



STUDIA UNIVERSITATIS
BABEŞ-BOLYAI



PSYCHOLOGIA PAEDAGOGIA

2/2018

**STUDIA
UNIVERSITATIS BABEŞ-BOLYAI
PSYCHOLOGIA-PAEDAGOGIA**

**Volume 63, Issue 2,
December 2018**

STUDIA UNIVERSITATIS BABEŞ-BOLYAI PSYCHOLOGIA-PAEDAGOGIA

EDITORIAL OFFICE: 7th Sindicatelor Str., Cluj-Napoca, ROMANIA, Phone: +40-264-405337

Web site: http://www.studia.ubbcluj.ro/serii/psychologia/index_en.html

Contact: studia_psiedu@ubbcluj.ro

EDITORS-IN-CHIEF:

Associate Prof. ADINA GLAVA, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

Associate Prof. DOROTHEA IONESCU, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

EDITORIAL BOARD:

Professor VASILE CHIŞ, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

Professor MUŞATA BOCOŞ, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

Professor CONSTANTIN CUCOŞ, Ph.D., Alexandru Ioan Cuza University, Iaşi, Romania

Professor HARRY DANIELS, Ph.D., University of Oxford, UK

Professor CĂLIN FELEZEU, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

Professor ROMIŢĂ IUCU, Ph.D., University of Bucharest, Romania

Professor ADRIAN OPRE, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

Professor VASILE PREDA, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

Professor VLADIMIR RADULOV, Ph.D., University of Sofia, Bulgaria

Professor CHARLES TEMPLE, Ph.D., Hobart and William Smith Colleges, Geneva, USA

Assistant Prof. GIORGOS NICOLAOU, Ph.D., University of Ioannina, Greece

Assistant Prof. FLORIN SALAJAN, Ed.D., North Dakota State University, USA

Professor DOREL UNGUREANU, Ph.D., West University of Timişoara, Romania

Professor ION ALBULESCU, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

Professor CRISTIAN STAN, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

Associate Prof. CAROLINA BODEA-HAŢEGAN, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

Associate Prof. ANDREEA HATHÁZI, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

Associate Prof. MIRELA ALBULESCU, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

Associate Prof. IOANA MAGDAŞ, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

Associate Prof. OANA DAVID, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

Associate Prof. CĂTĂLIN GLAVA, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

Lecturer LAVINIA CHEIE, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

Lecturer OANA NEGRU, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

Lecturer DANA OPRE, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

Lecturer SILVIU MATU, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

Lecturer JANOS REKA, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

Researcher SEBASTIAN VAIDA, Ph.D., Babeş-Bolyai University, Cluj-Napoca, Romania

**YEAR
MONTH
ISSUE**

**Volume 63 (LXIII) 2018
DECEMBER
2**

**PUBLISHED ONLINE: 2018-12-28
PUBLISHED PRINT: 2018-12-28
ISSUE DOI:10.24193/subbpsyped.2018.2**

**S T U D I A
UNIVERSITATIS BABEȘ-BOLYAI
PSYCHOLOGIA-PAEDAGOGIA
2**

STUDIA UBB EDITORIAL OFFICE: B.P. Hasdeu no. 51, 400371 Cluj-Napoca, Romania,
Phone + 40 264 405352, office@studia.ubbcluj.ro

SUMAR – SOMMAIRE – CONTENTS – INHALT

- ANDREI R. COSTEA, Can Compensatory Processing Account for the Performance of Individuals with Autism Spectrum Disorders in Implicit Learning Tasks? A Focused Mini-Review 5
- ÉVA KÁLLAY, SEBASTIAN PINTEA, IONEL PAPUC, Mechanisms of Professional Training in Generating (Even) Better Vets. Approaches to Learning as Mediators of the Relationship Between Depressive Tendencies and Academic Performance in Female Veterinary Students.....27

