is vital to include ways in which socioeconomics affects the brain development of adolescent ethnic minority youth.

5.1. Prenatal care

Most youth either know of, or are told about the importance of good nutrition, and medical visits for expectant parents. Awareness of the impact of drugs on a fetus are probably intuitive even if the expectant mother does not abstain. It does not appear that the message is generally known about the harmful and permanent effects on the developing child when the mother drinks alcohol during her pregnancy. The damage is often irreversible. During every stage of pregnancy some part of the baby's development may be impaired by the consumption

of alcohol. There can be information overload. But through social media and community advertising, the word must get out on the permanent negative consequences of drinking alcohol when pregnant.

5.1.1. Sensorimotor development

Babies are fun. Watching them and playing with them comes naturally. Challenges with them do require patience. Hungry babies, fussy babies, sick babies can evoke negative reactions from the most patient adult caregivers in the child's life. I wonder how many young parents can guess the number of words is suggested to be spoken to the child each day? Any brief internet search reveals that answer to be between 21,000 to 30,000 spoken words to preschoolers per day (Wagner, 1985). Talking helps them to develop not just vocabulary, but their language skills, listening, memory and speaking. Can this threshold be met if the child is in daycare? What about parents who meet some child needs while, for example, using electronic devices, watching television, or who are otherwise involved while attending to the child?

5.1.2. Parenting styles

Three parenting styles are identified authoritative parents, permissive parents, and authoritarian parents (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987). The following are very general characterizations: permissive parents set fewer limits for their children; and thus, less corrective acts toward their behaviors. Authoritarian parents are often described as "Do as I say, not as I do parenting." This parent is less likely to give long explanations for why a child should do what a parent says they must do. The child learns to understand they must do so because the parent says so. The authoritative parent engages the child in why there are expectations for a particular behavior. If the child asks why they have to go to bed, the benefits of sleep may be shared. If the child must have a consequence or discipline for an inappropriate behavior, the child may be included in what the consequence should be. If the child's suggestion is too lenient or too excessive, the child is asked to discuss why. Such interaction helps the child develop problem solving skills, creativity, and being able to see others' point of view.

5.1.3. Trauma

The familiar traumas are child neglect, and abuse. Most can also name the differences between physical abuse and sexual abuse; excessive yelling and screaming at a child is emotional abuse. Young parents should also be informed about witness/observational abuse, that is, the trauma the child experiences by seeing adults having heated disagreements with one another. We are now also observing the traumas which result from cyber bullying – in this case because the perpetrator is anonymous. The victimization is relived recurrently as the posted abuse is reshared. Research in this field now identify these trauma as Adverse Childhood Experiences (ACE). The lifelong implications are such that interventions are now therapeutically identified as Trauma-Informed-Care (TIC).

These are so important the following were published by Child Trends (Bartlett & Sacks, 2019).

- It is important to understand how ACEs differ from other commonly used terms, including childhood adversity, trauma, and toxic stress.
- Childhood adversity is a broad term that refers to a wide range of circumstances or events that pose a serious threat to a child's physical or psychological well-being. Common examples include child abuse and neglect, domestic violence, bullying, serious accidents or injuries, discrimination, extreme poverty, and community

violence. However, adversity does not predestine children to poor outcomes, and most children are able to recover when they have the right supports – particularly the consistent presence of a warm, sensitive caregiver.

- Adverse childhood experiences (ACEs) – are a subset of childhood adversities ... Researchers found that the more ACEs adults reported from their childhoods, the worse their physical and mental health outcomes.
- Trauma is one possible outcome of exposure to adversity. Trauma occurs when a person perceives an event or set of circumstances as extremely frightening, harmful, or threatening – either emotionally, physically, or both. With trauma, a child’s experience of strong negative emotions (e.g., terror or helplessness), and physiological symptoms (e.g., rapid heartbeat, bedwetting, stomach aches) may develop soon afterward and continue well beyond their initial exposure. One may recover quickly without significant distress, whereas another may develop posttraumatic stress disorder (PTSD) and benefit from professional help.
- Toxic stress can occur when a child experiences adversity that is extreme, long-lasting, and severe (e.g., chronic neglect, domestic violence, severe economic hardship) without adequate support from a caregiving adult.

5.1.4. Myelination

This is a critical process in healthy adolescent brain development. It is not adequately communicated to urban families who may be more flexible than helpful to adolescent bed time, nutrition, time on electronic devices, exposure to violence, exposure to instruments of violence, illegal substance use, and the harmful effects of racism and discrimination. Many of the key considerations are highlighted in a *Psychology Today* post by Daniel J. Siegel, M.D. (2014).

- Longitudinal investigations reveal that there is a remodeling of the brain that starts often just before the teen years begin and continues well into the mid-twenties.
- For adolescents, this means that the *pruning* down of existing neurons and the laying down of *myelin* sheaths connecting the remaining neurons will continue years after we stop referring to them as “teenagers.”
- *Pruning* means the abundance of neural connections achieved during the childhood period will be whittled down, shaped like a garden. What is surprising to many was that such a pruning process would be so robust, a process that can be intensified with stress.
- And it is this pruning process that may explain the finding that most of the major psychiatric disorders – of thought, mood, and anxiety – have their major onset during this vulnerable period, Pruning may reveal genetically or experientially vulnerable circuits.
- The classic, “use it or lose it” principle applies to adolescence – the circuits that are actively engaged may remain, those underutilized may be subject to systematic destruction. And so for an adolescent, this means if you want to learn a foreign language well, play a musical instrument, or be proficient at a sport, engaging in those activities before and during adolescence would be a good idea. We move from open potential in childhood to specialization during and following adolescence.
- Myelin enables the remaining and connected neurons to communicate with each other with more coordination and speed.
- The development of myelination is impaired by inadequate sleep; smoking; poor diets; substance abuse and stress.

6. DISCUSSION

6.1. The facts

In part, this chapter was inspired by the following experience. In December 2018 I was driving to a medical appointment. My mobile phone rang, but when I looked at the number, I decided not to answer it because I did not recognize the number; and there was no caller name identification. It occurred to me that I was quite early for the appointment and decided to take the call. It was from a lawyer who said that we met when she attended a training where I was a guest speaker. She said that there was a case to which she had been appointed by the court and asked if I might be able to help her in the defense of the client.

The client was then nineteen years old. He had been in a county jail for thirteen months waiting for a trial date. He was charged with capital murder and aggravated assault. The crime facts are troublesome. Three persons went to a family home to get even with a teenager who lived there because that teen (and others) did not pay from some marijuana they said they wanted to buy. The three of them drove by the house; two of whom had guns (one being the defendant here). The two of them shot at the house. Several of the bullets went through a window; an eleven-year-old was injured (and recovered). A five-year-old was struck by one of the bullets and died. Though not exculpatory, the bullet that killed the child did not come from the gun of the defendant we are discussing here.

Since my principal task was to conduct a psychological assessment of the defendant, I went to the county jail to meet him. As with any client, if time permits, I like to meet with them at least once before the assessment to build rapport and answer questions. Because this person was in jail and had been for more than a year, I met with him twice before the testing began. During the testing he wore iron ankle shackles and handcuffs. Given that some tasks require him to write I initially had concerns that he would not be able to complete those tasks. However, he was able to during the examination to such an extent that I stated in the report that he was able to satisfactorily complete those parts of the examination without being hampered by the handcuffs. The facts of the case are heinous. That a five-year-old died over less than \$25.00 of marijuana speaks for itself. For purposes of the chapter I want you to meet the one charged, whose lawyer I am assisting. At this writing the defendant – who I will call – John, is still in the county jail awaiting trial. In November 2019 he will have been in trial for 2 years.

My clinical intuition and instinct have been at the forefront of this case. When I met ‘John’ I am not sure what I expected, but it was not the demeanor I anticipated. He looked very young; he was polite; and he did not seem stressed. After two visits I continued to process who this person was, and if I was having difficulty reading him correctly. On the day of the psychological assessment we were not put in office, but in a large open room surrounded by fencing from the floor to the ceiling. A corrections officer initially stood in the room until I stated that I had requested permission to do the testing without an officer present. He checked; it was confirmed. He did not stay in the room during the testing but did come by periodically to look in; which was understandable. The remainder of the assessment period was unremarkable, except at the very end John seemed a little agitated. I could not tell whether he knew he was getting a few more items wrong, or if he did not want the testing to end. He seemed to enjoy the process.

Before writing the report, I wanted to meet his parents. I arranged a time to meet them at their home. They live in the same city as the jail where he is incarcerated. In fact, they live in easy walking distance to the jail. His family and life history are more bizarre than the crimes committed. His mother is white. She is in her third relationship with African American men. She has children from the first two relationships. John and an older sister were born of the first. A younger brother and sister from the second. John’s dad was not in his life. It seems the relationship with his mother was short term. John did get to meet his father. However,

describes having been in touch with him several times. When the stepfather's two younger children were born John seemed to be disfavored in the household. Both John, his mother, and John's sister (whom I also met and interviewed) said his stepfather beat him to the point of being child abusive. His mother did not intervene as much as his sister did to try to stop the beatings. The interview with John's mother was unsettling (the current stepfather was present but did not speak much). When she spoke, it was as if you were listening to a neighbor talk about a kid who lived next door. There was a kind of distancing talk, without the emotion or affect of a parent. At times I wondered if she realized our impersonal, she was when she talked about her son who was in jail and had been for more than a year. We should not here that although they could have walked to the jail (maybe less than two miles), they had visited him in jail about three times.

When John was nine years old the beatings were so frequent and intense that he began to not stay at home. It was not quite the same as him running away from home because he was sleeping at friends' homes in the neighborhood; and his parents knew that he was sleeping there. He said he would sometimes come home to get clothes. But, when he was there, there was often an argument – and was he allowed to eat. He continued to stay friends' homes until he was about sixteen years old. Although these are not his words, it seems he was too old for these sleep overs, so he began to sleep in abandoned cars, or sheds in people's backyards. I asked him what those experiences were like, expecting to hear him say fearful, or afraid. What he said was all he could remember was always being cold.

He was not involved in any serious juvenile offenses. There were property offenses for breaking and entering of uninhabited dwellings. He says to steal food, or too steal things to sell for money and food. His school attendance was poor. Once his mother went to a school a signed an agreement that she would be home-schooling John. Both she and he said she never did so. I asked her if she signed the agreement to avoid going to the school for his truancy issues. She said yes. In spite of not going to school John is quite literate. He wrote me a letter, and I was so impressed that I strongly assumed a "jail-house" letter writer had written it for him. This is an excerpt. There are no edits.

January 17, 2018

Mike,

How have you been holding up? I've been doing alright since the last time that we talked to one another & me and my mother have been talking more to! ... I do look forward to seeing you again. Honestly I feel like you actually want to help me out, out of the few people I know that say they're here. Hows your report on me to the judge going? ... I've been thinking about writing you these past couple weeks i've just been procrastinating & being lazy. I have been in this jail for way too long & i am ready to move forward from this.

The letter is handwritten in print and is about one-page long.

I needed to write the report, so I scheduled one meeting with John as I was writing the report. And another once the report was finished. I found him and his case to be interesting and asked if he would like me to meet with him about one time per month until his case was scheduled for trial. He said yes. I asked him when he would like me to come again, and his very earnest and straightforward reply was, "Can you come next week?" That was in January 2019; at this writing it is the last week of September. I have visited John in the county jail once per week since then. With two exceptions; once when he said he did not feel well (no sleep and stomachache); and once when I was out of the country attending a conference. The county jail where he is housed is about sixty miles each way from where I work.

6.1.1. The why

This case reflects my life's work. I have taught fifth and sixth grade; worked in state department of corrections for youthful offenders; directed a program for emotionally

disturbed children at a status offender facility; psychological assessments for children at a private psychiatric school; completed psychological assessments, and therapy for adolescents and their parents; been a counselor at a narcotic addiction out-patient clinic; director of the adolescent unit of a private psychiatric hospital. For the past thirty plus years I have done university teaching, research, consultation, and training across the United States and internationally. The principal audiences are people who work in primary and secondary education, child welfare, juvenile justice, psychologists, lawyers, judges, probation officers, social workers, elected officials, community advocates, community-based programs; state-federal-private staff in programs that provide services to youth and their families.

John is the epitome of a career of work.

6.1.2. The challenge

This case is not about excusing John's behavior. A child died. Another was shot and must live with the trauma of that experience. Although it is parenthetical and not dispositive, neither of the bullets that struck these children came from the gun that John used. In an America with multiple victims of gun violence. With increased advocacy groups in support of victim's rights; balanced and restorative justice. A family with these losses, how do you impress a judge to not give John a harsh and long sentence at trial?

6.1.3. The resources

The Supreme Court of the United States in successive opinions have detailed how the juvenile and adult criminal justice systems must view youthful offenders through the lens of childhood, not mature adult standards. Those decisions reflect each and every stage of the system process, from arrest, sentencing, and post-adjudication review. Every judicial scholar acknowledges how monumental are these decisions. Courts tread slowly. Maxims in the law are steadiness, certainty, predictability, and reliability. When communities and societies know the norms, mores, and the law, expectations for conformity become normalized. Thus, especially the U.S. Supreme Court does not change existing law often, nor without substantive reflection and support. Thus, one resource are the opinions of the United States Supreme Court.

Remedial education is proved both in traditional elementary and secondary schools, as well as private schools for children with learning differences, opportunities to earn GEDs (General Education Diploma), and with degrees at local community colleges. Many complete their education or enhance their skills because our education systems have strategies that work. Also, now a best practice in the realm of psychological support is our clinical understanding of trauma, how it affects an individual's emotional health over a life time, and how the impact of trauma can be reduced through trauma-informed-care.

However, there is no greater support from no longer locking up and throwing away the key on serious offenders than the advances made in the areas of neuroscience and neuropsychology. The fact that brain tissue – the frontal lobe is still growing until a person is in their mid-twenties, and the frontal lobe is the area associated with adult cognitive processes, e.g., planning, appreciation of long term consequences, impulse control, delayed gratification, reasoning, abstract thinking – affirms that humans are the smartest living species on planet Earth, and they perform life best when fully mature. John is the epitome of all these resources, trauma, education, justice systems, neurological development. John was arrested as an adult and is being held in an adult jail. On the face of it, there is not an "initial" question given that he was eighteen years old when the crime was committed. However, consider that his birthday is at the end of February, so he had been eighteen for about eight months. Given what we know about brain development, any person that age would be thought

more likely to have the neural equipment more of a sixteen or seventeen-year-old rather than an adult. And, given his life history probably less mature than sixteen. He had street smarts; he lived on the streets. Remarkably, with so little time in school he has good reading and writing skills; thus, we can see his potential. But as noted, his brain development has been impoverished. Also noted is that I have been seeing him weekly since December 2018 – in two months it will be one year. He has no real sense of planet Earth beyond the small-town neighborhood he has grown up in. If he is worldly at all that I pick up in our conversations, it is either from what he has seen on television, or what someone has told him. To some extent he has exposure from social media. But, he has not had a phone, or computer, nor gone to school.

6.1.4. Can we turn his life around

I think the answer is yes. There is tremendous irony in this chapter. I initially thought of the topic as a submission to be presented at a conference. After the submission was accepted and I attended the conference I was asked to assist John's lawyer on his case. This has truly been an experience of parallel universes. On one hand my chapter paper must meet publication requirements and deadlines. On the other hand I sit in jail for about two hours per visit, looking this kid in the face, wondering how do I help convince a judge not to give him a death sentence, a forty year sentence, or any other length or years in prison which ensures his brain will finish growing in a prison, living in a cell, with a community of felons. I have no doubt that he is different. He is different in a way that makes a difference; and, how do I ensure that I communicate that effectively to the judge. He has confidence in me. His lawyer has confidence in me. I'm scared as hell that perceptions may override facts.

But, every day I think about this case. Every day I think about this opportunity. Every day I think about the tools the Court, psychology, education and neuroscience have at my disposal to turn basic research into applied research.

With that, in sum – we reflect on Future Direction below.

7. FUTURE DIRECTION: THE PATH TO SUSTAINED SYSTEMIC REFORM

It is essential that every conversation and each context (publications, research, academia, policy making, conferences, revenue sources, community forum, et.al.) the issues that negatively affect adolescent brain development be taken in account. Including:

- Child welfare – abuse, neglect, trauma, removal from home placement, foster care, adoption, termination of parental rights, dual system involvement, aging out of foster care; LGBTQ⁷ youth (Kelleher 2009).
- School assessment, school remediation, school intervention, school discipline, bullying, psychological assessment.
- Juvenile and criminal court investigations, arrests, charging decisions, prosecutions, evaluations, case processing, case disposition, probation, and parole oversight.

With greater emphasis we must consider that one of the significantly negative contributors to ethnic minority youths maladaptive adolescent frontal lobe development (and subsequent maladaptive behaviors) is the low socioeconomic status of their families. All correction and intervention programs must intentionally acknowledge, control for, intervene, and remediate this variable at each of their key systemic decision points.

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KEY TERMS & DEFINITIONS

Brain: an organ of soft nervous tissue contained in the skull of vertebrates, functioning as the coordinating center of sensation and intellectual and nervous activity.

Adolescent: process of developing from a child into an adult involving five leading characteristics of adolescence are biological growth and development, an undefined status, increased decision making, increased pressures, and the search for self.

Judges: public/government official appointed to decide cases in a court of law.

Child welfare: continuum of services designed to ensure that children are safe and that families have the necessary support to care for their children successfully.

Ethnic minority youth: group of youth who differ in race or color or in national, religious, or cultural origin from the majority population of the community in which they live.

Juvenile justice reform: designed to reduce the prejudice pertaining to racial and ethnic disparities of juveniles in the criminal justice system while lowering recidivism of youth.

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Adolescent Frontal Lobe Brain Development: Disproportionality Effects of Social and Economic Deprivation and Implications for Juvenile Court Case Disposition, Child Welfare Reform, and Education Remediation

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¹543 U.S. 551 (2005). The imposition of the death penalty for crimes committed by juveniles is cruel and unusual punishment within the meaning of the 8th Amendment [J]juveniles lack maturity and have an underdeveloped sense of responsibility resulting in impetuous and ill-considered actions and decisions. Second, juveniles are more vulnerable and susceptible to negative influence of outside pressure, including peer pressure. Third, the character of a juvenile is not well formed as that of an adult. Thus, they possess more potential for rehabilitation.

²560 U.S. 48 (2010). Expanding upon the analysis in and logic of *Roper*, the Supreme Court held that it is unconstitutional to impose the penalty of life imprisonment without the possibility of parole on juveniles.

³564 U.S. 261 (2011). [I]n some circumstances, a child's age 'would have affected how a reasonable person' in the suspect's position 'would perceive his or her freedom to leave.' A child's age is far 'more than a chronological fact' Children, 'generally are less mature and responsible than adults,' they 'often lack experience, perspective, and judgment to recognize an avoid choices that could be detrimental to them,' and they 'are more vulnerable or susceptible to outside pressures' than adults.

⁴567 U.S. 460 (2012). Juveniles cannot be sentenced to life without the possibility of parole for homicide crimes, where such a sentence is the only option. Mitigating factors must be taken into account before a juvenile can be sentenced to life without the possibility of parole.

⁵362 U.S. 402 (1960).

⁶In 1990 this authors' work began as a consultant and technical assistance provider in the area of disparate and disproportional treatment of ethnic minority youth with OJJDP (Office of Juvenile Justice and Delinquency Prevention) when the issues were first defined as "disproportionate minority confinement (DMC)," and subsequently (and currently defined) as "disproportionate minority contact (DMC).

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⁷Lesbian, Gay, Bisexual Transgender, Questioning.

Section 4
Clinical Psychology

Chapter #12

HOW PERSONALITY AND COPING STYLES DIFFER IN OPTIMISTS AND PESSIMISTS

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ABSTRACT

Personality and coping styles were examined in relation to optimism and pessimism. The sample consisted of 178 individuals (M age = 23.00; SD = 6.27; range = 19-50 years; 79% women) who completed an online survey. Participants completed the BFI-2 to assess personality, the Ways of Coping Scale to determine coping styles, and the Future Events Scales to measure optimism and pessimism. The results found a moderate negative correlation between optimism and pessimism, suggesting that although these constructs are related, they are still distinct. A series of hierarchical multiple regression analyses were conducted predicting optimism and pessimism. Optimism was predicted by lower scores on negative emotionality (neuroticism), and higher scores on extraversion, agreeableness and conscientiousness. As well, problem-focused coping made a unique contribution. Specific facets that predicted optimism were higher compassion and lower depression scores. Pessimism, on the other hand, was predicted by age (being older), gender (being female), and higher negative emotionality (neuroticism) scores. Also, higher scores on emotion-focused coping contributed to the model. The only facet that predicted pessimism was depression. These results suggest that our perceptions – whether we have a positive or negative bias – are influenced by both dispositional factors (like personality) and situation influences (like coping).