IONUȚ MONE, OANA BENGA, Romania's Cultural Profile and Recent Socio-Economic Changes: Implications for Parental Beliefs and Practices	45
PAZIT LEVI SUDAI, Am I a Good Caregiver for Youth at Risk? Socio-Educational Workers' Perception of Self-Efficacy Through the Lens of Attachment Theory	79
RALUCA POP, An Intercultural Turn in Pre-Service Teacher Training. A Perspective on the English Language Teaching.....	93

CAN COMPENSATORY PROCESSING ACCOUNT FOR THE PERFORMANCE OF INDIVIDUALS WITH AUTISM SPECTRUM DISORDERS IN IMPLICIT LEARNING TASKS? A FOCUSED MINI-REVIEW

ANDREI R. COSTEA¹

ABSTRACT. The research literature provides numerous hypotheses aiming to isolate the cognitive mechanisms thought to underlie the social impairments of individuals with autism spectrum disorder (ASD). To this end, the hypothesis of an implicit learning (IL) deficit in ASD, posits that individuals with ASD encounter social difficulties because, contrary to individuals with typical development (TD), they are unable to implicitly, or unconsciously, learn social grammars (i.e., social regularities). However, the majority of the available research indicates a general lack of empirical support for this hypothesis. Our chief objective is to inform future research by reviewing some of the most salient findings from the IL deficit in ASD literature from a compensatory processing framework. In order to achieve our goal, we initially detail the rationale behind the IL deficit in ASD hypothesis. Then we summarise several research findings which either confirm or fail to confirm this hypothesis. Subsequently, we introduce the concept of compensatory processing. Afterwards, we review a series of evidence indicating that individuals with ASD might compensate in some IL tasks. Here we suggest that even though their behavioural performance seems intact, the functioning of IL in ASD is likely to be atypical. Finally, on the basis of the literature review, we suggest potential directions for future research into this hypothesis.

Keywords: *autism spectrum disorders; implicit learning; compensation.*

¹ *Cognitive Psychology Laboratory, Department of Psychology, Babeş-Bolyai University, 37 Republicii Street, Cluj Napoca, CJ 400015, Romania. E-mail: andreicostea@psychology.ro*

1. Introduction

According to the Diagnostic and Statistical Manual of Mental Disorders, DSM-V (American Psychiatric Association, 2013), autism spectrum disorders (henceforth, ASDs) are a group of neurodevelopmental disorders characterized by impairments in social interaction and communication, as well as repetitive behaviours and restricted interests or activities. According to the latest report of The Autism and Developmental Disabilities Monitoring (ADDM) Network, the prevalence of ASD is now estimated to be of one in 59 children (Baio, et al., 2018). In this context, improvements in the efficacy and effectiveness of psychological interventions in ASD is of paramount importance. A detailed understanding of the underlying cognitive mechanisms of ASD is necessary in order to improve the efficacy and effectiveness of psychological interventions. However, despite massive systematic efforts, understanding those mechanisms remains a great challenge for cognitive scientists and practitioners.

With regard to the potential causes which might generate the social difficulties of individuals with ASD, the scientific literature provides several promising areas of research. This paper is focused on reviewing literature from two subdomains of ASD research. Namely, research which evaluates the functioning of implicit learning (henceforth, IL) in ASD and research which evaluates compensatory processing in ASD (i.e., in brief, compensatory processing occurs when a typical performance in a cognitive task is achieved through the recruitment of additional cognitive and/or neurobiological resources which are not recruited by individuals with typical development). Our general scope is to inform future investigations into the functioning of IL in ASD by bridging those two areas of research. In order to achieve this goal, in the next section, we will discuss the reasoning behind the IL deficit in ASD hypothesis.

2. The functioning of IL in individuals with ASD, why does it matter?

On the one hand, individuals with ASD exert atypical social behaviours. For instance, if a person with ASD enters a room and observes someone doing complex computations, he/she might not have that in-

stant feeling that he/she shouldn't speak loudly. Such rapid social judgments, or social intuitions, are believed to be formed on the basis of some "social grammars" which are learned by means of observation and interaction with the surrounding environment.