Keywords: personality, coping, optimism, pessimism.

1. INTRODUCTION

The optimistic bias occurs when an individual believes an undesirable event is more likely to happen to someone else than to oneself (Shepperd, Waters, Weinstein, & Klein, 2015). Past research has focused on documenting the events for which the optimistic bias occurs, such as health risks like a fatal heart attack (Radcliffe & Klein, 2002), or addiction to cigarette smoking and alcohol (Masiero, Riva, Oliveri, Fioretti & Pravettoni, 2018), as well as environmental disasters such as hurricanes (Trumbo, Meyer, Marlatt, Peek & Morrissey, 2014), and even chance events (Weinstein, 1980). Other studies have focused on the cognitive and motivational reasons for the distortion (Weinstein, 1980), as well as the consequences (both harmful and beneficial) of having a positive bias (Shepperd, Pogge, & Howell, 2017).

Optimists tend to be more resilient (Davis & Asliturk, 2011) and report using active coping in stressful situations (Carver et al., 1993). Pessimists, who believe negative life events are more likely to happen to themselves than to others, report using more escape strategies (Carver et al., 1993). Thus, coping mechanisms play a role in the perceived risk of positive and negative life events. The theoretical foundation for much of this work is derived from the model of stress and coping based on Lazarus and Folkman (see Folkman, Lazarus, Gruen, & DeLongis, 1986). In their theory, coping styles cluster into strategies that are used to deal directly with the problem (i.e., problem-focused coping), or to regulate

the emotions that are felt (i.e., emotion-focused coping). In difficult circumstances, pessimists report more distress and lower quality of life in comparison to optimists, and coping style has mediated this link in several studies (Scheier, Carver, & Bridges, 2001). These results have been demonstrated in a wide variety of samples and circumstances ranging from adjustment to college life, to cardiac and cancer diagnoses, follow-up and treatment (Scheier et al., 2001). Pessimists tend to engage in avoidant strategies such as wishful thinking and denial (emotion-focused coping), whereas optimists tend to use active problem-focused coping such as planning, generating solutions or seeking information (Scheier et al., 2001). As such, coping style was examined in this study. This relation between coping style and optimism has practical implications for the mental health field. These coping strategies are considered a situational influence because they are learned and are amenable to change or interventions (Both & Best, 2015).

Despite the large database on the pervasiveness of the optimistic bias, few studies to date have focused on dispositional influences such as personality. In one study, Borkenau and Mauer (2006) found personality influenced risk estimates. However, the authors only examined neuroticism and extraversion in their model of positive and negative emotionality. Personality is generally examined using the five factor model, namely the traits of neuroticism, extraversion, openness, conscientiousness and agreeableness (Costa & McCrae, 1992). Furthermore, each trait can be sub-divided into subscale or facet scores (Costa & McCrae, 1992; Soto & John, 2017). The current study extended the literature by examining all five personality factors and their facets, along with coping styles, in relation to the optimistic and pessimistic bias. This approach allowed for a detailed examination of the personality characteristics that predict optimism and pessimism.

1.1. Purpose of the present study

The purpose of this study was to examine factors that predict optimism and pessimism. Both dispositional factors (personality) and situational influences (coping styles) were assessed.

2. METHOD

2.1. Participants

The sample consisted of 178 individuals (M age = 23.00; SD = 6.27; range = 19-50 years; 79% women) who completed an online survey. Although the survey was open to members from the general public, the vast majority of them were university students who were informed of the study through SONA, an online recruiting tool. The majority of participants were single (85% single; 12% married or common law; 3% divorced) and Caucasian (86% White or Caucasian, 7% Asian, 2% Black or African American; 5% Other). University students could earn one bonus point towards their final grade for participating in this research. As well, all participants had the opportunity to be entered into a draw for a \$50 Amazon gift card (i.e., they sent an email at the completion of the study that was separate, and not linked to their data).

2.2. Measures

Demographic Questionnaire. This brief measure asked participants to report their age, gender, marital status, race/ethnicity, and education level.

The Big Five Inventory – 2 (BFI-2; Soto & John, 2017). This measure consists of 60 items (some reverse coded) that assess personality factors commonly known as the Big.

Five – extraversion, agreeableness, conscientiousness, negative emotionality (neuroticism), and open-mindedness. Each of these factors is comprised of three subscales, known as facets (15 total). Participants indicate the extent to which they agree or disagree with each statement on a 5 point scale where 1 = *disagree strongly* and 5 = *agree strongly*. This inventory is used widely in personality research, due to its established reliability and validity (Soto & John, 2017). In the present study, the factor scores had excellent reliability (Cronbach's $\alpha = .87$ extraversion; $.80$ agreeableness; $.79$ conscientiousness; $.91$ negative emotionality; and $.76$ open-mindedness).

The Ways of Coping Checklist (Vitaliano, Russo, Carr, Maiuro, & Becker, 1985). This scale is a 42 item self-report measure that asks participants to assess their coping strategies in stressful situations. Participants rate the degree (from 0 = *not used* to 3 = *used a great deal*) to which they used certain strategies such as “blamed yourself” or “talked to someone who could do something about the problem.” Three subscale scores are computed that assess problem-focused coping (15 items), emotion-focused coping (21 items), and seeking support (6 items). In the present study, only the problem- and emotion-focused subscales were utilized. This scale has good reliability and validity scores (see Vitaliano et al., 1985 for details). In the present study, Cronbach's $\alpha = .87$ for problem-focused coping, and $.90$ for emotion-focused coping.

The Future Events Scale (Wichman, Reich, & Weary, 2006). This scale consists of 23 items (the original scale had 26 items but new factor structure has dropped 3 items; see Wichman et al., 2006). Participants indicate the likelihood, on an 11 point scale, that certain events (such as “to have a loved one die in the next year”) will happen to them. Two subscale scores were computed – one for optimism (Cronbach's $\alpha = .88$) and one for pessimism (Cronbach's $\alpha = .81$).

2.3. Procedure

All participants were directed to Qualtrics, an online survey platform. Participants read a consent form describing the nature of the study, and indicated whether they wished to participate by either clicking on the consent button or exiting the survey. Once inside the survey, the demographic measure was always presented first, followed by the remaining measures in random order. The survey took approximately 20 minutes to complete.

3. RESULTS

3.1. Gender differences

Independent samples *t*-tests were conducted to determine if there were any gender differences (see Table 1). Women scored higher than men on negative emotionality (neuroticism), including each of its facets or subscales (i.e., anxiety, depression, emotional volatility). Women also scored higher on emotion-focused coping and pessimism. Men scored higher on energy level.

3.2. Correlations

The bivariate correlations with personality factor scores are presented in Table 2. Age was correlated with open-mindedness, agreeableness, and pessimism (older adults scored higher on these measures). Negative emotionality (neuroticism) was correlated positively with emotion-focused coping and pessimism, and was negatively correlated with problem-focused coping and optimism. The remaining personality factors, by and large, showed the opposite pattern in that they correlated positively with problem-focused coping

and optimism, and correlated negatively with emotion-focused coping and pessimism. There was no statistically significant correlation between problem-focused and emotion-focused coping. However, problem-focused coping was correlated positively with optimism, whereas emotion-focused coping correlated negatively with optimism and positively with pessimism. Finally, optimism and pessimism were inversely and only moderately correlated.

The bivariate correlations with personality facet or subset scores followed a similar pattern and are presented in Table 3. Anxiety, depression and emotional volatility correlated positively with pessimism and with emotion-focused coping. All remaining personality facets (except for aesthetic sensitivity) were correlated positively with optimism (see additional results in Table 3).

3.3. Hierarchical regression analyses

3.3.1. Predicting Optimism

A hierarchical regression analysis was conducted to determine whether personality factors and coping strategies predicted optimism. Age and gender were entered on the first step to control for their effects. On the second step, the five personality factors were added. Finally, on the third step, the two coping strategies were added. Tolerance and VIF (variance inflation factor) were all within acceptable levels for the analysis. The overall model was statistically significant and accounted for 42% of the variance ($F_{(9,165)} = 13.34$, $p < .001$, multiple $R = .65$). Age and gender were not statistically significant predictors ($F_{(2,172)} = 1.47$, $p = .23$, $R^2 = .02$). The five personality factors were entered on the second step and produced a statistically significant change in the model (R^2 change = .34, $F_{\text{inc}}(5,167) = 17.48$, $p < .001$). Significant predictors were Negative Emotionality (neuroticism) ($\beta = -.17$, $t = -2.17$, $p = .03$, $sr^2 = .02$), Extraversion ($\beta = .31$, $t = 4.29$, $p < .001$, $sr^2 = .07$), Agreeableness ($\beta = .15$, $t = 2.08$, $p = .04$, $sr^2 = .02$), and Conscientiousness ($\beta = .19$, $t = 2.61$, $p = .01$, $sr^2 = .03$). Finally, the coping strategies were entered on the last step and produced a statistically significant change in the model (R^2 change = .07, $F_{\text{inc}}(2,165) = 9.50$, $p < .001$). The only significant predictor at this step was problem-focused coping ($\beta = .29$, $t = 4.36$, $p < .001$, $sr^2 = .07$). The adjusted R^2 value of .39 in the overall model indicates that more than a third of the variability in optimism scores was predicted by personality traits and coping, namely lower scores on negative emotionality (neuroticism), and higher scores on extraversion, agreeableness, conscientiousness, and problem-focused coping.

A second hierarchical regression analysis was conducted substituting the personality facet scores for the factor scores. Similar to the previous analysis, age and gender were entered on the first step to control for their effects. On the second step, the fifteen personality facets were added. Finally, on the third step, the two coping strategies were added. Tolerance and VIF (variance inflation factor) were all within acceptable levels for the analysis. The overall model was statistically significant and accounted for 48% of the variance ($F_{(19,154)} = 7.52$, $p < .001$, multiple $R = .69$). Age and gender were not statistically significant predictors ($F_{(2,171)} = 1.44$, $p = .24$, $R^2 = .02$). The fifteen personality facets were entered on the second step and produced a statistically significant change in the model (R^2 change = .40, $F_{\text{inc}}(15,156) = 7.26$, $p < .001$). Significant predictors were Compassion ($\beta = .21$, $t = 2.42$, $p = .02$, $sr^2 = .02$), and Depression ($\beta = -.31$, $t = -2.90$, $p = .004$, $sr^2 = .03$). Finally, the coping strategies were entered on the last step and produced a statistically significant change in the model (R^2 change = .06, $F_{\text{inc}}(2,154) = 8.95$, $p < .001$). The only significant predictor at this step was problem-focused coping ($\beta = .29$, $t = 4.18$, $p < .001$, $sr^2 = .06$). The adjusted R^2 value of .42 in the overall model indicates that more than a third of the variability in optimism scores was predicted by personality facets

How Personality and Coping Styles Differ in Optimists and Pessimists

Table 1.
Gender Differences.

	Males		Females		<i>t</i> -test (<i>p</i>)
	Mean	<i>SD</i>	Mean	<i>SD</i>	
Negative Emotionality	2.41	.60	3.25	.87	-6.56 (< .001)
Anxiety	2.87	.78	3.70	.90	-4.84 (< .001)
Depression	2.09	.75	2.90	1.07	-5.13 (< .001)
Emotional Volatility	2.27	.69	3.15	.99	-5.98 (< .001)
Extraversion	3.59	.72	3.30	.78	1.94 (= .054)
Sociability	3.32	1.00	3.15	1.04	.83 (= .405)
Assertiveness	3.53	.87	3.24	.94	1.63 (= .106)
Energy Level	3.91	.68	3.50	.85	2.61 (= .010)
Open-Mindedness	3.63	.63	3.61	.62	.18 (= .860)
Intellectual Curiosity	3.99	.66	3.83	.71	1.11 (= .267)
Aesthetic Sensitivity	3.23	.94	3.45	.89	-1.29 (= .199)
Creative Imagination	3.68	.76	3.54	.83	.87 (= .387)
Agreeableness	3.82	.53	3.90	.62	-.69 (= .494)
Compassion	3.94	.65	4.08	.75	-.99 (= .323)
Respectfulness	3.90	.59	4.09	.67	-1.45 (= .150)
Trust	3.62	.73	3.54	.76	.59 (= .557)
Consciousness	3.42	.56	3.50	.63	-.60 (= .551)
Organization	3.45	.86	3.61	.91	-.92 (= .361)
Productiveness	3.38	.73	3.33	.78	.34 (= .734)
Responsibility	3.45	.64	3.55	.73	-.76 (= .451)
Problem-Focused Coping	2.74	.40	2.59	.52	1.50 (= .135)
Emotion-focused Coping	2.21	.40	2.50	.59	-3.32 (= .001)
Optimism	8.23	1.18	8.19	1.51	.14 (= .886)
Pessimism	4.77	1.62	5.55	1.65	-2.46 (= .015)

Note: Significant differences are bolded.

Table 2.
Bivariate Correlations with Age, Personality Factors, Coping, Optimism and Pessimism.

	N	E	O	A	C	PFC	EFC	OPT	PES
Age	-.04	.04	.19*	.18*	.05	.11	-.10	-.04	.15*
N		-.42***	-.01	-.33***	-.26***	-.27***	.52***	-.40***	.50***
E			.22**	.15	.24**	.22**	-.27***	.47***	-.32***
O				.21**	.20**	.22**	-.16*	.21**	-.07
A					.43***	.19*	-.30***	.33***	-.26***
C						.35***	-.30***	.38***	-.23**
PFC							-.04	.43***	-.11
EFC								-.28***	.44***
OPT									-.40***

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

N is Negative Emotionality, E is Extraversion, O is Open-Mindedness, A is Agreeableness, C is Conscientiousness, PFC is problem-focused coping, EFC is emotion-focused coping, OPT is optimism, PES is pessimism

Table 3.
Bivariate Correlations with Personality Facets, Coping, Optimism and Pessimism.

	PFC	EFC	OPT	PES
N ANXIETY	-.15	.42***	-.29***	.42***
N DEPRESSION	-.30***	.56***	-.48***	.52***
N EMOTIONAL VOLATILITY	-.26***	.41***	-.28***	.38***
E SOCIABILITY	.06	-.17*	.31***	-.23**
E ASSERTIVENESS	.26***	-.24***	.41***	-.25***
E ENERGY LEVEL	.25***	-.28***	.49***	-.33***
O INTELLECTUAL CURIOSITY	.26***	-.14	.21**	-.07
O AESTHETIC SENSITIVITY	-.00	-.08	.03	.02
O CREATIVE IMAGINATION	.27***	-.17*	.26***	-.11
A COMPASSION	.15*	-.13	.30***	-.10
A RESPECTFULNESS	.09	-.19*	.18*	-.20**
A TRUST	.22**	-.42***	.33***	-.34***
C ORGANIZATION	.33***	-.16*	.29***	-.13
C PRODUCTIVENESS	.31***	-.33***	.39***	-.18*
C RESPONSIBILITY	.15	-.23**	.19*	-.22**

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

N is Negative Emotionality, E is Extraversion, O is Open-Mindedness, A is Agreeableness, C is Conscientiousness, PFC is problem-focused coping, EFC is emotion-focused coping, OPT is optimism, PES is pessimism and coping, namely higher scores on compassion and problem-focused coping, and lower scores on depression.

3.3.2. Predicting pessimism

The above regression analyses were repeated substituting pessimism as the criterion variable. Again, tolerance and VIF were within acceptable limits for the analyses. When personality factors scores were used, the overall model was statistically significant and accounted for 36% of the variance ($F_{(9,165)} = 10.23, p < .001$, multiple $R = .60$). The first step of the model was statistically significant ($F_{(2,172)} = 7.42, p = .001, R^2 = .08$). Significant predictors were age ($\beta = .17, t = 2.31, p = .02, sr^2 = .03$) and gender ($\beta = .24, t = 3.25, p = .001, sr^2 = .06$). The five personality factors were entered on the second step and produced a statistically significant change in the model (R^2 change = .24, $F_{inc(5,167)} = 11.80, p < .001$). The significant predictor at this stage was Negative Emotionality (neuroticism) ($\beta = .37, t = 4.59, p < .001, sr^2 = .09$). Finally, the coping strategies were entered on the last step and produced a statistically significant change in the model (R^2 change = .04, $F_{inc(2,165)} = 4.93, p = .008$). The only significant predictor at this step was emotion-focused coping ($\beta = .24, t = 2.97, p = .003, sr^2 = .04$). The adjusted R^2 value of .32 in the overall model indicates that a third of the variability in pessimism scores was predicted by being older, being female, having higher negative emotionality (neuroticism) scores, and using emotion-focused coping strategies.

When personality facet scores were used in the regression analysis to predict pessimism, the overall model was statistically significant and accounted for 40% of the variance ($F_{(19,154)} = 5.42, p < .001$, multiple $R = .63$). Age ($\beta = .17, t = 2.36, p = .02, sr^2 = .03$) and gender ($\beta = .24, t = 3.22, p = .002, sr^2 = .06$) were both statistically significant predictors on the first step ($F_{(2,171)} = 7.43, p = .001, R^2 = .08$). The fifteen personality facets were entered on the second step and produced a statistically significant change in the model (R^2 change = .29, $F_{inc(15,156)} = 4.89, p < .001$). The only significant facet was Depression ($\beta = .30, t = 2.74, p = .007, sr^2 = .03$). Finally, the coping strategies were entered on the last step and produced a statistically significant change in the model (R^2 change = .03, $F_{inc(2,154)} = 3.39, p = .036$). The only significant predictor at this step was emotion-focused coping ($\beta = .21, t = 2.40, p = .018, sr^2 = .02$). The adjusted R^2 value of .33 in the overall model indicates that more than a third of the variability in pessimism scores was predicted by being older and female, and by personality facets and coping, namely higher scores on depression and emotion-focused coping.

4. DISCUSSION

Why are some people optimistic while others are not? This study examined dispositional factors (personality traits) and situational influences (coping styles) to examine this question.

In this study, optimism was predicted by personality traits and coping, namely lower scores on negative emotionality (neuroticism), and higher scores on extraversion, agreeableness, conscientiousness, and problem-focused coping. Although the largest proportion of variance was explained by the block of personality factors, extraversion and problem-focused coping contributed the most unique variance. Extraverts are sociable, assertive and have high energy levels (Soto & John, 2017). Indeed, extraverts have been described as optimistic (Costa & McCrae, 1992). As well, problem-focused coping is related to positive attributes such as life satisfaction (Both, 2014) and forgiveness (Fowler & Both, 2017).

A different pattern emerged, however, when facet or subscale scores were substituted in the regression for the factor scores. In this case, the personality facets that predicted optimism were higher compassion (a facet of Agreeableness) and lower depression scores

(a facet of Negative Emotionality). None of the individual facets of extraversion or conscientiousness made unique contributions. This result underscores the importance of examining personality constructs at the subscale level. Depression correlated negatively with extraversion, and compassion was positively correlated with conscientiousness. In the regression model, the facets of (lower) depression and (higher) compassion overshadowed any remaining contributions to optimism. However, although the combined personality facets contributed the largest proportion of variance, the most unique variance in the model was contributed by problem-focused coping.

Pessimism was predicted by age (being older), gender (being female), having higher negative emotionality (neuroticism) scores, and using emotion-focused coping. Again, the largest proportion of variance was explained by personality factors, namely negative emotionality. Negative emotionality is comprised of three subscales: anxiety, depression and emotional volatility (Soto & John, 2017). These characteristics are associated with maladjustment and individuals high on negative emotionality tend to experience more negative affective states and do not cope well in the face of adversity (Costa & McCrae, 1992). As well, women tend to score higher than men on neuroticism (Costa & McCrae, 1988; Fowler & Both, 2017) and on the use of emotion-focused coping strategies (Eaton & Bradley, 2008). However, in this study, the gender difference should be interpreted with caution given the majority of participants were women.

The importance of depression was borne out in the regression analysis using facet scores. Indeed, the only facet that emerged as a predictor of pessimism was depression. Taken together, lower depression scores predicted optimism whereas higher scores predicted pessimism. The debilitating effects of depression are widely documented in the literature, and are pervasive. For example, the World Health Organization (2017) estimates that approximately 4.4% of the world's population (or 322 million people) have depression, and it is often the precipitating factor for disability and suicide.

Optimism and pessimism were measured separately in this study and were inversely but only moderately correlated. However, for both the optimistic and pessimistic bias, personality factors as a block accounted for the lion's share of the variance. These results stress the importance of assessing personality. Personality is considered a dispositional trait that is relatively stable over the adult years (Costa & McCrae, 1988). One's personality can be viewed as a lens through which one perceives and interprets the world. Individuals who are extraverts, agreeable and conscientious experience their world differently than those who live their lives with high anxiety and depression.

Both problem-focused and emotion-focused coping strategies were assessed in this study. Interestingly, the two coping styles were not correlated, but differentially predicted the outcome variables. Problem-focused coping – dealing directly with a stressor by problem-solving solutions – predicted optimism, whereas pessimism was predicted by emotion-focused coping, such as blaming oneself or wishful thinking. Coping styles have been targeted in interventions (Powell, Wegmann, & Shin, 2019) and respond well to therapy. Thus, in order to address the pessimistic bias, therapists should focus on influences that are amenable to change.

5. LIMITATIONS

There were a number of limitations with this study. First, although participants ranged in age from 19 to 50 years, there was a greater proportion of younger than older adults in this study. Therefore, the average age of the sample was young. Second, there was an uneven gender split in the sample. To address these issues, age and gender were controlled

statistically on the first step of the regression analyses. Nevertheless, future research should attempt to recruit samples with a greater proportion of men and older adults. Finally, although an attempt was made to avoid a convenience sample by opening the study to members of the community, the majority of participants were university students. As such, generalizability of the results should be limited to younger, female university students.

6. CONCLUSION

Who are optimists? They are emotionally stable individuals who are cheerful and friendly, easy to get along with, and reliable. They are also more likely to cope with a stressor by facing it directly. Specifically, they have high compassion for others and are not depressed. Pessimists, on the other hand, tend to be older individuals who, by definition, have more life experiences under their belts. Perhaps they are disillusioned by the cumulative effect of long-term, everyday frustrations. They tend to be women and have higher depression scores. Pessimists also tend to put off dealing with stressors, which may not diffuse the situation. Wishing something will go away does not make it happen. The bottom line is that our perceptions – whether we have a positive or negative bias – are influenced by both dispositional factors (like personality) and situational influences (like coping).

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Chapter #13

ASSOCIATIONS BETWEEN PRIMARY SCHOOL CHILDREN'S PERCEPTIONS OF PARENTAL ACCEPTANCE AND REJECTION, AND THEIR DRAWINGS OF A "PERSON PICKING AN APPLE FROM A TREE"

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ABSTRACT

The present study of 644 Greek school-age children (323 boys and 321 girls, ages 10–12) examined and compared associations between perceptions of parental acceptance and rejection, and their unique depictions of a "Person Picking an Apple from a Tree" or "PPAT" drawings. Perception of parental behavior was measured by the "Parental Acceptance-Rejection Questionnaire" (Rohner & Khaleque, 2005). Drawing content was analyzed quantitatively according the Symbolic Content rating system in PPAT drawings (SC-PPAT: Bat Or, Ishai, & Levi, 2014, 2017). We employed K-means cluster analysis and obtained three relatively discrete PPAT scripts. Drawing scripts were found to be associated with children's perceptions of parental behavior. These associations were found mainly among boys, especially when perceiving their parents as highly aggressive. These results demonstrate how empirical inquiry into PPAT content contributes to identifying implicit relational representations in the drawings. Furthermore, they reinforce the value in examining drawings from a holistic perspective, i.e. not just the individual components, but also the relationship between such components; while focusing on the relational experience of children as expressed through their pictorial PPAT narratives.

Keywords: parental acceptance-rejection, children, PPAT drawings, gender difference.

1. INTRODUCTION

The parent-child relationship is critical to child development and considered to be the origin of later relational attributes and personal qualities (Clarke & Scharff, 2014). This refers not only to "real" parent-child relationships, but also to internal, mental representations of the relationships with others (Flanagan, 2016). Children have unique perceptions of parental caregiving, which not only differ from parental perceptions, but also serves as a more accurate tool for predicting a child's behavioral outcomes (e.g., Abar, Jackson, Colby, & Barnett, 2015). In general, examination of children's perceptions of their parents' caregiving ranges from available and accepting to non-available and rejecting (Nunes, Faraco, Vieira & Rubin, 2013; Khaleque, 2015).

An exhaustive theoretical and empirical research study regarding children's perceptions of their parents' caregiving was carried out within the Interpersonal Acceptance-Rejection Theory (IPARTheory; Rohner, 2016a). This theory pertains to socialization and lifespan development of children and adults. Initially, it focused mostly on the effects of perceived parental acceptance-rejection in childhood and was formed mainly using verbal tools such as interviews and self-report questionnaires (Rohner, 2016b). Parental acceptance/rejection refers to a bipolar dimension of parental warmth, with parental acceptance at the positive end

of the spectrum, and parental rejection at the negative end. Acceptance refers to parents' love, affection, care, comfort, support, or nurturance of children. Rejection refers to the absence or withdrawal of parental warmth, love, or affection from their children (Khaleque, 2015).

According to Rohner (1980), children and adults organize their perceptions of parental acceptance-rejection around four universal categories:

a) warmth/affection – the quality of the affectionate relationship between the parents and their children, and the physical, verbal, and symbolic behaviors parents use (or are perceived to use) to express these feelings and behaviors;

b) hostility/aggression – either physical, verbal, active and/or passive, and problems with the management of hostility and aggression;

c) indifference/neglect – a lack of parental concern or interest in the child; and

d) undifferentiated rejection – the individuals' belief that his/her parent/s do not really care about him or her, without necessarily being able to prove this based upon their behavior.

Two meta-analyses found that children who perceived themselves as accepted by their parents tend to display socially acceptable behaviors and positive personality characteristics (Khaleque, 2013; Khaleque & Rohner, 2012). Additionally, empirical studies worldwide have shown a correlation between parental rejection and children's psychological maladjustment; behavioral problems (including conduct disorder, externalizing behaviors, and delinquency); various psychological disorders; and decreased school performance (Dwairy, 2010; Groh, Roisman, IJzendoorn, Bakermans-Kranenburg, & Fearon, 2012; Miles & Harold, 2003; Putnick et al., 2015).

In recent years, gender-based differentials were discovered with regard to the children's parental acceptance-rejection. In a sample of 168 Greek children (ages 7-12) both boys and girls tended to perceive their parents as accepting, but girls perceived significantly more maternal acceptance than boys did. Moreover, there was a significant correlation between the psychological adjustment of boys and perceived paternal, but not maternal, acceptance (Giotsa & Touloumakos, 2014).

The aforementioned research, using only questionnaires and interviews, contributes a verbal representation of the child's experience to the study; however, there are implicit layers in the experience that do not necessarily manifest themselves verbally (Wood, 2008). Non-verbal tools provide an additional channel of expression for those who are reluctant to talk about their feelings (White, Wallace, & Huffman, 2004) as may be the case with children who experience being rejected by their parents. Projective drawings are an example of non-verbal tools commonly used to inquire into the implicit layers of the child's experience without necessarily addressing the researched subject directly. Projective Drawings (hereafter referred to as PDs) have been proposed for testing and evaluating mental development and intelligence levels in children, and later have been expanded to provide additional information about the individual, such as personality traits, emotional and cognitive development. Malchiodi (1998) states that "children's drawings are thought to reflect their inner worlds, depicting various feelings and relating information concerning psychological status and interpersonal style" (p. 1). It has been proposed that PDs provide access to mental representations via multiple information channels, including automatic or poorly self-observed mental activities (McGrath & Carroll, 2012). PDs produce content that the clinician must learn to observe and understand in order to work with the patient (Leibowitz, 1999).

A large body of evidence suggests that there are differences between the drawings of boys and those of girls, which can manifest in the pictorial content (Turgeon, 2008; Wright & Black, 2013). The "Person Picking an Apple from a Tree" (PPAT) drawing task (Gantt, 1990) is an art-therapy assessment that has been found to be invaluable in revealing

associations between emotional-behavioral problems and cognitive (executive functions) aspects in preschool children (Bat Or, Ishai, & Levi, 2014) and highly aggressive school-age children (Bat Or, Kourkoutas, Smyrnaky, & Potchebutzky, 2019). Significant associations between PPAT drawings and relationship representations have only been found among adults (Bat Or, Ishai & Levi, 2015), whereas there is still a need to study these possible associations among children.

The present study examined whether the content of children's PPAT drawings (Gantt, 1990) was associated with their perceived parental behavior as measured by the "Parental Acceptance-Rejection Questionnaire" (Child PARQ; Rohner & Khaleque, 2005). Our research hypotheses were the following:

a) Associations will be found between perceived parental acceptance-rejection and the pictorial content of PPAT drawings, specifically, parental acceptance will correlate with the positive aspects of PPAT drawings (for example, an active drawn person, successful picking, and/or a tree with apples); and, parental rejection will correlate with negative aspects in the PPAT content (for instance, a weak tree, passive drawn person, tree inclining away from the person, etc.).

(b) Associations between the questionnaire (PARQ) and PPAT pictorial content will differ substantially between genders.

2. METHOD

2.1. Participants

The sample group consisted of 644 Greek school-age children (ages 10–12) who were randomly selected from public schools in three prefectures of the Island of Crete (Heraklion, Chania, and Rethymnon). 277 children were from the fifth grade, and 367 from the sixth grade, 51% of the participants were boys and 49% were girls. Participant distribution was 86% urban residents and 14% semi-urban residents.

2.2. Instruments

2.2.1. Parental acceptance-rejection questionnaire (Child PARQ)

Parental Acceptance-Rejection Questionnaire (Child PARQ) (Rohner, 1990; Adaptation in Greek in Giovazolias, Kothali, Louvrou, & Mitsopoulou, 2010). The current study used the short form of the Parental Acceptance-Rejection Questionnaire: Child version (Child PARQ: Mother version, Child PARQ: Father version; Rohner & Khaleque, 2005). The Child PARQ short version encompasses 24 items and asks children to interpret their caregivers' behavior through their own personal experiences. Participants were asked to evaluate each statement on a four-point Likert scale ranging from 1 (almost never true) to 4 (almost always true). Mother and Father Child PARQ questionnaires are identical.

The Warmth/Affection Scale is composed of eight statements, for example, "My father/mother says nice things about me." Scores were inverted, thus high scores indicate lack of parental Warmth/Affection. The Hostility/Aggression Scale is composed of six statements, including, "My father/mother hits me, even when I do not deserve it." The Indifference/Neglect Scale has six statements, including, "My father/mother pays no attention to me." Finally, the Undifferentiated Rejection Scale incorporates four statements such as "My father/mother seems to dislike me." The Greek Child PARQ was found to be a reliable and valid instrument (Artemis & Touloumakos, 2016). In the current study, the internal consistency of the total PARQ scores of mothers and fathers in each subscale were good (Cronbach's alphas were 0.853 and 0.851, respectively, N=644).

2.2.2. “Person picking an apple from a tree” drawing task (PPAT)

The instructions proposed by Gantt and Tabone (1998) were used in the administration of the PPAT process. Accordingly, participants were given white sheets of paper (21 cm by 29.5 cm) and 12 colored markers (red, orange, blue, turquoise, green, dark green, hot pink, gray, purple, brown, yellow, and black) and were asked to draw “a person picking an apple from a tree” (Gantt & Tabone, 1998). The Symbolic Content in “Person Picking an Apple from a Tree” for school-age children (SC-PPAT/c2 Bat Or et al., 2017) comprises nine Likert-scales that range between 0 (the rated feature is absent) and 5 or 6 (the rated feature at its maximum). The scales measure three central aspects of the PPAT drawing: characteristics of the tree (for example, the number of apples on the tree); characteristics of the person (for instance, the degree in which a person is active/passive in the apple picking process); and characteristics of the tree-person relationship (for example, the position of the tree trunk in relation to the person’s location). The drawings (N = 644) were rated according to the SC-PPAT/c2 rating system; two trained raters coded 10% of each of the drawings, until they achieved substantial agreement. The inter-rater reliability was calculated by the Intra-Class Correlation coefficient, which ranged between good and excellent (.903 - .986).

2.3. Procedure

Researchers first secured approval from the Educational Institute of the Ministry of Education as well as the Ethics Committee of the University of Crete. Once approved, meetings were held with the parents of the participants in order to inform them of the purpose of this research and they were asked to sign consent forms. The research was conducted in the schools and researchers entered the class accompanied by the class teacher. On the first day, the researchers introduced themselves and administered the Child PARQ-mother/father questionnaires, and on the second day they administered the PPAT drawing task. Participants were individually asked to draw a person picking an apple from a tree; no time limitation was set. Researchers assured the children that there were no right or wrong answers, and no drawing would be considered an ugly drawing. They informed the children that the questionnaires and the drawings would be collected by the researchers.

3. RESULTS

3.1. Descriptive analyses and preliminary analyses

The Statistical Package for the Social Sciences (SPSS) 21.0 software program was used to analyze the collected data from the rated drawings and questionnaires.

3.1.1. PARQ: parental acceptance-rejection questionnaire

The descriptive statistics reveal that, on average, children reported lower perceived parental (maternal and paternal) rejection, as manifested in low scores on Hostility/Aggression, Indifference/Neglect, and Undifferentiated/Rejected scales. They also reported higher perceived parental warmth, manifested in the low scores on the Warmth/Affection scale after inverted coding, as presented in table 1. The internal consistency of the total PARQ scores of mothers and fathers were good, when Cronbach’s alphas were .853 and .851 respectively.

Table 1.
Descriptive statistics of PARQ father and mother categories.

	Range	Minimum	Maximum	Common Score	Mean	Std. Deviation
Father Warmth/Affection	24	8	32	8	11.79	4.127
Father Hostility/Aggression	18	6	24	6	7.89	2.681
Father Indifference/Neglect	18	6	24	6	9.53	3.055
Father Undifferentiated/Rejected	11	4	15	4	5.45	1.970
Mother Warmth/Affection	24	8	32	8	10.32	3.187
Mother Hostility/Aggression	18	6	24	6	7.50	2.475
Mother Indifference/Neglect	18	6	24	6	8.52	2.654
Mother Undifferentiated/Rejected	12	4	16	4	5.30	1.963

3.1.2. SC-PPAT: symbolic content in children's PPAT drawings

Data analysis shows that the common drawing for this sample includes a tree with an equal amount of strength and weakness, with five to six apples equally distributed. The tree inclines slightly away from the person, although the branches are neutrally placed in regard to the person's position and are accessible from both sides of the tree. The person is shorter than the tree (about 1:3), partially active in the picking process, and is not touching the tree. An example for the common drawing can be seen in Figure 1.

Figure 1.
PPAT with partially active person who does not touch the tree. Tree inclining slightly away from the person, with six apples equally distributed.



Table 2.
Descriptive statistics and interrater reliability for SC-PPAT/c2 scores.

Scale no.	Measure	Points on Likert scale	Score no. 1	Score no. 5 or 6	Mean (N=644)	SD (n=64)	Intra-Class Correlation coefficient (N= 64)
1	Quantity of apples on the tree	6	A tree with no apples	A tree with more than 10 apples	4.91	1.44	.984
2	Strength vs. weakness of tree	5	A very weak tree	A very strong tree	3.85	1.01	.958
3	The degree to which the person is active / passive in apple-picking	6	The person clearly avoids picking	Extraordinary picking process effort	3.85	1.11	.903
4	Degree of success in picking the apple	5	There is no contact between the person and an apple	The person holds one or more apples, disconnected from the tree	2.92	1.42	.929
5	Contact between person and tree	5	No contact between the person and the tree	Person is contained within the contour of the tree	1.54	.73	.986
6	Height ratio between person and tree	6	The person is significantly shorter than the tree (1:5 or more)	The person is taller than the tree (2:1)	3.13	1.21	.954
7	Position of the tree trunk in relation to the person	5	The tree trunk is clearly inclined away from the person	The tree trunk is clearly inclined toward the person	2.93	.70	.958
8	Placement of branches in relation to the person (close vs. far)	5	Branches or treetop are inclined away from the person	Branches are coming out of trunk toward the person	2.7	1.01	.971
9	The extent to which apples are spread out on the tree either close or far from the person	5	All apples are placed on the side farther from the person	All apples are placed on the side closer to the person.	3.31	1.02	.940

Associations between Primary School Children's Perceptions of Parental Acceptance and Rejection, and their Drawings of a "Person Picking an Apple from a Tree"

Confirmatory Factor Analysis (CFA) was conducted using AMOS software. The suitability between the theoretical model and the empirical model was examined; three indices showed that no difference was detected between the two models. Specifically, $\chi^2(7)=11.94$, $p=.103$, $CFI=.98$, $RMSEA=.033$. An inter-rater reliability analysis using Intra-Class Correlation (ICC) coefficients was performed to determine consistency between the SC-PPAT/c2 raters, until absolute agreement was reached, ranging from good to excellent, as can be seen in Table 2

Three main factors were obtained by CFA--Person Agency, Tree Accessibility, and Tree Potency. Each of these factors consists of two scales. Person Agency pertains to the drawn person's activity, including the degree in which the person is active/passive in the apple picking, and if there is contact between person and tree. Tree Accessibility pertains to the tree's orientation toward the drawn person, including the position of the tree trunk in relation to the person, and placement of branches in relation to the person. Finally, Tree Potency pertains to the characteristics of the tree, including the number of apples it bears and its strength vs. weakness. These factors yield a total of 68% of the explained variance. Inter-factor associations were also measured. The principal finding was a medium positive association between Person Agency and the Tree Accessibility, meaning the more agency the drawn person exerts in the picture, the more accessible the tree.

K-means cluster analysis was conducted for identifying groups of PPAT drawings with different combinations of PPAT's main factors values. One-way ANOVA showed significant differences between the three main factors in each cluster.

Table 3.
One-way ANOVA for factor differences within the three clusters.

		Sum of Squares	df	Mean Square	F	Sig.	η_p^2
Tree's Potency	Between Groups	522.049	2	261.024	926.513	<.001	0.711
	Within Groups	211.859	752	0.282			
	Total	733.908	754				
Person's Agency	Between Groups	248.332	2	124.166	401.735	<.001	0.517
	Within Groups	232.423	752	0.309			
	Total	480.755	754				
Accessibility of Tree	Between Groups	13.551	2	6.776	15.513	<.001	0.04
	Within Groups	328.454	752	0.437			
	Total	342.005	754				

As can be seen in Table 3, three clusters were identified in PPAT drawings. Figure 2 illustrates a drawing in cluster A: a potent tree, a low-agency person, and a neutral-to-less-accessible tree (n=295); Figure 3 illustrates a drawing in cluster B: a non-potent tree, a person with medium agency, and a fairly accessible tree (n=153); Finally, Figure 4 illustrates a PPAT drawing in cluster C: a potent tree, a person with agency, and an accessible tree (n=307). In terms of the PPAT narrative, cluster C describes the best script, in terms of coherency and reciprocity, while the two other clusters reveal gaps between personal agency and tree potency. While cluster B describes a script with a weak, though

accessible, tree and medium personal agency, cluster A reflects a potent, though less accessible tree and low personal agency.

Figure 2.
Cluster A PPAT with a potent and neutral tree in terms of accessibility, and a person with low agency.



Figure 3.
Cluster B PPAT with a non-potent and accessible tree, and a person with medium agency.

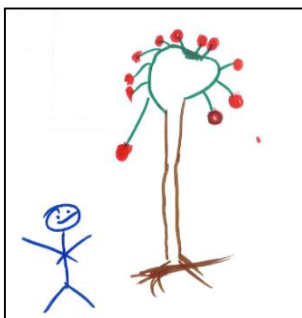


Figure 4.
Cluster C PPAT with a potent and accessible tree, and a person with agency.



3.2. Hypotheses Testing

3.2.1. Associations between perceived parental acceptance-rejection and the pictorial content of PPAT drawings

Pearson correlations were calculated between SC-PPAT/c2 main factors and the criterion variables. No significant correlations were found between SC-PPAT/c2 main factors and parental acceptance-rejection of mothers or fathers for the whole sample. We thus analyzed this hypothesis with regard to PPAT's three clusters. One-way ANOVA was conducted, showing a significant difference between clusters B and C in terms of their maternal rejection scores $F(2, 337)=3.73, p=.025$. Specifically, children who drew a PPAT that illustrated cluster B script (a non-potent but fairly accessible tree, with a person having medium agency) tended to report their mothers as more rejecting, in comparison to children that drew cluster C PPAT (a potent and accessible tree, with person agency), thus confirming the first research hypothesis.