On the other hand, human learning can be placed on an implicit-explicit continuum (Reber, 1967, 1989, 1993). In broad, IL, as opposed to explicit learning, refers to the unintentional acquisition of knowledge which is unavailable to awareness, (i.e., cannot be verbalised or controlled intentionally) nevertheless, the learned information affects the learner's behaviour (Cleeremans, Destrebecqz, & Boyer, 1998; Cleeremans & Jiménez, 2002). Extensive literature suggests that IL is the process responsible for learning the aforementioned "social grammars". For instance, implicitly learned information serves as the cognitive substrate of intuitive judgments (Dienes & Scott, 2005; Kuhn & Dienes, 2005; Mealor & Dienes, 2013; Pacton, Perruchet, Fayol, & Cleeremans, 2001) and implicit social cognition (Heerey & Velani, 2010; Lieberman, 2000; Norman & Price, 2012; Raab & Johnson, 2008).

Considering that individuals with ASD have impairments in social cognition and IL plays an important role in the formation of social cognition, researchers investigated if a deficit in IL can explain the social cognition impairments of individuals with ASD. Without being exhaustive, in the next section we will review some key investigations testing this hypothesis.

3. Is IL impaired in individuals with ASD?

A large set of empirical studies tested the IL deficit in ASD hypothesis by applying diverse experimental tasks (see Table 1). Nevertheless, the literature is characterised by heterogeneous conclusions; with some studies finding a deficit and others finding a normal functioning of IL in ASD.

Table 1.
Classification of studies assessing IL in ASD based on their experimental paradigm

Experimental paradigm	Study
Serial Reaction Time (SRT)Task	*Brown, Aczel, Jiménez, Kaufman, and Grant (2010); *Gordon, and Stark (2007); Izadi-Najafabadi, Mirzakhani-Araghi, Miri-Lavasani, Nejati, and Pashazadeh-Azari (2015); *Mostofsky,

	Goldberg, Landa, and Denckla (2000); *Müller, Cauch, Rubio, Mizuno, and Courchesne (2004); Sharer, Mostofsky, Pascual-Leone, and Oberman (2016); Travers, Kana, Klingler, Klein, and Klingler (2015); *Travers, Klingler, Mussey, and Klingler (2010); Zwart, Vissers, van der Meij, Kessels, and Maes (2017)
Alternating Serial Reaction Time (ASRT) Task	*Barnes, Howard Jr, Howard, Gilotty, Kenworthy, Gaillard, and Vaidya (2008); *Nemeth, Janacsek, Balogh, Londe, Mingesz, Fazekas, ... & Vetro (2010); Virag, Janacsek, Balogh-Szabo, Chezan, and Nemeth (2017)
Contextual Cueing	*Barnes, Howard Jr, Howard, Gilotty, Kenworthy, Gaillard, and Vaidya (2008); *Brown, Aczel, Jiménez, Kaufman, and Grant (2010); *Kourkoulou, Leekam, and Findlay (2012); *Travers, Powell, Mussey, Klingler, Crisler, and Klingler (2013)
Pursuit Rotor	*Gidley Larson and Mostofsky (2008); *Limoges, Bolduc, Berthiaume, Mottron, and Godbout (2013)
Virtual Pursuit Rotor	Sparaci, Formica, Lasorsa, Mazzone, Valeri, and Vicari (2015)
Artificial Language Learning Task	Mayo and Eigsti (2012)
Social Judgement Task	Schipul, Williams, Keller, Minshew, and Just (2011)
Shape Learning Paradigm	Jeste, Kirkham, Senturk, Hasenstab, Sugar, Kupelian, ... & Paparella (2015)
Dot pattern prototype learning task	Schipul, and Just (2016)
Hierarchical Figures Task	Hayward, Shore, Ristic, Kovshoff, Iarocci, Mottron and Burack (2012)
Visual Search Task	Jiang, Capistrano, Esler and Swallow (2013)
Category Learning Task	Mercado III, Church, Coutinho, Dovgopoly, Lopata, Toomey, and Thomeer (2015)

Note: studies marked with an “*” were included in the meta-analysis of Foti, De Crescenzo, Vivanti, Menghini, and Vicari (2015).