3.2.2. Gender differences

Pearson's correlation coefficients were calculated between PARQ categories and SC-PPAT/c2 factors for both boys and girls. One significant association was found in the boys' group, while correlations were not obtained for girls' group. Person Agency was the only main factor associated with PARQ categories. Person Agency was negatively associated with mother's Hostility/Aggression, $r = -.207, p < 0.01$; in other words, the more the boy perceived his mother as hostile and aggressive toward him, the lower the drawn person's agency, and vice versa: the less hostile and aggressive the boy perceived his mother to be, the more the drawn person expressed agency. In order to examine the differences in correlations that were found between the boys' group and the girls' group, z-tests for differences between Pearson's correlation coefficients were conducted. A significant difference between boys and girls was found, showing negative correlation in the boys group ($r = -.207, p < .001$) but not in the girls group ($r = -.017, ns$), $z = 2.33, p < 0.05$. In addition to these analyses, a one-way ANOVA analysis was conducted in each gender group between

the three clusters and validity variables. Among boys, two significant differences relating to parental hostility levels were found. Specifically, a significant difference between clusters A and C in terms of scores regarding father's hostility $F(2, 347)=3.42, p=.034$; and a significant difference between clusters A and C in terms of their scores of mother's hostility $F(2, 337)=3.72, p=.025$ were detected. This compelling discovery revealed that only boys demonstrated significant differences between cluster A and C (between PPAT with a potent tree, a low agent person, and a neutral to less-accessible tree and PPAT with coherent and reciprocal relations between the person and the tree. i.e., they are both potent and the tree is also accessible) in relation to their reports about parental hostility levels. By the same token, boys who reported higher parental hostility tended to draw cluster A PPAT (with a mixed script: a potent tree, a person with low agency, and a neutral to a less-accessible tree) in comparison to boys that reported lower parental hostility levels and tended to draw cluster C PPAT (with a coherent script, in which all the three factors -a potent and accessible tree, and a person with agency—are positive). These results confirmed the second hypothesis.

4. DISCUSSION AND CONCLUSION

This study clearly demonstrated the necessity to explore the associations between school age children's perceptions of parental acceptance-rejection and PPAT drawings. The preliminary analysis showed that the PPAT drawings of school age children comprise three main content factors: tree potency, tree accessibility, and the drawn person's agency.

Results demonstrated that certain PPAT scripts were associated with maternal hostility: specifically, children that reported higher levels of maternal rejection tended to draw a less potent tree and a person with neutral to low agency. These drawn objects might be representative of the children's internal working models, and thus influenced by their relational expectations, e.g. their hope to receive assistance from other people, how cooperatively they interact, their self-worth, and their ability to achieve goals (Grossmann, Grossmann, & Waters, 2006). These findings can be understood in the broader cultural context. It has been well established that mothers serve as primary caregivers (Greenfield, Suzuki, & Rothstein-Fisch, 2006), largely being responsible for home and family and generally carrying a heavier burden in routine-parenting (Barnard & Solchany, 2002; Metsapelto & Pulkkinen, 2003), even when working full-time (Guryan, Hurst, & Kearney, 2008). Maternal rejection and hostility might enforce the child's sensitivity to rejection, possibly leading to automatic interpretation of social interaction as threatening (Cassidy, Kirsh, Scolton, & Parke, 1996; Romero-Canyas, Doweeny, Berenson, Ayduk, & Kang, 2010). This can be seen in the children's PPAT drawing scripts, which objects having less potency: a weaker tree, with fewer apples on it alongside a person that shows neutral levels of agency during the picking process (a mix of passivity and activity, and minor contact with the tree). In regard to gender differences, associations between parental hostility and a non-coherent PPAT script were found only among boys. Studies show that there is a difference in parental response to emotional expression towards boys and girls. Parents tend to accept and even encourage an emotional conversation with girls, but not with boys (Adams, Kuebli, Boyle, & Fivush, 1995; Dunn, Bretherton, & Munn, 1987; Eisenberg, 1999; Flannagan & Perese, 1998), providing girls with more opportunities for emotional discourse than boys (Melzi & Fernández, 2001). Therefore, it can be assumed that boys might use the invitation to draw (as a nonverbal expression) to express their emotions regarding close relationships.

The results indicate that the pictorial space in children's drawings, communicated through various symbols and thematic scripts, may reveal their subjective experience. In addition, our research establishes that a broader observation of drawing narratives or script is required to understand the child's subjective relational experience, especially when observing normative middle-childhood children, as was the case in this study. This is similar to clinical work with clients, where clinicians attempt to gain access to the client's relational scripts through personal narratives (McLeod, 1997).

5. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

The present study has some methodological limitations. The first being that the combination of drawings and self-reported questionnaires is problematic in terms of theoretical validity, since each method (verbal and non-verbal) may communicate different representational levels of expression (Andreou & Bonoti, 2010; Bosson, Swann, & Pennebaker, 2000). While theoretical concepts measured by a self-report questionnaire focus on specific mental phenomena, projective drawings contain multi-channel information (McGrath & Carroll, 2012) providing a more comprehensive picture. To further this understanding in a future study, participants could be requested to provide a verbal narrative for their PPAT (Matsopoulos, Nastasi, Fragkiadaki & Koutsopina, 2017) and this may contribute to better understanding their relational perception.

Secondly, this study did not include some important components of school-age life, namely social context and peer relations. Social networks expand significantly in middle childhood (Bornstein, 2002; Blake, 2011). During school years, children spend less time with family members in comparison to peers and other adults outside of the family, such as teachers (Feiring & Lewis, 1991; Steinberg & Silk, 2002). Since previous findings found peer acceptance to correlate with high levels of self-competence (Boulton & Smith, 1994; Kurdek & Krile, 1982), we encourage future studies to investigate these perceptions with association to the PPAT. Furthermore, children's perception of their teachers' acceptance-rejection, as can be measured by the Teacher Acceptance-Rejection questionnaire (TARQ; Rohner, 2005), can also be significant. This is relevant especially in light of research indicating that acceptance by teachers' influences school performance and behavior in children (Ali, Khaleque, & Rohner, 2015), and that there is a correlation between children's perception of their relationships at home and at school (Tulviste, 2011).

Lastly, this study did not take into account cognitive abilities/limitations that may impact the drawings, such as learning disabilities, which are a main concern for parents and teachers of children in middle childhood (Roberts, Block, & Block, 1984; Swanson & Harris, 2013). Considering previous findings that indicated a significant correlation between cognitive dysfunctions in preschool children and their PPAT drawings (Bat Or, et al., 2014), we recommend that a future study include measures of cognitive abilities, in order to examine their association with the PPAT pictorial context of middle childhood children for a more comprehensive view into the child's evolving psychological health.

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Chapter #14

AN INSIDER'S PERSPECTIVE: THE EXPERIENCE OF PARENTS AND GENDER VARIANT YOUTH WITH AUTISM SPECTRUM DISORDER

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ABSTRACT

While a growing body of research has documented the co-occurrence of autism spectrum disorders (ASD) and gender variance, only a handful of published studies have investigated the perspectives and experiences of gender variant youth with ASD. Current clinical care guidelines for this population have generally been obtained through expert knowledge and fail to consider the perspectives of key stakeholders with an insider perspective such as youth and their caregivers. As such, two semi-structured focus-groups and an individual interview were conducted to explore the experiences and perspectives of four gender variant youth with ASD and three of their parents. Interviews were transcribed and analyzed for themes. This study seeks to increase our understanding of this population, identify avenues for future research, and contribute to improving the quality of clinical services for gender variant youth with ASD.

Keywords: gender variance, autism spectrum disorders, gender identity, access to services, youth perspectives, parent perspectives.

1. INTRODUCTION

Accumulating research indicates that children and adolescents with co-occurring autism spectrum disorders (ASD) and gender variance (GV) are identified at higher rates than would be expected by chance (de Vries, Noens, Cohen-Kettenis, van Berckelaer-Onnes, & Dorelihers, 2010; Skagerberg, Di Ceglie, & Carmichael, 2015; Janssen, Huang, & Duncan, 2016; Shumer, Reisner, Edwards-Leeper, & Tishelman, 2016; van der Miesen, Hurley, Bal, & de Vries, 2018). Studies investigating rates of clinical ASD diagnosis in youth referred for gender-related treatment suggest a co-occurrence rate of 6.3 to 13.3% (de Vries et al., 2010; Holt, Skagerberg, & Dunsford, 2016; Nahata, Quinn, Caltabellotta, & Tischelman, 2017; Shumer et al., 2016). However, recognition of this comorbidity is fairly recent and, as such, research with this population is in its infancy.

The American Psychological Association (2015) has identified a significant gap in research related to the quality of treatment approaches with transgender and gender nonconforming people, especially youth. The clinical assessment and treatment of gender-variant children and youth with ASD can prove even more complex due to the developmental challenges associated with ASD (de Vries et al., 2010; Strang et al., 2018a). Recently, clinical care guidelines for this population were developed by obtaining consensus among professionals with expertise in the field (Strang et al., 2018a). However, these guidelines lack the contribution of expertise afforded by those with lived experience. To our

knowledge, there are only a handful of studies to date that address the clinical needs, perspectives, and experiences of gender-variant youth with ASD (Strang, et al., 2018a; Strang et al., 2018b) or of their caregivers (Katz-Wise, et al., 2017a; Katz-Wise et al., 2017b; Kuvlanka, Mahan, McGuire, & Hoffman, 2018; Kuvlanka, Weiner, Munroe, Goldberg, & Gardner, 2017).

To better understand and provide effective clinical services for this population, it is important to learn about the perspectives of key stakeholders with an insider perspective (Strang et al., 2018a; Strang et al., 2018b). The present exploratory study aims to identify avenues for future research by asking the following questions: 1) what are the experiences of gender-variant youth with ASD related to understanding their identities and accessing clinical services and 2) what are parents' experiences when accessing clinical services for these children and youth?

2. BACKGROUND

It is important to distinguish between GV and gender dysphoria (GD). GV occurs when one's gender identity or expression is incongruent with their sex assigned at birth (Strang et al., 2018a). Youth who experience this incongruence may identify as transgender, gender nonconforming, gender non-binary, or another identity. GD, on the other hand, is a diagnostic category referring to the distress that sometimes accompanies GV (American Psychiatric Association, 2013). GD can often be ameliorated through therapy and/or other interventions such as social transitions, gender affirmative therapy, skill-building strategies, hormone therapy, and gender affirming surgeries.

Mechanisms leading to the co-occurrence of ASD and GV are unclear. Some research suggests that ASD and GV might be simultaneously influenced by developmental processes related to high birth weight (VanderLaan, Leef, Wood, Hughes, & Zucker, 2015). Other research indicates the GV may be associated with neurodevelopmental and childhood psychiatric disorders more generally, rather than with ASD specifically (May, Pang, & Williams, 2016). Although GD and ASD are both more prevalent in natal males than natal females (American Psychiatric Association, 2013), it is unclear whether rates of comorbid GD and ASD differ across assigned sex.

Regardless of the processes underlying ASD-GV comorbidity, many gender-diverse youth with ASD report that they first became aware of their gender nonconformity in elementary school or earlier (Strang et al., 2018b). Consistent with research on GV in children without ASD, initial signs of GV in those with ASD include a preference for spending time with children of the other gender, an interest in cross-gender activities and clothing, and an aversion to clothing associated with their sex assigned at birth (Strang et al., 2018b). Research involving youth who have co-occurring ASD and GV also suggests that, although GV desists over time for some youth, it persists and/or intensifies for others (de Vries et al., 2010; Strang et al., 2018b).

Interviews with youth highlight a complex relationship between GV and ASD such that each interacts with and informs the other. For instance, some youth with both conditions report that their ASD symptoms make it challenging to communicate about their gender nonconformity with others (Strang et al., 2018b). Clinicians have also noted that characteristics associated with ASD, such as concrete thinking and limited self-awareness, may delay and/or distort some youths' recognition and understanding of their GV (Strang et al., 2018a). Conversely, some youth note that gender nonconformity can exacerbate the social challenges associated with ASD and heighten the risk for discrimination (Strang et al., 2018b). They also point out that a diagnosis of either GD or ASD may increase the likelihood

that the other diagnosis will be undetected or dismissed by others (Strang et al., 2018a; Strang et al., 2018b). Finally, some youth emphasize that co-occurring GV and ASD can foster resilience (Strang et al., 2018b).

Few studies have sought opinions from caregivers of gender-variant youth (Katz-Wise, et al., 2017a; Katz-Wise et al., 2017b; Kuvalanka et al., 2017) and, to our knowledge, only one has involved parents of gender-variant youth with ASD (Kuvalanka et al., 2018). The latter study interviewed three mothers of gender-variant children with ASD and identified themes in their narratives. One theme related to worries about their child being ostracized due to their co-occurring GV and neurodiversity, while another theme related to doubts about whether their child's ASD was influencing their GV (Kuvalanka et al., 2018). Such concerns initially prevented the mothers from fully embracing their children's gender transitions. The mothers also highlighted that the co-occurrence of ASD and GV made it difficult to disentangle the sources of their children's social and emotional difficulties.

In sum, prior research highlights that gender-variant youth with ASD face a variety of unique challenges. However, research on youth and caregiver perspectives is limited. As such, more information is needed to identify the existence of important phenomena and chart a course for future research (Institute of Medicine, 2011). Including the perspectives of GV clients themselves is crucial if we wish to develop effective and ethical clinical guidelines and treatments (American Psychological Association, 2015). In addition, most relevant studies to date have been conducted in the United States; studies from other countries are needed to determine whether prior results are generalizable. The present study adds to the prior literature by exploring the perspectives of four transgender youths with ASD, as well as three of their parents, who were accessing clinical services in Canada.

3. PARTICIPANTS AND METHODS

All participants and their parents were recruited from a community-based mental health services clinic in the Lower Mainland of British Columbia, Canada, using both convenience and purposive sampling methods (Table 1). All participants who met inclusion criteria at the time: 1) between ages 12 to 19, 2) identified as gender variant and had a diagnosis of ASD, and 3) had reasonable verbal skills to participate, were recruited as part of this study. While twelve families were initially identified and invited to participate, only four participants (25%) responded and agreed to take part in this study. The current sample represented several ethnic groups, including African Canadian, Caucasian-white, and Aboriginal. Informed consent was obtained from each participant and their legal guardian to take part in the study. Participation was voluntary and no compensation was provided. This study was conducted in March 2018 using a qualitative semi-structured interview format. Two separate focus groups were initially conducted with three of the participants and their parents; a separate interview was conducted individually with another youth who also wished to participate, but was unavailable during the time of the initial focus group. All interviews were audio recorded, transcribed, and analyzed for emergent themes using qualitative thematic analysis (Braun & Clarke, 2006).

*Table 1.
Participant Demographics.*

Participant	Age	Gender Identity	Diagnosis	Parent
Participant 1	13	Transgender Female	Pervasive Developmental Disorder-Not Otherwise Specified	Mother
Participant 2	16	Transgender Male	Autism Spectrum Disorder	Mother
Participant 3	17	Transgender Female	Asperger’s Syndrome	Father
Participant 4	19	Transgender Male	Asperger’s Syndrome	Unavailable

4. RESULTS

4.1. Youth perspectives

4.1.1. Understanding gender identity

Participants discussed their **self-awareness** of their gender identity and indicated their transgender identity was something that felt innate to them. For instance, one participant stated, “It is something I’m born with. It wasn’t something I chose to be...I can’t force myself not to be transgender. Either you are or you’re not. That’s the best I can describe it.” Participants also identified **challenges describing their gender identity to others**. The fluid nature of gender made it difficult for participants to communicate with others about their transgender identity. As one participant described, “Because I take things so literal - gender can sometimes be very fluid and vague, the definition, so it’s kind of hard to tell people how you feel.”

4.1.2. Understanding autism spectrum disorder

During interviews, participants highlighted the **perceived stigma and stereotypes** others attribute to ASD. One participant shared, “People think I’m just great with anything with science and math. And anything to do with socializing, I’m bad at. Like two extremes.” Relatedly, another participant stated, “Living with autism, it sucks. To be honest, just because of the fact you’re different from other people, you receive doubts from other people because they think you’re not mentally capable of comprehending things.” Due to perceived negative stereotypes, participants reported they were **unlikely to disclose their ASD diagnosis to others**. According to one participant, “No, I just mostly ignore it. I don’t talk about being autistic at all.”

4.1.3. Intersection of ASD and gender identity

Participants reported experiencing **invalidation of their transgender identity due to their ASD diagnosis**, including having others disregard their gender identity, or expressing disbelief. A participant shared, "Because people always assume because someone has a disorder like autism or something, they don't understand anything... just people trying to tell you how you are feeling, just assuming." Participants also identified the **benefits of having both ASD and a transgender identity**. For instance, participants perceived that living in their affirmed gender helped facilitate an increase in social interactions, addressing a deficit associated with ASD. Further, another participant indicated that symptoms of ASD helped them when facing mental health challenges related to their transgender identity, as illustrated in the following excerpt, "I think having Asperger's helped me with my transgender identity, especially during times you get depressed... I know having Asperger's made me stick with my schedule... it helped keep me going."

4.1.4. Navigating systems

Finally, participants identified **additional challenges** navigating systems when accessing clinical services related to their ASD and transgender identity. Specifically, communicating with professionals to access services, relying on others for help, and misunderstanding information all posed challenges for participants. A participant shared, "To be transgender you have to make a lot of phone calls with people you've never heard of... and having autism can be difficult. You have to rely on other people to help." However, participants also experienced **helpful supports** when accessing services. These supports included having parents who validated their child's gender identity and were willing to attend appointments with their children. One participant highlighted, "My mom was always with me at appointments because sometimes I wouldn't understand the doctor. She's known me a lot longer and she would know how to explain it to me." Other helpful supports included accessing services from professionals who were willing to simplify information and provide extra time during appointments. A participant suggested, "Definitely try to outline steps more clearly... try talking more slowly."

4.2. Parent perspectives

4.2.1. Challenges "find[ing] the right doctor"

All three parents expressed **challenges finding the right professional with expertise and experience** in ASD, gender-diversity and mental health for their child. One parent stated, "[We're] just having a little hard challenge finding the right doctor for transgender issues... but we just recently found another general practitioner (GP) for [our child] because the other one - her [original] GP - probably wasn't the right person, a person coming out of school and didn't really have any specific instances of what this is. Maybe we're better off finding someone who has done this before." Despite these challenges, parents highlighted the fact that **once they were able to find the right professional, they were usually able to move through the system and get connected to services quickly**. For instance, a participant shared, "I went to the family doctor and we got a referral to the [local] hospital... the hospital social worker contacted us and put us through... we got shipped in this direction quickly and got really good advice and [my child] continues to come and see counsellors here, which is great."

4.2.2. Improvement in mental health with appropriate clinical services

During the interview, parents consistently reported **improvements in their child's mental health after coming out**, receiving appropriate support(s) and/or working with the right professional(s). One parent stated, "Since she came out things have gotten so much better...the tantrum behavior has gone down, depression and anxiety and ability to focus...so many things have gotten so much better." Another parent shared, "In high school...[my child] started having anxiety and depression andshe was suicidal...so we went to the youth services and they put her on medication and [she] started getting better and then [my child] started coming to see [the gender health specialist]."

4.2.3. Professionals' tunnel vision approach to services

Parents expressed frustrations as they found professionals often **focusing on the treatment of one aspect of their child's problems** (e.g., attention deficit/hyperactivity disorder (ADHD), mental health, ASD) rather than seeing their child as a whole. One parent explained, "When [my child] gets to be a little anxious she has lots of sensory symptoms, and she really is quite mobile, she will bounce all over the room ... it was kind of frustrating because her mental health is getting worse and we're just piling on more Adderall, like you're clearly not listening ... she was clearly saying at this point, *I'm not a boy, I'm a girl*. There's no doubt in that statement. She would come home and have bite marks all over her arm and she wasn't eating...she would come home from her school and just throw on a tantrum for an hour. It was just the mental health issues were so big, and they were just like, *uh, no, ADHD*."

4.2.4. Unhelpful advice from professional

Some parents experienced professionals who gave them **unhelpful advice about their child**. One parent shared, "If you don't find someone who specializes in this, you never know what they're gonna say. I know a therapist, not an autism one, said, *just let her wear pink underwear and ignore the rest of it because she'll be okay*. Like finding someone who really specializes in the gender issues is so essential. It can be challenging."

5. CONCLUSION/DISCUSSION

Learning how to navigate the medical and mental health systems can be difficult and confusing, especially for this special population. The findings from this study reveal some of the specific challenges youth and their parents face when accessing gender- and ASD-related services. For instance, despite having a clear understanding of their gender identity, the youth in this study found it challenging to explain their identity to others. Indeed, youth participants' greatest challenges were caregivers', professionals', and the public's lack of understanding of their intersecting transgender and ASD identities. Youth with ASD commonly experience challenges with social communication, which could contribute to challenges discussing one's identity (American Psychiatric Association, 2013). This communication deficit may lead some caregivers or professionals to underestimate these youths' ability to understand their gender identity. Additionally, others may question the authenticity of a transgender identity for a youth with ASD. As such, some trans-youth with ASD reported that they were unlikely to disclose their ASD diagnosis to others, fearing that it may negatively impact their ability to access services for their gender dysphoria. However, when a transgender youth with ASD withholds such information it may, at times, limit services and impede opportunities for them to receive specialized services and appropriate care.

In sum, both youth and parents found it challenging to navigate our medical system and access appropriate clinical services. Youth found comfort in having a supportive adult by their side during appointments, while parents struggled to find doctors with enough specialized knowledge and understanding of their child's complex needs. Collectively, participants' responses suggest that medical and mental health professionals may lack training and expertise in working with children who have complex neurodevelopmental and gender-health needs, which has the potential to affect the quality of services. However, once these families found the right professional, they were usually able to navigate the system and access appropriate services quickly. Therefore, additional education and training for healthcare professionals (and the general public) may be necessary and beneficial to address potential bias and misinformation that relates to this population. Professionals are encouraged to gain additional knowledge and awareness of their own biases to ensure that they can provide a sensitive and comprehensive approach to services.

We are clearly still in the infancy stage when it comes to determining the best treatment approach for GV youth with ASD. Although this study has its limitations, we believe that our results provide a starting point for future research to build upon as we learn more about transgender youth with ASD. A multi-disciplinary, wraparound approach to services may prove beneficial for these youth by providing them with more comprehensive and continuous care that is tailored to their complex needs (e.g., developmental, psychological, behavioral, medical, gender-related). Future studies should investigate the feasibility and efficacy of such an approach.

6. LIMITATIONS

The sample size of this study is small. Participants consisted of four transgender youth with ASD accessing publicly funded mental health and medical services. They all came from middle class families, had a basic level of family support and were under the age of twenty. Thus, the generalizability of our results to other transgender youth who are not accessing healthcare services, not supported by family, of different socioeconomic status, or older than nineteen years old is unknown. From a developmental perspective, our limited sample and variation in the age range further challenges our ability to generate themes related to developmental phases of this population (e.g., early adolescence versus emerging adulthood). Further, a larger sample size may have elicited different themes. That said, the current findings are relatively consistent with past research on youth with GV and ASD (Strang et al., 2018a; Strang et al., 2018b) and their parents (Kovalanka et al., 2018). In addition, given that GV youth with ASD are small in number, geographically-diverse, and hard-to-reach, it can be costly and impractical to recruit a large enough sample for quantitative analyses (American Psychological Association, 2015; Institute of Medicine, 2011). As such, although large, probability studies are needed, nonprobability samples can nevertheless yield valuable descriptive information and ideas for future research, especially when taken together with findings from other studies; specifically, nonprobability samples are important in the initial phases of studying a newly-identified phenomenon in order to generate hypotheses and identify potential relationships between variables (Institute of Medicine, 2011). Furthermore, considering the historical exclusion of transgender people from research, it seems unethical to exclude GV youth with ASD from future research due to their relative rarity in the general population. A final limitation of the present study is that the psychologist who acted as a focus group facilitator was also involved in supervising some of the participants' clinical treatment, which may have biased the responses of the participants who were also under his care.

7. FUTURE RESEARCH DIRECTIONS

To date, only a handful of studies have queried the perspectives of youth who experience concurrent GV and ASD. As such, future research should continue to explore the unique challenges faced by these youth and their families. However, most research with this population, including the current study, has been qualitative in nature. While qualitative approaches provide rich, nuanced data that facilitate exploration of understudied topics and populations, it is important to complement such research with quantitative and mixed-methods designs. Hence, future studies should aim to recruit larger samples that would enable such analytic approaches. Finally, there is currently no standard of care available to health professionals who work with this crossover population. Indeed, it is often up to professionals and parents to determine the best care approach for this vulnerable population. As such, there appears to be substantial variation in practices, and some crucial aspects of care may be overlooked (e.g., differential diagnoses). Therefore, it is imperative for future research to develop a structured, empirically-supported model for the assessment and treatment of youth with GV and ASD. Such guidelines will not only assist professionals, but also provide some direction to parents and guardians of youth who have concurrent GV and ASD.

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Section 5
Social Psychology

Chapter #15

CONTENT OF THE FATHER AND MOTHER STEREOTYPES IN JAPAN: COMPARED TO THE OVERALL GENDER STEREOTYPES

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ABSTRACT

Suzuki (2017) reviewed the studies on gender inequality and concluded that gender stereotypes contribute to the persistence of gender discrimination in the workplace and at home. It has also been verified that the content of father (Troilo, 2013) and mother stereotypes (Ganong & Coleman, 1995) differed from the overall gender stereotypes in American society. This study investigated whether the content of the father and mother stereotypes was dissimilar to that of the overall gender stereotypes in Japan. That is, does the content of the father (versus men) and mother (versus women) stereotypes differ from the typically held gender stereotypes? A survey was conducted among undergraduates (N = 266; Men = 106, Women = 160), with a mean age of 19.05 years (SD = 1.02 years). The results imply that the idea that ‘fathers (rather than men) should work outside the home and mothers (rather than women) should keep the house’, is held in Japanese society. In the future, it would be helpful to examine not only explicit stereotypes but also implicit stereotypes about fathers and mothers. Further, it would be useful to study stereotypes held by older and/or less educated adults.

Keywords: stereotype, father, mother, gender.

1. INTRODUCTION

According to the ‘Global Gender Gap Report 2018’, the Japanese Gender Gap Index (GGI, ranging from 0 [disparity] to 1 [parity]) was 0.662, which ranks 110th among 149 countries (World Economic Forum, 2018). In each four subindexes, the ‘Economic Participation and Opportunity’ subindex is 0.595 (117th ranking), the ‘Educational Attainment’ subindex is 0.994 (65th ranking), the ‘Health and Survival’ subindex is 0.979 (41st ranking), and the ‘Political Empowerment’ subindex is 0.081 (125th ranking) (World Economic Forum, 2018). Gender inequality is a serious issue in Japan, particularly in terms of its economic and political dimensions.

Suzuki (2017) indicated that even though laws prohibiting gender discrimination have been established, gender inequality still persists in Japan; moreover, she discussed the mechanisms of persistence in gender inequality, focusing on work and family. She reviewed previous research and identified sociological factors (such as the division of labour by gender, employment and management systems and practices, and long working hours) and psychological factors contributing to gender inequality in offices and families, of which ‘gender stereotypes’ are of particular interest.

Gender stereotypes have been described by two primary dimensions: agency and communion, as men are agentic or instrumental and women are communal or expressive (for review, Kite, Deaux, & Haines, 2008) and such gender stereotypes were seen in 30

countries including Japan (Williams & Best, 1990). Moreover, the studies examining broader dimensions of gender stereotypes showed social role difference. Men are suited to leaders, heads of households, and financial providers and women are suited to caregivers and emotional supporters (Cejka & Eagly, 1999; Deaux & Lewis, 1984). In connection to gender stereotypes, Troilo (2013) demonstrated that in the U.S.A., the content of the father stereotype was dissimilar to that for men (e.g., American fathers were thought to be *Hardworking* and *Busy*, when compared with American men). Similarly, Ganong and Coleman (1995) substantiated that the content of the mother stereotype differed from that for women (e.g., American mothers were believed to *Act for the good of family* and *Favor her own children*, when compared with American women). In Japan too, are parent stereotypes different from overall gender stereotypes? This study tries to verify whether in Japan, the content of father stereotype differs from that for men and whether the content of mother stereotype differs from that for women.

In Japan, women's labour force participation rate tends to decline once women reach the age of 30 and over, when most of them give birth and take care of children (Cabinet Office, 2013). Among the Japanese women who work before marriage, 71.4% of them continue to work after marriage and 32.8% of them continue to work after their first child-birth (Cabinet Office, 2011). It is maintained that motherhood, rather than marriage, marks the turning point for women's employment termination. The tendency might reflect the idea that 'mothers (rather than women in general) should keep the house', thereby the content of the mother stereotype might differ from that of women. Moreover, because the fathers whose wives left employment must work in order to earn a living, it is also considered that the content of the father stereotype might be different from that of men, reflecting the idea that 'fathers (rather than men in general) should work outside the home'.

If the parent stereotypes differ from the overall gender stereotypes that fathers (rather than men in general) should work outside the home and mothers (rather than women in general) should keep the house, the parent stereotypes rather than the gender stereotypes might cause gender inequality in Japan. Thus, this study attempts to clarify the difference between the parent stereotypes and the overall gender stereotypes in Japan.

2. METHODS

This study conducted two pilot studies and a main study in a similar way to previous research (Ganong & Coleman, 1995; Troilo, 2013). All three studies were conducted among undergraduates who were 18-22 years old, of both genders, unmarried, born and raised in Japan, and whose native language was Japanese.

First, this study conducted a pilot survey among 25 undergraduates (12 men and 13 women) whose mean age was 18.76 ($SD = 1.01$) years old. They randomly received one of two self-report questionnaires on either fathers and mothers (13 undergraduates: 6 men and 7 women) or men and women (12 undergraduates: 6 men and 6 women). The order was randomised to reduce order effects. They were asked to list descriptors describing fathers, mothers, men, or women, for example 'List adjectives to describe how you think FATHERS-IN-GENERAL are thought of in Japanese society, whether or not it is your opinion. That is, what do most people think are characteristics of FATHERS-IN-GENERAL?' As a result, 129 descriptors were generated.

Second, this study conducted a pilot survey among 43 undergraduates (24 men and 19 women) whose mean age was 20.02 ($SD = 0.74$) years old. The descriptors were randomly sorted to reduce order effects. The participants randomly received one of two self-report questionnaires on either fathers and mothers (21 undergraduates: 12 men and 9 women) or

men and women (22 undergraduates: 12 men and 10 women). The order was randomised to reduce order effects. They were asked to review the lists and to check off items they believed represented general societal beliefs about either fathers and mothers, or men and women in general, and to add other widely held beliefs they thought were missing from the list. Eighty-two descriptors that were checked off by at least 8 participants were retained. Further, three new descriptors were added: 'Looking down on' was added for fathers in general; 'Work than children' was added for mothers in general; and 'Coward' was added for men in general.

Last, a main survey among 266 undergraduates was conducted. They randomly received one of four self-report questionnaires on either fathers, mothers, men, or women, followed by the 85 descriptors (Table 1). They were asked to list a percentage for each descriptor on a 11-point scale ranging from 0 to 100% (e.g., 'What percentage of Japanese fathers do you think have each of the following descriptors? For example, if you think that all Japanese fathers have the characteristic, you would choose 100%. If you think that 20% of Japanese fathers have the characteristic, you would choose 20%. Do not think of the fathers you know, but of fathers in general'). The 85 descriptors were randomly sorted to reduce order effects.

3. RESULTS

3.1. Respondents

The mean age of respondents was 19.05 ($SD = 1.02$) years old. The respondents comprised 106 men (39.85%) and 160 women (60.15%). 73 (33 men and 40 women) answered the questionnaires on fathers, 71 (25 men and 46 women) answered those on mothers, 59 (20 men and 39 women) answered those on men and 63 (28 men and 35 women) answered those on women.

3.2. Analysis of variance

The data were analysed using a two-way analysis of variance. The analysis design used two independent variables: whether the target was parents or not (a between factor), and men or women (a between factor), and the dependent variable was each descriptor. Table 1 shows the results of analysis of variance.

First, it was found that the content of stereotypes of fathers, mothers, men, and women differed from each other. The respondents believed that fathers rather than men, mothers, and women have the four characteristics *Work*, *Hardworking*, *Breadwinner*, and *Masculine* (category 'Men < Fathers' in Table 1).

They thought that mothers rather than women, fathers, and men have the 14 characteristics: *Childrearing*, *Love family*, *Love children*, *Take children's sides*, *Cherish family*, *Family oriented*, *Warm*, *Capacious*, *Like children*, *Friendly*, *Interfering*, *Dedicated*, *Worrier*, and *Stabilise family* (category 'Mothers > Women' in Table 1) and that mothers rather than fathers, women, and men have the eight characteristics *Caring*, *Thoughtful*, *Amazing*, *Kind*, *Watch over*, *Understanding*, *Fine*, and *Generous* (category 'Fathers < Mothers' in Table 1).

Table 1.
The Results of Analysis of Variance.

Category	Descriptors	Fathers	Mothers	Men	Women	<i>F</i>	
Men	Lazy	54.29	47.89	62.20	50.00	<i>F</i> (3,257)	= ***
>						8.01	
Fathers	Selfish	50.14	40.14	55.00	47.90	<i>F</i> (3,256)	= ***
						7.52	
Men	Physically strong	61.86	48.03	68.47	36.07	<i>F</i> (3,257)	= ***
=						34.25	
Fathers	Strong	63.24	49.86	68.28	31.45	<i>F</i> (3,258)	= ***
						49.62	
	Powerful	64.14	52.39	65.34	36.45	<i>F</i> (3,257)	= ***
						32.26	
	Big	62.86	44.71	62.54	32.10	<i>F</i> (3,255)	= ***
						40.31	
	Strong constitution	62.06	50.70	64.92	40.48	<i>F</i> (3,256)	= ***
						19.90	
	Looking down on	57.25	55.44	56.72	42.62	<i>F</i> (3,252)	= ***
						7.70	
	Work than children	52.54	33.19	56.27	38.23	<i>F</i> (3,257)	= ***
						22.17	
	Well built	56.86	45.00	55.42	32.26	<i>F</i> (3,257)	= ***
						25.65	
Men	Work	85.51	64.20	79.65	58.39	<i>F</i> (3,253)	= ***
<						35.25	
Fathers	Hardworking	76.96	65.29	70.18	60.97	<i>F</i> (3,252)	= ***
						10.00	
	Breadwinner	68.57	49.43	60.18	28.23	<i>F</i> (3,255)	= ***
						40.57	
	Masculine	62.43	45.74	56.55	33.87	<i>F</i> (3,254)	= ***
						24.74	
Fathers	Busy	74.43	75.44	66.03	63.55	<i>F</i> (3,254)	= **
=						5.87	
Mothers	Very busy	68.86	74.71	64.04	62.90	<i>F</i> (3,253)	= **
						5.25	
	Mature	69.72	72.86	45.76	61.45	<i>F</i> (3,259)	= ***
						24.87	
	Reliable	66.00	72.21	55.61	54.52	<i>F</i> (3,253)	= ***
						14.01	
	Dependable	65.86	70.14	56.21	50.97	<i>F</i> (3,256)	= ***
						13.91	
	Reassuring	64.86	68.57	54.92	53.33	<i>F</i> (3,255)	= ***
						10.05	
	Trustworthy	63.14	68.12	56.78	50.83	<i>F</i> (3,254)	= ***
						10.55	
	Sociable	60.56	66.38	57.93	56.13	<i>F</i> (3,257)	= **
						4.91	

Content of the Father and Mother Stereotypes in Japan: Compared to the Overall Gender Stereotypes

	Robust	60.00	65.94	55.09	50.81	$F(3,255) = 6.90$	***
	Tough	63.10	64.20	60.70	50.32	$F(3,255) = 5.81$	**
	Brave	60.42	63.19	50.00	46.94	$F(3,256) = 10.38$	***
	Cool	50.74	57.50	47.54	37.54	$F(3,250) = 10.64$	***
	Courageous	58.75	59.71	51.69	44.26	$F(3,257) = 8.98$	***
	Polite	63.24	63.57	54.07	61.11	$F(3,259) = 3.60$	*
	Sincere	60.71	60.88	52.54	53.23	$F(3,255) = 4.20$	**
	Strict	55.56	59.58	49.30	52.79	$F(3,257) = 3.71$	*
Fathers < Mothers	Caring	62.54	73.68	47.72	62.13	$F(3,253) = 20.10$	***
	Thoughtful	61.74	71.74	56.03	60.49	$F(3,253) = 9.79$	***
	Amazing	59.58	71.18	47.72	56.77	$F(3,254) = 13.76$	***
	Kind	64.37	70.29	59.48	62.42	$F(3,256) = 4.24$	**
	Watch over	64.79	68.55	50.17	58.52	$F(3,256) = 11.37$	***
	Understanding	58.47	68.55	45.00	55.97	$F(3,257) = 16.60$	***
	Fine	62.82	69.30	52.03	55.16	$F(3,259) = 10.69$	***
	Generous	56.03	64.93	49.48	51.61	$F(3,251) = 9.03$	***
Mothers > Women	Childrearing	40.70	79.57	36.32	71.94	$F(3,255) = 87.15$	***
	Love family	66.23	77.71	59.83	69.03	$F(3,256) = 11.66$	***
	Love children	63.57	77.71	57.07	65.48	$F(3,256) = 13.93$	***
	Take children's sides	60.87	77.50	57.97	67.42	$F(3,254) = 12.21$	***
	Cherish family	65.86	76.06	56.10	66.45	$F(3,258) = 12.51$	***
	Family oriented	51.29	75.36	47.93	63.06	$F(3,255) = 27.75$	***
	Warm	59.72	72.90	52.76	62.26	$F(3,256) = 15.27$	***
	Capacious	54.71	71.86	53.79	58.52	$F(3,255) = 13.04$	***

	Like children	60.28	70.58	49.32	63.39	$F(3,257)$	=	***
						16.38		
	Friendly	54.29	68.55	48.10	56.45	$F(3,255)$	=	***
						14.61		
	Interfering	45.14	68.29	31.86	52.42	$F(3,257)$	=	***
						47.19		
	Dedicated	54.51	66.14	50.34	60.82	$F(3,256)$	=	***
						9.76		
	Worrier	52.36	65.88	47.89	58.23	$F(3,255)$	=	***
						11.25		
	Stabilise family	60.00	63.86	52.07	62.90	$F(3,255)$	=	**
						5.50		
Mothers	Do housework	38.87	76.62	36.21	70.16	$F(3,255)$	=	***
≡						69.43		
Women	Busy with childrearing	27.46	73.82	27.76	70.00	$F(3,255)$	=	***
	Cooperative	54.64	64.93	54.83	62.26	$F(3,254)$	=	***
						6.18		
	Emotional	49.71	64.43	47.54	62.74	$F(3,253)$	=	***
						12.68		
	Cheerful	53.52	61.88	56.44	61.29	$F(3,257)$	=	**
						4.61		
	Preciuos	34.20	58.12	35.09	54.84	$F(3,253)$	=	***
						23.59		
	Pure	41.55	52.43	36.21	51.13	$F(3,257)$	=	***
						10.06		
	Soft	37.36	61.88	37.37	66.72	$F(3,255)$	=	***
						44.16		
	Gracious	50.14	57.50	47.02	63.06	$F(3,254)$	=	***
						10.57		
	Calculating	44.57	53.48	42.76	58.23	$F(3,255)$	=	***
						9.78		
	Pretty	32.82	54.00	35.52	57.54	$F(3,256)$	=	***
						30.25		
	Fresh	37.68	52.90	46.90	52.90	$F(3,254)$	=	***
						12.05		
	Sweet	31.86	52.54	33.22	56.89	$F(3,257)$	=	***
						26.12		
	Refined	35.07	50.74	32.54	55.97	$F(3,254)$	=	***
						25.44		
	Tidy	30.42	53.19	36.90	55.57	$F(3,256)$	=	***
						24.56		
	Elegant	26.09	48.29	27.59	54.52	$F(3,255)$	=	***
						35.19		
	Modest	33.86	46.87	28.95	52.26	$F(3,252)$	=	***
						20.58		

Content of the Father and Mother Stereotypes in Japan: Compared to the Overall Gender Stereotypes

Mothers < Women	Feminine	26.48	53.94	35.25	67.21	$F(3,258) = 54.22$	***
	Pretty hair	30.14	49.00	35.93	63.55	$F(3,258) = 37.80$	***
	Feel lonely	48.33	51.74	50.69	62.58	$F(3,257) = 6.67$	***
	Blackhearted	32.11	43.77	42.98	61.29	$F(3,255) = 23.62$	***
	Cute	27.00	48.94	33.86	59.19	$F(3,251) = 32.79$	***
	Brilliant	26.34	46.97	32.41	57.90	$F(3,253) = 40.05$	***
	Beautiful	23.53	49.13	30.68	56.39	$F(3,253) = 46.74$	***
Women > Men	Coward	32.32	46.67	47.07	59.02	$F(3,253) = 22.91$	***
	Mentally weak	36.29	42.75	49.31	53.44	$F(3,254) = 9.51$	***
Others	Active	50.74	58.70	57.89	55.32	$F(3,252) = 2.85$	*
	Moody	46.44	49.85	53.73	53.55	$F(3,257) = 2.13$	
	Quiet	48.00	40.59	42.46	46.13	$F(3,253) = 2.44$	
	Immovable	55.92	55.22	49.82	52.26	$F(3,255) = 1.65$	
	Calm	47.50	42.75	42.37	46.13	$F(3,258) = 1.54$	
	Audacious	50.71	55.57	53.39	48.69	$F(3,256) = 1.58$	
	Stubborn	55.63	55.57	54.48	51.13	$F(3,257) = 0.81$	

* $p < .05$, ** $p < .01$, *** $p < .001$ 'Fathers', 'Mothers', 'Men', and 'Women' are means of each percentage. 'F' is p value of F value, 'Parent' and 'Sex' are p values of each main effect, and 'Interaction' is p value of interaction effect.

They believed that men rather than fathers, women, and mothers have the two characteristics *Lazy and Selfish* (category 'Men > Fathers' in Table 1). They thought that women rather than mothers, men, and fathers have the seven characteristics *Feminine, Pretty hair, Feel lonely, Black hearted, Cute, Brilliant, and Beautiful* (category 'Mothers < Women' in Table 1) and that women rather than men, mothers, and fathers have the two characteristics *Coward and Mentally weak* (category 'Women > Men' in Table 1).

Next, it was also indicated that the content of parent stereotypes was different from that of overall gender stereotypes. The respondents believed that fathers and mothers rather than men and women have the following 16 characteristics: *Busy, Very busy, Mature,*

Reliable, Dependable, Reassuring, Trustworthy, Sociable, Robust, Tough, Brave, Cool, Courageous, Polite, Sincere, and Strict (category 'Fathers=Mothers' in Table 1).

On the other hand, the respondents thought that men and fathers rather than women and mothers have the seven characteristics *Physically strong, Strong, Powerful, Strong constitution, Looking down on, Work than children, and Well built* (category 'Men=Fathers' in Table 1) and mothers and women rather than fathers and men have the following 17 characteristics *Do housework, Busy with childrearing, Cooperative, Emotional, Cheerful, Precious, Pure, Soft, Gracious, Calculating, Pretty, Fresh, Sweet, Refined, Tidy, Elegant, and Modest* (category 'Mothers=Women' in Table 1). This means that the content of parent stereotypes overlaps with that of overall gender stereotypes, in particular, regarding physical appearance.

4. DISCUSSION/ FUTURE RESEARCH DIRECTIONS

These results showed that the content of father and mother stereotypes differed from that of overall gender stereotypes and suggest that Japanese have the idea that 'fathers (rather than men) should work outside the home, and mothers (rather than women) should keep the house'. Thus, it might be effective focusing on parent stereotypes rather than the overall gender stereotypes in order to solve gender inequality in Japan.

However, it should be noted that the content, especially about physical appearance, repeated in parent stereotypes and overall gender stereotypes. Similar results were seen in previous studies (Cejka & Eagly, 1999; Deaux & Lewis, 1984).

Furthermore, Park, Smith, and Correll (2010) investigated not explicit but implicit stereotypes and found that fathers were strongly associated with professional images and mothers were more strongly associated with childcare images. It is said that gender stereotypes are not explicitly expressed by social desirability but that they persist implicitly (Blair & Banaji, 1996). Therefore, it will deepen our understanding to compare implicit parent stereotypes to implicit overall gender stereotypes.

In addition, although this study targeted only undergraduates, future research should target older and/or less educated adults in order to generalise the findings. Since gender stereotypes depend on socio-economic factors such as age, gender, education, income, and employment status (Suzuki, 2017), parent stereotypes might also vary accordingly.

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Chapter #16

AN IMPLICIT MODEL OF ASSESSMENT OF ATTITUDE TO HEALTH OF SPECIALISTS IN AN ORGANIZATION

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ABSTRACT

Attitude to health can be considered as one of the most important factors of efficiency and professional success of employees today, as it is a regulator of human behavior in a challenging and controversial professional situation. Studies of psychologists (starting with R. La Pierre's phenomenon, 1934) often fix the discrepancy between the declared attitude to health and true attitude and behavior. The imperfection of methods of diagnostics of attitude to health may be one of the reasons for such discrepancy. The authors suggest studying the attitude to health of specialists in an organization not only by traditional survey methods (for example, R.A. Berezovskaya's (2003) attitude-to-health questionnaire, a questionnaire on studying the barriers of health-seeking behavior by Nikiforova, Rodionova, Vodopyanova, & Dudchenko, 2016.), but also by means of an implicit method (based on the priming effect, implicit associative test). The article presents the results of a study conducted by using the implicit methodology for studying attitude to health, which is based on a model of polar values.

Keywords: implicit method, attitude to health, occupational health, dual model.

1. INTRODUCTION

The relevance of the study of attitude to health with the purpose of predicting an employee's professional conduct in situations related to a high level of stress, hazardous production and the importance of a clear and rapid response to a professional situation is acute in organizational psychology, where there is a likelihood (and sometimes it is very high) of life- and health-threatening situations (in the profession of oil refining industry specialists, specialists responsible for the life and health of other people, pilots, engine-drivers, doctors, etc.). For some professions a stress factor is concurrent, it is associated with experiencing mental tension due to having the highest responsibility in making decisions. Under current conditions, health gains an economic value and there is no doubt about the relevance of maintaining occupational health. Prediction of an employee's behavior in such a situation is one of the key tasks that can be resolved by psychological methods.

Health and professional health are a systemic property of a person, which ensures his or her working capacity, efficiency in professional activities, as well as a high quality of life. In our article, we consider health in the context of professional activity (professional health). Professional health is understood as a combination of the physiological, psychological, and social components of well-being during the period of work, as well as the absence of injuries and occupational diseases in the subject of activity. Today, research on the study of occupational health factors is relevant in order to develop and implement programs aimed at

maintaining the health of employees in organizations (Joseph, 2015, Bakker & Derks, 2010, Nikiforov, 2010, etc).

Among the factors of professional health, non-subjective (organizational, environmental, social), intersubjective (labor satisfaction, involvement, professional identity and relevance (subjective assessment), level of stress resistance in professional activities) and intrasubjective factors are distinguished. In the article, we place more emphasis on intrasubjective factors, which include attitude to health, the external locus of health control, responsibility for one's own health, personal level of stress resistance, etc. Attitude to health is understood as "a system of individual selective links of a person with various phenomena of the surrounding reality, contributing to or, conversely, threatening human health, as well as determining personal assessment of physical and mental state" (Zhuravleva & Lakomova, 2019, p. 52).

A number of authors (Allport, 1935; Haber & Fried, 1975 think that attitude leads to certain behavior, i.e. attitude determines behavior.

A concept of "implicit personality theory" was proposed by J. Bruner and R. Tagiuri in 1954 and is still used to denote the unconscious hierarchical system of ideas about the mental structure of other people. Two main approaches are distinguished in the study of implicit personality theories – traditional and alternative (psycho-semantic) ones. The traditional direction is represented by the works of J. Bruner and R. Tagiuri (1954a and 1954b), a causal attribution theory by Kelley (1967), etc. An alternative approach, which was presented by its ancestor Kelley, originated in line with a personal construct theory and was developed as a psycho-semantic direction (Petrenko, 1982) and others). Representatives of the latter approach, in addition to highlighting the substantial components of the implicit personality theory, conduct a factor analysis, which allows for evaluating and combining the qualities and links between separate components into a personal semantic space.

In recent years, when psychological studies of social attitudes were conducted, interest in the use of a special subgroup of indirect measuring methods (implicit methods) has grown significantly (Greenwald, McGhee & Schwartz, 1998; Rudman, 2011; Fazio & Olson, 2003). The active use of these methods in this area of research was due to the fact that they allow researchers to study "true" and not only declared socially desirable attitudes, as well as to avoid the effect of insufficient introspection, the "Rosenberg effect" and other distorting effects. The authors have suggested that such implicit methods may also be applicable to the attitude to health.

Many researchers have noted a mismatch between a person's declared attitude to health and real behavior. There are differences between explicit and explicit attitudes towards health. In our article, we have made an attempt to correlate explicit and implicit attitudes towards the health of specialists in organization in relation to the level of safe behavior.

2. METHODS

In the framework of this project, the authors aim to explore the possibility of predicting human behavior in tense and dangerous professional situations based on an employee's "attitude to health" profile. For this purpose, the following tasks have been formulated: 1) to analyze existing methods of study of the attitude to health (identifying a declared attitude to health) and to develop an implicit method that would allow study of the deepest level of attitude to health, 2) to empirically test a dual model of attitude to health, 3) to analyze the results of the implicit diagnostics of attitude to health and distinguish types of employees in relation to real (objective) data on health groups.

The following research methods are to be used: observation, questionnaires, biographical interviews and implicit methods (development of the authors' methodology for studying customer loyalty based on the priming effect). For processing research results—content analysis and methods of mathematical-statistical analysis are the chosen methods.

We hypothesized that implicit attitudes toward health and illness may be related to explicit indicators such as attitudes toward illness, internal or external goals of the individual, and assessment of quality of life.

Why exactly implicit attitudes towards health?

In the study, the authors used an implicit method which has recently become widely used in the study of attitudes. This method is based on the priming effect, measuring the time of reaction of test subjects (Greenwald et al., 1998; Dominyak, 2012; Fazio & Olson, 2003). Allowing for exclusion of a factor of social desirability, this method reveals the inner, hidden attitudes of a person. In this study, an implicit method is used to study attitude to health, which is a relatively new approach. Implicit measures of attitudes are commonly seen to be primarily capable of predicting spontaneous behavior. However, evidence exists that these measures can also improve the prediction of more deliberate behavior (Friese, Bluemke, & Wänke, 2007). At first, a good deal of research on and with the IAT dealt with its general properties (for an in-depth overview see Maximilian Eberl, 2018). One major discussion evolved around the question whether IAT measures correspond to explicit self-report measures (see Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005, for a metaanalysis).

In psychological studies, the MODE model (Quandt & Baumol, 1966), which is used in situations where people rely primarily on labor-intensive processing for motivation and the ability to consciously regulate their behavior. In our opinion, implicit measures should be particularly valuable predictors. Behaviors for situations in which people are limited control over your actions. Several researchers have drawn attention to this reasoning and found partial or even complete dissociation patterns according to the MODE model when they predicted controlled and less controlled behavior through explicit and explicit measures (e.g. Asendorpf, Banse, & Mücke, 2002; Dovidio, Kawakami, & Gaertner, 2002).

In our work, we propose to study the implicit characteristics of attitudes towards health and illness in a dual model called the "Model of orthogonal implicit settings." The measurement tool was proposed by the consulting company Dominanta (health.mydominanta.com) and is called the Double Target IAT, because it is a sequentially presented, modified version of the ST-IAT (Bluemke & Friese, 2008; Dominyak, 2012), regarding two target categories (in this case: health and illness). Implicit in the model is that there is an object that reflects the most important features of the studied phenomenon, object, or process. In our case, this is an attitude to such concepts as "health" and "disease." Hypothetically, four types of employees are distinguished in this model; they have qualitative characteristics and belong to risk groups, where Type I is the lowest risk group and Type IV the highest risk group, which includes employees who are most at risk of losing health and prone to occupational injuries. It is dangerous to engage such employees in work on challenging and stressful work sites.

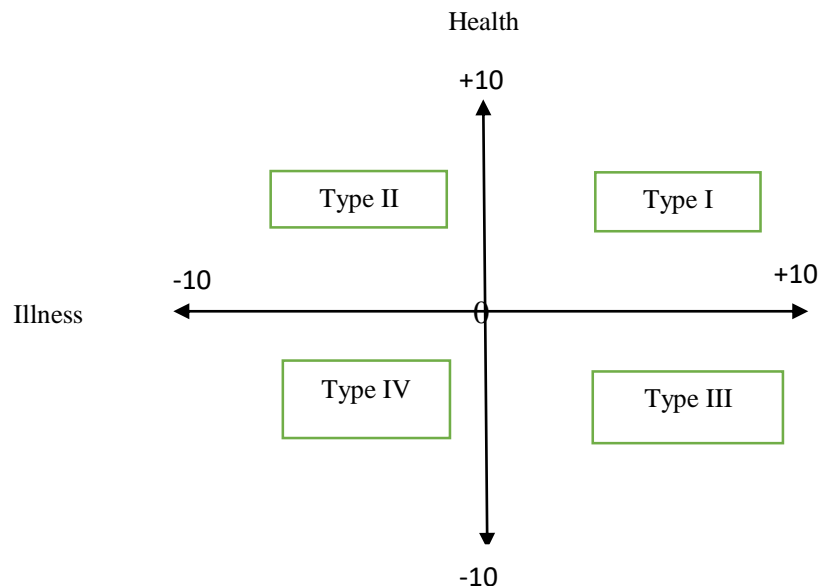
To study an explicit assessment of the attitude towards the disease, the questionnaire "Type of attitude towards the disease" (TOBOL) was used. To assess quality of life and health status, we used the WHO-26 questionnaire (WHOQOL-BREF). To identify external / internal goals, Desi-Kasser's Aspiration Index was used. Behavioral indicators of attitudes toward health and illness were identified through questionnaires and interviews. Why internal / external goals? Studies in the theory of self-determination, in particular, the theory of

Desi-Ryan goals, confirm the connection of the structure of life aspirations (external / internal goals) with somatic diseases, stress and depression (Kasser & Ryan, 2001). The study contains the data on internal/external goals (Kasser & Ryan, 2001). The authors assumed that employees who are focused on internal goals will show a positive attitude to health, while employees focused on external goals will show a negative attitude to health.

We received health groups from the medical centers of the organizations to which the employees participating in the study belong. For statistical data processing, the statistical capabilities of MS Excel and SPSS 22 were used.

Graphically, the model of health relatedness is shown in Figure 1.

*Figure 1.
A dual model of attitude to health.*



The study involved 310 employees of organizations associated with hazardous production, including drivers carrying dangerous shipments. The average age of respondents was 36 years old. At this stage of the study, the authors did not take into account the scope of activities; it was only important for us that respondents worked in organizations. In addition, such indicators as self-assessment on a health scale, a health group and quality-of-life assessment were important criteria for assessing the results.

3. FINDINGS AND DISCUSSION

1. Consider the results for healthy indicators (health groups for medical indicators).

Implicit assessments of attitudes to health and illness were confirmed in health groups of the respondents: Health Group 1 (employees who get sick very rarely) included Type I and Type II respondents (positive attitude to health), Health Groups 2 (recurrent diseases, without chronic diseases) and 3 (recurrent diseases with chronic diseases) included Type III respondents and Health Group 4 (employees who get sick very often) included Type IV employees. Thus, an implicit attitude to health and illness is directly related to the number of

illnesses (health group). At the same time, the self-assessment of one's state of health is not related to implicit attitude. The authors found a direct correlation between health self-assessment and a positive attitude to illness, i.e. employees assess an illness as a positive state and highly assess their state of health. The results of distribution of a health group by type of implicit attitude to health are clearly presented in Table 1.

Table 1.
Attitude to health in connection with a group of the disease N=192).

		disease	
		negatively	positively
health	positively	1 (N=44), 2 (N=34), 3 (N=36)	2 (N=48)
	negatively	4 (N=49)	1 (N=19), 2 (N=32), 3 (N=24)

Explanatory notes for the table. The table shows a group of the disease. Group 1 – employees get sick very rarely (0.1 diseases per year); Group 2 – employees rarely get sick (1-2 diseases per year), quickly recover and get back to work, in case of chronic diseases, they are in a stage of stable remission; Group 3 (2-3 diseases per year, including exacerbation of chronic diseases); Group 4 – frequently ill employees (more than three diseases per year, including the exacerbation of chronic diseases, including disability).

2. The results of the correlation of implicit attitudes for health and illness with behavioral indicators presented in the survey.

Interesting indicators were the data on the ratio of types of employees with behavioral characteristics that contribute to maintaining a healthy lifestyle (sporting activities, active recreation, the ratio of work and rest, cold water treatment, balanced diet, etc.) or, on the contrary, adherence to destructive lifestyles (alcohol consumption, eating junk food, etc.). At the same time, Type I and Type II employees adhered to the behavioral characteristics of a healthy lifestyle, unlike Type III and Type IV employees ($R^2=54$). The largest distribution of destructive behavioral norms was observed in the group of Type IV employees. A qualitatively significant difference in rational habits of maintaining a healthy lifestyle was observed in Type I and Type II respondents ($R^2=48$). Type I respondents actively kept a healthy lifestyle through a balanced diet and an active lifestyle, but their average duration of sleep and rest was statically significantly lower than that of Type II employees.

Thus, the implicit attitude to health was confirmed by behavioral manifestations of the respondents and the objective data on health indicators (health group). However, the authors have not revealed a connection between the self-assessment of the attitude to health and implicit evaluations.

3. Results of implicit attitude to health with the predominance of external/internal goals (Aspirations Index).

Analyzing the data by type of implicit attitude to health with the predominance of external/internal goals (Aspirations Index), the authors obtained the following results: employees of Type I and II (positive attitude to health) have such internal aspirations as “personal growth” and “relationships,” while among employees of Type II (positive attitude to disease and health) the prevalence of such internal goal as “health” is also statistically

significant ($R^2=52$). As for employees of Type III and IV, no statistically significant differences in the prevalence of internal/external goals in this sample have been found. Thus, an employee focused on health and self-care has an internal potential for self-development, personal growth, and building constructive relationships with others and with society as a whole.

4. Results of implicit attitude to health with the quality of life and health status (WHOQOL-BREF).

A study of health status and quality of life showed that on all scales of the WHO-26 questionnaire, average indicators were identified in accordance with the standards on the scales. At the same time, employees of Type I and II statistically significantly evaluate themselves higher on the scale of “physical and psychological well-being” and “self-perception” ($p \leq 0.04$ and $p \leq 0.03$, respectively) than employees of Type IV (statistically significant differences according to the above no scales were found between Type I and Type II employees and Type III and Type IV employees). That is, employees believe that they do not need any medical care in their daily lives. They have enough energy for life, are satisfied with their sleep and ability to work. Statistically significant differences were obtained between a positive attitude to health (Types I and II) and a negative attitude to health (Types III and IV) on the scale of “Social Well-being” ($p \leq 0.06$). Respondents who are positive about health feel quite safe in everyday life, consider that the physical environment around is acceptably healthy. According to the scales “Quality of Life” and “Health Status,” no statistically significant differences were found for an implicit attitude to health (in this sample), but statistically significant differences were obtained for an implicit attitude to illness ($p \leq 0.3$). Employees of Types II and IV are more inclined to evaluate their health as a cross between satisfied / dissatisfied, leaning towards satisfaction.

5. Results of implicit attitude to health with the type of illness attitude (TOBOL).

The study of an explicit assessment of the relationship to diseases (ergopathic (14.4), anosognosic (13.7) and sensitive (12.3)),

The ergopathic type is characterized by the reaction of “going to work with the disease.” Respondents are selective in examining and treating because they want to continue to work, despite the severity of the disease. They strive to maintain their professional status in the eyes of colleagues and to continue active work, offering the same quality. Interestingly, 55% of the respondents who ended up being in Group II because of their implicit assessment of their attitude to health and illness (a positive attitude to health and a negative attitude to illness) had ergopathic and anosognosic types of attitude to the disease (the anosognosic type suggests the negation and ignoring of symptoms of the manifestation of a disease). Such employees tend to reject thoughts of the disease and try not to think about its consequences. They have a tendency to refuse a medical examination; on the contrary, there is a desire to understand problems on their own, hoping that everything will work out by itself.

Statistically significant differences were revealed between Type I (positive attitude to health and illness) and Type III (negative attitude to health and positive attitude to illness), which is a hypochondriacal type of explicit assessment of attitude to illness ($p \leq 0.04$). Type III respondents are more likely to focus on subjective pain and other unpleasant sensations (9.00) than Type I respondents (4.88). They show a desire to constantly talk about their subjective feelings to doctors, medical staff, relatives, friends, and others. They tend to seek out nonexistent diseases and suffering.

Statistically significant differences were found between the groups of respondents of Type I (a positive attitude to health and illness) and the group of respondents of Type IV (a negative attitude to health and illness) ($p \leq 0.03$) and an explicit assessment of the attitude to the disease in the manifestation of anxiety type of response ($p \leq 0.03$). Type IV employees

rate health conditions lower (2.60) than Type I employees (3.44). It should also be noted that Type IV employees are significantly more anxious (11.00) than Type I employees (6.51). Respondents with a negative attitude to health and illness show constant anxiety and suspiciousness regarding the unfavorable course of the disease, possible complications, inefficiency, and even the danger of treatment.

Employees of Type II (a positive attitude to health and a negative attitude to illness) are less likely to be indifferent to their fate, the outcome of the disease, and treatment outcomes (4.36) than employees of Type IV (negative attitude to health and illness (10.80). In addition, employees of Type IV are much more likely to show suspicion and alertness to talking about themselves and to medicines and procedures.

6. Results of implicit attitude to health with the accident rate drivers.

A more detailed analysis of the accident rate of drivers is presented in the article (Rodionova & Dominyak, 2013)) additional data that are not included in the article and are of interest in the framework of this study with a view to its more complete presentation.

To test the model for the level of safety, drivers carrying cargo over long distances (long-haul drivers) took part in the study. The study involved 108 truck drivers. All drivers are employees of one transport company, they are all men, aged from 28 to 56, average age 38 years, standard deviation 4.99. The company has an objective scale of drivers' safety, which includes the following indicators:

1. the number of accidents per year per person;
2. the severity of accidents (on a 10-point system, where 1 – a slight accident, 10 – severe damage to the vehicle without the possibility of recovery);
3. damage to health (on a 10-point system, where 1 – almost no damage to health, 10 – great damage to health, including death);
4. absenteeism, flight disruption with, or without valid excuse.

As a result of the correlation of types obtained upon the "Model of orthogonal implicit attitudes," the following data on drivers were obtained:

Type I (positive attitude to health, negative attitude to disease): 1 accident per year with the accident severity estimate equal to 2.5 points. All accidents had no damage to health.

Type II (positive attitude to health, positive attitude to disease): 0.1 accident per year with the accident severity estimate equal to 2.0 points. All accidents had no damage to health.

Type III (positive attitude to disease, negative attitude to health): 2.2 accidents per year with the accident severity estimate equal to 3.0 points. All accidents had no damage to health.

Type IV (negative attitude to health and disease): 6.9 accidents per person per year with the accident severity estimate equal to 8.8 points. All accidents caused damage to health. In the sample of Type IV drivers, there were two deaths.

The result of the presence of absenteeism among drivers by types of attitude to health is presented in Table 2.

Table 2.
Presence of absenteeism (N=108).

		disease	
		negatively	positively
health	positively	0 (N=33)	0 (N=40)
	negatively	6 (N=20)	5 (N=15)

A statistically significant difference in the empirical distribution of health damage among drivers in accidents and expected theoretical distribution ($\chi^2=46$, $p=0.00000$) has been found. A statistically significant difference in the empirical distribution of the presence of absenteeism/flight disruption and the expected theoretical distribution ($\chi^2=50.3$, $p=0.00000$) has been found.

The Mann-Whitney test was used for the analysis, the error probability is indicated with due account for the Bonferroni adjustment.

4. FUTURE RESEARCH DIRECTIONS

In our article, we did not test the model; we studied implicit attitudes of health and illness with explicit attitudes, behavioral indicators of a healthy lifestyle, and an aspiration index.

The study of attitudes to health in the context of professional activity is clearly of interest since it reveals not only the possibilities of preventing specialist health problems, but also for gaining theoretical and practical knowledge that allows creation of conditions for preservation and development of regulatory properties of the organism, its physical, mental, and social well-being. In turn, this ensures high reliability of professional activity, career longevity, and maximum life expectancy. In this case, it is important to develop models of a professionally healthy employee and methods of diagnostics of a person's attitude to health.

The authors assume that a single model cannot fully replace the studied object, since it displays only some of its properties. But sometimes, when solving certain tasks, in our case the identification of types of employees that can be successful in a tense and dangerous professional activity, the dual model of attitude to health can be interesting and practically significant.

The study of the ratio of the actual attitude to health and professional behavior also remains relevant. There is a need for a theoretical model of "occupational health" based on the identification and classification of implicit and explicit factors that shape the attitude to health.

The authors suppose that the study of a person's attitude to health and the issues of maintaining occupational health can fully reveal the nature and structure of a healthy personality and solve theoretical-methodological and methodical issues in developing programs of psychological support for specialists in maintaining occupational health.

5. CONCLUSION

The analysis of explicit and implicit attitudes to health showed statistically significant differences in their estimates. Employees can explicitly assess health positively, while implicitly showing a negative attitude to health. The "Model of orthogonal implicit attitudes" helped to identify four groups of employees, which are determined by polar vectors of attitude to health and disease. At the same time, the analysis of distribution of employees by group in relation to health groups and safety criteria showed that Type I employees, showing an implicitly positive attitude to disease and health, are the most positive and efficient ones in terms of work performance. This may be explained by the fact that employees who have a positive attitude to health try to adhere to healthy behavior, and a positive attitude to disease contributes to the fact that they do not ignore the symptoms of the disease; they notice the symptoms in the initial stages and make efforts for recovery. In this case, they do not always consciously do it.

Type IV employees, showing a negative attitude to health and disease, are the most negative and dangerous type regarding labor safety. This is explained by the fact that by unconsciously denying the state of disease and health, a person involuntarily seeks the next state, which is different from disease and health, and this is a trauma that may cause death. Such employees are usually called “accident-prone.” Type IV employees, included in health group 4 (they constantly get sick with frequent complications of chronic diseases), have a large number of accidents per year with a high degree of severity and damage to health.

Type II employees’ implicit attitude to health is positive and they have a negative attitude to disease, and so they often ignore the symptoms of the disease, making them interesting for the analysis. This approach can lead to an accident as a result of a sudden disease, heart attack, high job burnout, etc.). Such employees are usually called workaholics. They almost never get sick and are constantly at work. The danger may lie in the fact that by unconsciously ignoring the symptoms of the disease (negative attitude to disease), they can put themselves into a state of extreme fatigue, job burnout, stress, or a nervous breakdown.

Thus, knowledge of an employee’s type by implicit attitude to health (“Model of orthogonal implicit attitudes”) can contribute to creating a safe environment in a company, offering a way to provide support to frequently ill employees to maintain their performance, and to optimize work processes for workaholic employees.

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KEY TERMS & DEFINITIONS

Implicit Method: The implicit method is a hidden, implied, unexpressed meaning. In psychology, implicit methods are understood to include: 1) projective tests, implicit representations may be found in human-made narratives on uncertain stimuli); 2) methods of fixing the reaction time (the degree of implicit communication of a certain concept with positive / negative attitudes is estimated); 3) implicit associative test (Greenwald et al. 1998).

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Chapter #17

ROAD LESS TRAVELED: MOTIVATIONS AND PATHWAYS OF FILIPINO LESBIANS AND GAYS IDENTIFYING AS EX-LESBIANS AND EX-GAYS

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ABSTRACT

This study explores the motivations and the pathways of past self-identifying Filipino lesbians and gays. In this study, the researchers seek to (1) understand the motivations that influenced ex-gays in modifying their sexual orientation and (2) delve more into the different pathways (stages and/or steps) that are involved in the sexual orientation modification of ex-gays specifically in the Philippine context. A semi-structured interview was conducted with 10 self-identified Filipino ex-gays. Inductive thematic analysis was then used to analyze the data and to identify common themes. Four themes emerged as motivations of ex-gays: Identity Dissonance, Spiritual Conviction, Cognitive Reconstruction, and Influential Role Models. Likewise, three themes emerged as common pathways taken by ex-gays: Church Involvement, Accountability/Support Groups, and Adaptation of New Lifestyle. Moreover, the study clarifies the current definition of being an ex-gay, and added an evidence to the existing notion that sexual orientation cannot be fully changed.

Keywords: ex-gay, sexual orientation, sexual orientation modification process.

1. INTRODUCTION

Ex-gay refers to individuals that experienced some modification in their sexual orientation ranging from exclusive homosexuality to exclusive heterosexuality, or ones either curious, attempting, or claiming to have altered their sexual orientation (Weiss, Morehouse, Yeager, & Berry, 2010). Consequently, the process of sexual orientation modification is generally associated to ex-gay ministries or organizations where faith is seen to be central in driving efforts to change (Shidlo & Schroeder, 2002; Weiss et al, 2010).

1.1. Motivations of ex-gays

Prior studies done in the west, identify religion as one prevalent motivation for sexual reorientation (Haldeman, 1994). It can be noted that in some cases the individual's spiritual identity proves to be more salient compared to their sexual identity, leading them to prioritize faith over sexual orientation (Bartoli & Gillem, 2008). Although not all ex-gays in the previous studies reported change, most either (1) no longer interpreted their same-sex attractions as requiring them to identify as gays/lesbians or (2) found themselves not entirely homosexual and/or predominantly straight. In addition, factors like strained family relationships, understanding the nature of one's sexual attractions, adoption of new perspectives, and receiving supportive atmosphere with other ex-gays are also reported as motivations for sexual reorientation (Robinson & Spivey, 2007).

1.2. Pathways of ex-gays

In accordance with Throckmorton (2002), the sexual orientation modification process of ex-gays is generally associated with different religious organizations. In which, these religions utilize different practices, activities, techniques, and/or steps that are considered in modifying an individual's sexual orientation. Likewise, the practice of sexual conversion process in the United States are prominent among religious communities specifically through what are called ex-gay ministries (Burack, 2015; Robinson & Spivey, 2007).

One of the major Ex-gay Christian ministry in the United States and Canada is *Exodus International*, that intends to help lesbian and gay (LG) individuals to lessen their same-sex attraction and eventually promote abstinence over homosexual desires (Burack, 2015). The community utilizes techniques that include strengthening the individual's level of religiosity and heterosexual identity (Shidlo & Schroeder, 2002). Likewise, Matheson (1993) describes *JONAH*, a Jewish ex-gay ministry in Brooklyn, which utilizes Jewish principles aligned with the Torah to help LG individuals in dealing with their homosexual issues. Furthermore, *Evergreen International*, a Church of Jesus Christ of Latter Day Saints ministry in Utah, also utilizes religious teachings and doctrines to aid in same-sexual attraction and to overcome homosexual behaviors (Robinson & Spivey, 2007).

In the Philippines, Christianity dominates the religious groups, wherein 86 percent of Filipinos are Roman Catholic, while another 6 percent of the population belongs to various nationalized Christian and Protestant groups (UNDP & USAID, 2014). Conversely, a Christian organization that promotes an ex-gay movement among Filipino LGs is *Courage Philippines*. This Christian group is an apostolate of the Catholic Church that gives spiritual guidance and support to Filipino LGs experiencing same-sex attraction (UNDP & USAID 2014). *Courage Philippines* centers on helping members to fully surrender themselves to God and to cultivate a life of interior chastity (Courage Philippines, 2012).

1.3. Present study

Most of the literature on the motivations, pathways, and strategies of ex-gays have been studied solely in the western context only. For instance, Robinson and Spivey (2007) mentioned that most participants in the west disclosed developing negative and traumatic experiences after going through activities such as engaging in masculine-oriented hobbies, and putting blame on parenting shortcomings for their homosexuality. In contrast, the data regarding the ex-gay activities and strategies done in the Philippine context is still scarce. Although a Filipino ex-gay ministry and their overall goals towards sexual reorientation were presented, specific processes and activities done is yet to be explored. Moreover, motivations of the ex-gay individuals are still to be expanded upon and affirmed with respect to a different cultural context. In the present study, motivation is defined as the factors behind an individual's decision to change; while pathways refer to the overall modification process including practice, activities, techniques, and/or steps taken. The term ex-gay will be limited to lesbian and gay individuals who were previously attracted to the members of the same sex and/or currently claim to have an attraction to the opposite sex or deny any attraction at all. In general, the study aims to answer the following questions:

1. What are the motivations that influenced Filipino ex-gays to modify their sexual orientation?
2. What are the pathways (practices, activities, and/ or steps) involved in the sexual orientation modification of Filipino ex-gays?

2. METHODS

2.1. Design

A qualitative approach with a social constructivist stance was utilized in order to fully perceive the underlying opinions and sentiments of the participants. Likewise, a semi-structured interview was given to help in determining the participant's motivation in associating themselves as ex-gays and the pathways (stages and or steps) of they came to a point of identifying themselves as former gays.

2.2. Participants

Ten self-identified Filipino ex-gays (four former lesbians and six former gays) participated in the study. All participants are from Christian religious affiliations, either Catholicism (20%) or Protestantism (80%). Age ranged from mid-twenties to sixties, most identified themselves younger than 30 years old (80%), working either as an employee, entrepreneur, or church volunteer, all of which were previously involved in same-sex relationships. Snowball sampling was used by connecting with organizations and or ministries that cater to ex-gays such as Courage Philippines (20%), Healing Grace Ministry (10%), and other ex-gay individuals (70%).

2.3. Procedure

A semi-structured interview that includes questions on determining the motivations and pathways (specific steps or stages) that the participants have gone through was prepared. Eighteen initial questions were constructed based upon the previous studies about identity development and sexual orientation change of D'Augelli (2004), as well as Shidlo and Schroeder (2002). The participants were also asked about their family and relationship background to validate their previous identification as a lesbian/gay. Likewise, in order to provide an in-depth analysis of their sexual reorientation, and the notion of being an ex-gay, participants were also asked their definition of their current sexual orientation. Prior to the interview, participants received a consent form via email that allowed them to have an overview of the nature of the study which the researchers ensured was understood and duly signed. Participants were then audio recorded and interviewed for around 45 minutes to an hour, using English and Filipino. Afterwards, the data was transcribed and analyzed for patterns and themes, related to the motivations and pathways of identifying as ex-gays. Throughout the paper pseudonyms were used to identify the participants.

3. RESULTS

3.1. Motivations of Filipino Lesbian and Gays in modifying their sexual orientation

3.1.1. Identity dissonance

Most of the participants manifested having identity dissonance as their initial motivation in modifying their sexual orientation (9 out of 10 participants). Identity Dissonance was described by the participants as having an internal disconnect which includes constant feelings of discomfort such as having doubts and guilt at certain points in their homosexual lifestyle. A participant from an ex-gay ministry mentioned being unhappy when he was still living his homosexual lifestyle and having hesitations toward his personal character:

“Even when I was active as in LGBT advocate before, deep inside I was also not very happy with it. There was a disconnect, it’s a lingering interior feeling of negativity. It’s very complex; like a mix of guilt, a mix of shame, a mix of sadness, it’s like a feeling that is this what’s life only about? I guess the more I kept doing the lifestyle, the deeper the negative feeling I got, at least for me. It’s a complex negative feeling. I can’t pin point to which one is it. In fact, I said it before, that the members of the LGBT community typically said that this shame is because society does not accept them. It’s like I also had that perspective, maybe because the church is condemning me. But in reality, it was something inside me. It was not external.” (Joseph, personal communication, October 21, 2017).

While a participant from a Protestant church who has identified being an ex-gay for about a year, stated that during her same-sex relationship, she was having doubts about herself:

“I had a serious relationship with my block mate for 3 years, and she was my last girlfriend after I graduated. And all throughout I started doubting and questioning myself.” (Trish, personal communication, October 23, 2017).

3.1.2. Spiritual conviction

Spiritual conviction as a product of faith appear to be a central motivation of Filipino LGs in modifying their sexual orientation (10 out of 10 participants). Although, brought up religiously, not all reported to be religious prior to modifying their sexual orientation. Some are already disconnected with their religiosity in order to realize their lesbian/gay identity but reported being reignited into faith through spiritual encounters or callings that transpired at a particular point of their lives whether through a church service, church activity, and/or answered prayers. These factors led them to compel for change. A participant from a Christian ministry described that he was motivated by his faith and personal encounters with Jesus Christ through bible reading as well as fellowship activities:

“In our office before, a lot are Protestants and most of the time, they would share the gospel. So I tried it myself. Afterwards, I attended my first Christian fellowship at Silahis Hotel, and this is where I met the Lord Jesus Christ. Like I was really captured by the Holy Spirit when I prayed and sang his songs. It’s like I started crying and I had a thirst in reading the bible. So the Lord really transformed my life, my heart, and my mind. No one else can do that except the word of God.” (Jose, personal communication, October 20, 2017).

3.1.3. Cognitive reconstruction

Cognitive Reconstruction involves forming new perspectives with regards to their sexual orientation and manifesting a deeper understanding of one’s identity (9 out of 10 participants). It also includes the realization of the participants regarding the repetitive and tiring cycle of same-sex relationships and increased awareness of the health related diseases brought about by homosexual relationships. A respondent described that same-sex relationships does not usually last, and may often increase the risk of sexually transmitted diseases:

“Aside from my faith, the cases of HIV became so prevalent that if you look into the statistics, you cannot deny that a lot of them are same-sex. It’s like I have this fear that I don’t want to limit my life because of that disease and that I could have prevented it by “okay let’s just play it safe.” (Benedict, personal communication, October 22, 2017).

On the other hand, a participant who has identified being an ex-gay for about four years now, described that same-sex relationships are normally repetitive and doesn't usually last:

“Yes of course, because you get tired of the relationships. First, it's like it's really repetitive and having some sort of a formula. You would like the person, then you would love each other, then you would do something unusual (sexually), then you would break-up. And the gay community is really big but when you start to flirt, it gets smaller. It's like ‘my ex becomes your ex as well’ ...it's like you had sexual encounters with them (their exes) as well.” (Lawrence, personal communication, October, 18, 2017).

3.1.4. Influential role models

Almost all of the participants mentioned about witnessing a role model that motivated and inspired them to modify their sexual orientation (9 out of 10 participants). The role model may also include a person having experienced the same struggle or situation as the participant. In which, these role models have succeeded and persevered in their own attempts to turn away from their homosexual lifestyle. A participant mentioned that it is greatly inspiring to see people successful in their own pursuits in modifying their lifestyles:

“I was also influenced by my friends, not because I wanted to be like them at first, but knowing that there's a transformation that happened to them, that's why suddenly I wanted to read the “Word” (of God) that changed them” (Amanda, personal communication, October 30, 2017) .

3.2. Pathways involved in the Sexual Orientation Modification of Filipino Lesbians and Gays

3.2.1. Church involvement

Church involvement appeared to be the common pathway involved in their sexual orientation modification (7 out of 10 participants). Church involvement referred to activities and practices that enriched their faiths. This includes attending church services and activities of the church such as bible studies & retreats, fellowship, and outreach programs. Two participants stated that the different church activities that they had aided them in modifying their sexual orientation:

“Of course, Church activities like reading the bible, retreat, fellowship, communication with fellow Christians, and also feeding programs. And because of the activities with the Church, I lessened my activities with my other gay friends. So I would only concentrate on my Church Activities”. (Jose, personal communication, October 20, 2017).

“When I had a Bible study, I finally admitted that it was a sin (homosexual activities), finally I said to myself that I cannot let go of my sin, But when you follow God, you can't leave anything missing, and it's not possible that it is just okay... if you want to be really transformed, Christianity is not a religion, it's really a relationship with God.” (Jackie, personal communication, October 29, 2017).

3.2.2. Accountability/support group

All participants reported accountable and supportive environments. Holding sharing meetings helped them to know about themselves. Also, having healthy platonic relationships with their support groups were the primary reasons why most of the participants came back and continued their sexual modification efforts. A participant mentioned that having

supportive environment with fellow community members helped them to know more about themselves:

“So I thought that only being able to vent out my experiences will help, but apparently sharing each other’s experiences helped us learned about each other. Actually, our experiences in finding ourselves doesn’t necessarily have to be Catholic because the abuses, self-unworthiness, is really psychological, that it’s like COURAGE is helping us.” (Benedict, personal communication, October 22, 2017).

Similarly, both participants from a protestant church described how supportive their community towards their struggles.

“You’d usually think, you are the only one like that--the only one with that struggle. But no, you are actually many and you can help each other. And it really helped me a lot because we have the same struggle that we both can’t help stop doing.” (Amanda, personal communication, October 30, 2017)

“This ministry should be intentional. From meeting the parents... to introducing the person to who Jesus is, to when the person is already worshipping (attending services). It’s a journey, journey to His (God’s) kingdom. You eat with, you laugh with them, you cry with them, you talk to them, you be with them.” (Neru, personal communication, October 17, 2017).

3.2.3. Adaptation of new lifestyle

All participants reported avoiding situations and practices that would have make them vulnerable to the gay lifestyle in their sexual reorientation process (10 out of 10 participants). This included ceasing use of dating apps, and limiting interactions with their gay peers. On the other hand, each participant also reported starting certain activities and practices that helped divert their attention from their homosexual lifestyle. This includes frequent church activities and having more personal time of reflection through Bible reading and praying. Jackie (personal communication, October 29, 2017), mentioned that she started reading the Bible, and stopped wearing male clothing and clipping her hair. A participant reported spending more of his time with his family and avoiding places that would make him vulnerable to the homosexual lifestyle:

“You would not go to places that you use to go to. You would spend more time with your family... I spend it with those people and activities that I know that would help me in my spiritual growth.” (Lawrence, personal communication, October 18, 2017).

4. DISCUSSION

The findings in the study affirmed faith as the central driving force and main motivation in an ex-gay’s sexual orientation modification process which is similar to previous findings of research conducted in western contexts (Haldeman, 1994). While not all participants found themselves religious prior to being an ex-gay, most reported being reignited into faith prior to modifying their sexual orientation. Moreover, although participants identified parenting and dysfunctional family dynamics as one contributing factor to their gay/lesbian identity, expression of any negativity towards their parents were not seen. The studies done in the west, as that Robinson and Spivey (2007), as well as Shidlo and Schroeder (2002) mentioned that most ex-gays develops latent feelings of anger and hatred towards their family, as most of them were instructed to blame their parents for their homosexual orientation. In contrast, in the present study, although participants identified parenting and dysfunctional family dynamics as one contributing motivation to their sexual modification, expression of any

negativity towards their parents were not seen. Instead, most participants reported better family relationships as they chose to identify as ex-gays. Furthermore, participants in the study reported experiencing no physically or emotionally demanding activities. This may suggest that the approach of Philippine ex-gay communities is less aggressive than that of the ministries in the west, where negative and traumatic experiences from therapy were noted (Robinson & Spivey, 2007). Lastly, when asked about their current sexual orientation, participants admitted still having same sex attractions, although less powerful and intimate as before. Most of them were not familiar, and as well as hesitant towards the term “ex-gay”. However, they preferred to be described as individuals who have turned away from the gay lifestyle striving to live as how God wanted them to be. This preceding adds to the increasing evidence that people who identify themselves to have changed their sexual orientation still report significant homosexual struggles (Robinson & Spivey, 2007; Shidlo & Schroeder, 2002; Throckmorton, 2002). Hence, sexual orientation cannot be fully changed despite undergoing religious activities and ex-gay efforts. Lastly, the study is limited in studying solely the motivations and pathways of Filipino LGs identifying as ex-lesbians and ex-gays. It does not mean to prove the legitimacy of sexual orientation modification process, but rather why it happens and how it impacts the person as they decide to undergo the process despite its presenting risks with one’s mental, emotional, and even physical and spiritual health (Shidlo & Schroeder, 2002).

5. FUTURE RESEARCH DIRECTIONS

Since the study only used participants in the Philippines, future research studies should also look at other Asian countries, and compare any similarities or differences in the motivations and pathways of ex-gays to the Philippine setting, as well as in the western context. Furthermore, other pertinent areas of future studies can be about determining the specific stage that differ between those who affirm their gay identity from those who persist sexual reorientation and understanding the family dynamics of ex-gays before and after their sexual orientation modification. Moreover, since sexual reorientation and psychological health is seen to be correlated (Beckstead, 2002; Serovich, Craft, Toviessi, Gangamma, McDowell, & Grafsky, 2008; Tozer & McClanahan, 1999; Weiss et.al, 2010; Wolkomir, 2004), a quantitative study on ex-gays and their psychological well-being can also be a profitable avenue of research. Other profitable avenues of future research can focus on sexual reorientation process of ex-gays with no direct affiliation with ex- gay ministries, and how their experiences compare to that of ex-gays that attended a Christian community. Overall, human change is a complex process but one worth looking into.

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Chapter #18

RESILIENCE, MIGRATION EXPERIENCE AND EMIGRATION SELF-EFFICACY AS FACTORS RELATED TO EMIGRATION INTENTIONS AMONG UNIVERSITY STUDENTS IN SLOVAKIA

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ABSTRACT

In Slovakia, there has been an increase in the number of students who aim to move abroad. The main objective of this study was to explore whether factors such as emigration self-efficacy, evaluation of migration experience, frequency of migration experience and resilience are related to the emigration intentions of Slovak university students. We also explored mediational effect of emigration self-efficacy in the relationship between resilience and emigration intentions. The research sample consisted of 474 university students from Slovakia ($M=22.4$, $SD=2.13$) from which 76.8% were women, all participating in the Student Life Cohort Study (SLiCE 2016). We found that all factors have a positive unique effect on emigration intentions. Gender was not significant in relation to the emigration intentions. Later, we found that resilience positively predicts emigration intentions both directly and indirectly through emigration self-efficacy, which is a significant mediator of this relationship. These results contribute to a better understanding of the role of migration and personality factors in explaining emigration behaviour among young people in Slovakia.

Keywords: emigration intentions, emigration self-efficacy, migration experience, resilience, university students.

1. INTRODUCTION

Migration has been widely studied in recent years although it has still not been fully explored and understood. It is an issue of relatively high complexity with structural factors interacting with psychological characteristics, social embedding and life course events. According to Lee (1966) the main cause for migration is a combination of push factors, like high prices, a low living standard, poor economic opportunities, political repression, and psychological dissatisfaction, and pull factors, which are attractive to people in other regions, like a demand for labour, political freedom, safety, and psychological well-being. In addition, migration is not a stable state and is a process which takes place over time (Kley, 2009). With the development of information technology, transport and international connections, the world is becoming more connected than ever before. This globalization means a natural rise in migratory behaviour, especially in European Union countries with “open borders”. In Slovakia, there has been an increase in the number of students who aim to move abroad. The Statistical Office of the Slovak Republic has indicated that students with secondary education (54%), followed by university students (22%) are the most numerous groups of Slovak emigrants in terms of education (Káčerová & Horváthová,

2014). Bahna (2009) found that young Slovak people aged 18-24 had expressed a willingness to leave the country permanently (36%) or only for a certain time (53%). Men generally showed an increased willingness to travel abroad. According to the economic activity of the respondents, the overwhelming majority of students (up to 93%) expressed their willingness to leave to seek work abroad, while 47% of the students expressed their willingness to leave permanently. In addition, the emigration intentions of students were increased by more frequent and more positive experiences with living abroad. Economic reasons are also known to be dominant in relation to migration and especially among younger generations. According to Aidis, Krupickaitė, & Blinstrubaitė (2005), it is partly because students are more willing to accept lower wages and work in the service sector. The importance of studying migration behaviour can therefore be seen, especially among students who are already confronted with the possibilities of migration at secondary school. According to Kley (2009), completing school as a life-course event is the most important predictor in considering leaving the home city. This could be explained by people's need to plan their future and forthcoming situations after reaching a certain point in their life.

While examining migration behaviour, the fact that actual migration may be experienced differently than originally expected often comes up. In other words, changes in migration intentions can occur. This could be explained by the fact that pre-migration intentions do not always follow the real course of migration due to many obstacles and new opportunities which may occur during the migration process. This is where self-efficacy could play a significant role. According to the Social Cognitive Theory (Bandura, 1997), the construct of perceived self efficacy is the belief that one can perform novel or difficult tasks and attain the desired outcomes. In the academic field, self-efficacy is explained as the belief that one is able to successfully execute tasks in academic domains by one's own means and it is a consistent predictor of academic success (Bandura, 2002). Although the concept of self-efficacy is complex and domain specific, it could be applied to migratory behaviour as well. It could be said that students with a high level of self-efficacy can trust their own capabilities to overcome obstacles and master different types of demands during the migration process. Resilience is another concept that has been widely applied and found to predict the mental health of young people. It refers to the rapid return to baseline functioning after exposure to trauma. Therefore, one cannot be resilient if there is no stressor. However, self-efficacy can be present if the stressor has not yet happened or will not occur at all (Schwarzer & Warner, 2012). In the context of migration, resilience could be perceived as the ability to recover from difficulties, as it involves positive adaptation to the stressors and challenges encountered in a new environment through persistent coping (Castro & Murray, 2010). On the other hand, it was found that those who plan to leave their home country were found to be less resilient and more willing to take risks than those who did not plan to leave or were undecided about leaving (Kulanová & Orosová, 2018). Moreover, migrants could be perceived as open and self-reliant individuals. Canache, Hayes, Mondak, & Wals (2013) has confirmed the influence of personality characteristics in the process of migration. They found that openness to experience as well as extraversion were positively related to emigration intentions. Gajdošová (2017) found that higher self-efficacy and the need for change were significant for both genders in predicting the emigration plans of Slovak university students. In addition, people without migration experience have been found to be less willing to migrate again, compared to those with migration experience (Kupiszewski, 1996).

2. OBJECTIVE

The main objective of this study was to explore whether factors such as emigration self-efficacy, evaluation of the migration experience and frequency of the migration experience significantly contribute to explaining the emigration intentions among young people under 30 in Slovakia. Based on the theoretical background, it was hypothesized that higher emigration self-efficacy, more positive migration experience and more frequent migration experience would all have a positive and unique effect on emigration intentions. The moderation effect of gender was also tested in the relationship between the independent variables and emigration intentions. Later, it was hypothesized that the factor resilience would positively affect emigration intentions and that this relationship would be mediated by emigration self-efficacy. Therefore, emigration self-efficacy was considered as a potential intervening variable of this relationship.

3. RESEARCH SAMPLE AND PROCEDURE

The research sample consisted of 474 Slovak university students, participating in the Student Life Cohort Study (SLiCE 2016), from which 76.8% were women. The mean age for these participants was 22.44 (SD=2.13). SLiCE study is an international longitudinal study focused on health-related behaviour and migration/emigration intentions of university students. In this study, the results from the first wave of data collection are presented. Participation in the research was voluntary and anonymous and respondents were informed in advance. New software (SurveyMonkey) was used to construct the questionnaire as well as for the data collection. The statistical software IBM SPSS Statistics 21 was used to analyze the data.

4. MEASURES

In the study, emigration intentions and the factors related to emigration intentions were measured by the following variables:

- Emigration intentions were measured by a 5-item scale (Chan-Hoong & Soon, 2011) which required respondents to rate the frequency with which they thought about working or living in another country for the following reasons: (1) overseas education, (2) better job prospects, (3) setting up a business, (4) to work and live in another country for an extended period of time, and (5) emigrating to another country to live there permanently. Each of these five items were scored on a 5-item Likert scale from 1 - never to 5 - all the time. The Cronbach's alpha was 0.86. A higher overall score denotes a greater desire to migrate.
- Emigration self-efficacy was measured in relation to migration behaviour and three items were used: "If I wanted, I could easily leave abroad", "I am convinced that I would manage the process of leaving abroad" and "I am convinced that I would manage my stay abroad." Respondents rated their answers on a 5-point Likert type scale ranging from 1 - completely disagree to 5 - completely agree. A higher overall score indicates higher self-efficacy.
- Emigration experience, perceived as one's previous experience with living abroad, was measured with these two questions:

- The first question regarded the frequency of living abroad: “How many times have you left your country to live abroad?” rated from 1 – I have never been abroad, 2 – I have never lived abroad, 3 – once, 4 – twice, 5 – three times or more.
- The second question: “How would you now assess your experience with living abroad? “regards the positive, neutral or negative experience with emigration, rated from 1 – very bad, to 5 – very good.
- Resilience is the capacity to quickly recover from difficulties and serves as an umbrella term for various resources used to adapt to changes and cope with taxing situations. The study used the 10-item Connor & Davidson General Resilience Scale (CD-RISC) (2003). A Likert type additive scale with five response options (0= never; 4 = almost always) was used with the highest scores (score of all items) indicating the highest level of resilience The scale is rated based on how the respondent has felt over the past month, with higher scores reflecting greater resilience.

In the first step, linear regression with all independent variables (gender, emigration self-efficacy, evaluation of migration experience and frequency of migration experience) except factor resilience was used in relation to emigration intentions. In the second step, resilience was added to the model and linear regression analysis was used again. Later, Sobel test was used to confirm the significance of the mediational effect of emigration self-efficacy in the relationship between resilience and emigration intentions of students from Slovakia.

5. RESULTS

The results show certain significant gender differences among young people in Slovakia (under 30). Males scored higher in self-efficacy and higher in frequency of their migration experience, compared to females. Further details can be found in Table 1.

Table 1.
The descriptive characteristics in all the measured variables according to gender.

Variable	Men	Women	Theoretical range	T-test value
Emigration intentions	M=13.52 (SD= 4.92)	M=12.87 (SD=5.2)	5 - 25	-1.16
Emigration self-efficacy	M=12.49 (SD= 2.24)	M=11.41 (SD=2.68)	3 - 15	-3.83***
Evaluation of migration experience	M=3.31 (SD= 2.22)	M=3.39 (SD=2.28)	1 - 5	0.317
Frequency of migration experience	M=2.1 (SD=1.15)	M=1.8 (SD=1.1)	1 – 5	-2.082*
Resilience	M=22.7 (SD=2.99)	M=22.68 (SD=3.16)	10 – 40	-0.063

*M – Mean; SD – Standard deviation; *p <0.05, ***p <0.001*

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After running first linear regression (without resilience), our model explained 26.1% of the variance in emigration intentions. Emigration self-efficacy made the largest unique contribution in explaining emigration intentions, followed by evaluation of migration experience and frequency of migration experience. Gender was not significant in explaining emigration intentions, so we didn't explore the moderation effect of gender in the relationship between the independent variables and the dependent variable (emigration intentions). These findings indicate that higher emigration self-efficacy, more positive migration experience and more frequent migration experience, all have a positive and unique effect on emigration intentions among university students in Slovakia. The results are presented in Table 2.

Following the findings, we added resilience to our model. This model only slightly increased the variance in explaining emigration intentions (26.2%). However, resilience was not significant in predicting emigration intentions of university students. More details are presented in Table 2.

Finally, after exploring emigration self-efficacy as a potential intervening variable in the relationship between resilience and emigration intentions, Sobel test confirmed that emigration self-efficacy had a significant mediational effect in the relationship between resilience and emigration intentions of university students in Slovakia ($z=4.56$, $p\alpha<0.001$). Therefore, we found that resilience positively predicts emigration intentions of university students both directly and indirectly through emigration self-efficacy.

Table 2.
The results of regression analysis in relation to emigration intentions of young people in Slovakia.

Model	R	R Square	Adjusted R Square	Std. Error	F	Sig.
1	0.511	0.261	0.265	4.43	41.43	<0.001
2	0.512	0.262	0.254	4.43	33.28	<0.001

Model	Variable	B	Std. Error	Beta	t	Sig.
1	Gender	-0.255	0.495	-0.021	-0.515	0.607
	Frequency of migration experience	0.576	0.259	0.121	2.219	0.027
	Evaluation of migration experience	0.312	0.126	0.138	2.476	0.014
	Emigration self-efficacy	0.731	0.086	0.373	8.529	<0.001
2	Gender	-0.234	0.496	-0.019	-0.473	0.637
	Frequency of migration experience	0.568	0.26	0.119	2.19	0.029
	Evaluation of migration experience	0.309	0.126	0.137	2.449	0.015
	Emigration self-efficacy	0.712	0.089	0.364	8.044	<0.001
	Resilience	0.06	0.068	0.036	0.87	0.384

6. DISCUSSION

Many theories of migration have pointed to economic and demographic factors in attempting to answer what is behind people's intentions to migrate to another country (e.g. Massey et al., 1998). This question arises because migration to another country is often seen as a significant loss of highly talented and skilled people who migrate in search of better career opportunities, better working conditions and a higher salary (Giannoccolo, 2009). Similar research has been conducted in Slovakia and found that job opportunities, the possibility of improving language skills and the opportunity to travel are the most important reasons for university students who are considering leaving (Benka, 2017). However, these factors alone do not explain why some people who live in very similar environmental and socioeconomic conditions want to migrate to another country whereas others do not.

In order to understand the phenomenon of migration, various psychological factors and their relation to emigration intentions were examined. It was found that there are no differences between men and women in their intentions to emigrate. On the other hand, it was shown that men scored higher in self-efficacy and higher in frequency of their migration experience, compared to females. In his meta-analysis of 187 studies, Huang (2012) also found significant gender differences in self-efficacy, with a small difference favouring men. This is in line with Bahna (2009) who stated that men are generally more prone to migration. On the other hand, it has also been shown that UK female graduates are generally more migratory than male graduates (Faggian, Sheppard, & Mccann, 2006). The current study confirmed that university students with higher emigration self-efficacy, more positive migration experience and more frequent migration experience have greater intentions to leave Slovakia. This is in line with Kley (2009), who found that the migration experience could be influenced by a bad migration experience as well as by other factors such as the level of income, breaking up with a partner or finding another one. On the other hand, Speare, Goldstein, & Frey (1975) found that the previous migration experience did not affect considering but only planning migration. This was interpreted as the effect of a migrant's learned skills in dealing with uncertainty and the necessity of making new friends and adapting to their new environment. The main reason could be that people with migration experience are more confident and self-efficient because they have already experienced migration, and therefore are more prepared and more likely to migrate again. According to Diseth, Danielsen, and Samdal (2012), self-efficacy could be viewed as a protective factor because it enables individuals to master various demands with confidence, feel motivated by physiological arousal, and judge positive events as caused by effort and negative events as due primarily to external circumstances. It is also important to mention that emigration intentions are generally good predictors of future emigration behaviour. According to Van Dalen and Henkens (2012), 34% of native-born Dutch residents who had stated an intention to emigrate actually emigrated within the 5-year follow-up period.

The second objective of this study was to explore emigration self-efficacy as a possible mediator of the relationship between resilience and the emigration intentions of students. This was confirmed and it was found that resilience positively affects emigration intentions directly as well as indirectly through emigration self-efficacy. In a study looking at forced migration and refugees (Lusk, Terrezas, Caro, Chaparro, & Puga Antúnez, 2019), migrants showed higher scores in resilience and quality of life despite their high levels of post-traumatic stress. While forced migration is clearly different from voluntary migration, it may be possible to apply these results to voluntary migration as well, especially during the adaptation phase of migration. The effect of acculturation has been the subject of

examination in similar studies. In a study of young migrants, Luna (2013) found that more assimilated individuals exhibited increased levels of resilience. Even voluntary migration requires migrants to believe in their ability to successfully manage the migration process and those with higher levels of resilience should have an easier time in coping with the discomfort and anxiety during this process. It can be agreed that migration is an experience full of uncertainty and novelty, mostly because migrants are exploring new locations and cultures, meeting new people and building new relationships. It is important to highlight that this alone is perceived as a positive phenomenon, but only in the case of people's future return as a well-educated workforce. This case certainly applies to Slovakia. Like other European countries, Slovakia also faces globalization and exodus of young and well-educated people to countries with better career opportunities and more developed economies. Therefore, Slovakia, as well as other countries, try to prevent this loss of well-educated students, which could be perceived as a negative phenomenon in the case they choose not to return to their home country.

The biggest limitation of this study concerns the measurement of the factors evaluating migration experience and frequency of migration experience, which were assessed by only single item measures. In the future, the focus should be on a more complex examination of the relationship between migration experience and emigration intentions and include additional psychological factors important for students' intentions to emigrate. In addition, this study only focused on Slovak university students, so there is potential to study these psychological factors internationally in order to provide a deeper understanding of migration behaviour outside Slovakia. Based on our own research (Hajduch, Orosová, Kulanová, Hal, & Lukács, 2018), it has already been found that students in Belgium and Slovakia who want to stay in their country of origin (stayers) are more satisfied in life than leavers. The highest percentage of undecided students from the explored countries was found in Belgium (56.5%). These results could be an indication of other important factors related to emigration intentions not only in Slovakia, but also internationally. In the future, it could be helpful to focus on exploring the factors related to emigration self-efficacy. This factor's relatively confirmed significance in the migration process could be an indicator that there are other important psychological characteristics behind self-efficacy during the migration process as well as in a daily life. In order to avoid the psychologization of migration as mostly a social and political phenomenon, it is also important to address another issue regarding this study by focusing on migration from a psychological perspective. It is understood that migration is a complex phenomenon led by mostly social and economic reasons. On the other hand, the focus of the current study is to look at migration from a psychological perspective, as there is already sufficient research highlighting the importance of political and social reasons for migration.

7. CONCLUSION

This study has addressed psychological factors such as emigration self-efficacy, evaluation of the migration experience and frequency of the migration experience as important factors related to emigration intentions among university students in Slovakia. It has been found that students who want to leave their home country report a higher level of emigration self-efficacy, a more positive migration experience and more frequent migration experience. It has also been found that resilience positively affects the emigration intentions of university students directly as well as indirectly through emigration self-efficacy. Indeed, this was found to be a significant mediator of this relationship. Although studies have

mostly highlighted the economic reasons for migration, they cannot provide the full answer to why some individuals in similar economic conditions choose to stay and some choose to leave their home country. Therefore, it is believed that exploring migration from an eclectic perspective may be beneficial for a better understanding of migration behaviour among the younger generation of students in Slovakia and outside Slovakia as well.

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