For instance, Nemeth et al. (2010) compared 13 children with ASD with 13 age matched children with typical development (henceforth, TD) and 14 IQ matched children with TD on a procedural learning task. The procedure occurred in two phases (i.e., the Learning session and the Test session) separated by an interval of approximately 16 hours. In the Learning phase, on each trial, an animated dog's head appeared on one of four possible spatial locations of a computer screen. Participants were instructed to respond as fast and as accurately as possible to each apparition by pressing its corresponding key. The Learning phase was 20 blocks long. Each block consisted of 85 trials. Unknown to participants, the target stimulus (i.e., the dog's head) respected a complex pattern. On each block the stimulus appeared randomly for the first 5 trials then, for the remainder of trials, it respected an 8-element long sequence. In the sequence 4 apparitions were pattern events which alternated with 4 events determined randomly. In the Test phase, participants completed 5 blocks identical with those from the Learning phase. In both phases, learning was operationalised as the difference in the reaction times between the pattern and random trials. In this experiment, Nemeth et al. (2010) found no differences between groups. Moreover, the authors reported that participants with ASD demonstrated an intact overnight memory consolidation of the implicitly learned information. Relatedly, with a modified version of the same procedural learning task, Virag, Janacsek, Balogh-Szabo, Chezan, and Nemeth (2017) found that when compared with children with TD, children with ASD had an increased implicit procedural learning ability.

However, the literature also provides evidences of an implicit procedural learning deficit in individuals with ASD. For instance, Mostofsky, Goldberg, Landa, and Denckla (2000) compared the performances of 11 participants with ASD and 17 age-and-IQ-matched individuals with TD on the Serial Reaction Time Task. The procedure used by Mostofsky, Goldberg, Landa, and Denckla (2000) was relatively similar with the one applied by Nemeth et al. (2010); though several differences exist. For instance, in Mostofsky, Goldberg, Landa, and Denckla (2000) the target stimulus was a circle instead of a dog's head. Also, in this study, participants completed 5 acquisition blocks, each consisting in 80 trials. In the first and last blocks, the stimuli appeared randomly. However, unknown

to participants, in blocks 2 through 4, a 10 element sequence was repeated eight times per block. Learning was operationalised as the differences in reaction times in the random versus sequence blocks. In this study, the authors provide evidences for a deficit in procedural learning in children and adolescents with ASD. The reasons for which the relatively similar methods of Mostofsky, Goldberg, Landa, and Denckla (2000) and Nemeth et al. (2010) generated different results is unclear. However, we speculate that the relatively low sample size of both studies might have contributed in this sense.

Considering the mixed evidence in the literature, Foti, De Crescenzo, Vivanti, Menghini, and Vicari (2015) conducted a quantitative systematic review. Authors searched for studies investigating IL in individuals with ASD. The authors analysed studies in which: a) the individuals included in the ASD group were diagnosed in accordance with DSM III, DSM III-R or DSM IV (American Psychiatric Association, 1981, 1987, 1994) diagnosis criteria for ASD; b) there was a comparison sample of individuals with TD; c) there was a matching of the participants from the two groups in terms of their IQ, age and gender. Eleven studies were included in Foti et al.'s (2015) meta-analysis. Four hundred and seven individuals participated in those studies; 177 were diagnosed with ASD and the rest served as age, gender and IQ matched controls. Studies investigated the functioning of IL by applying four well established IL research paradigms (for a classification, see articles marked with an * in Table 1). After conducting the analysis, Foti et al. (2015) found no between groups differences in terms of IL functioning. The authors concluded that "individuals with ASD can learn implicitly, supporting the hypothesis that IL deficits do not represent a core feature in ASDs" (Foti et al. 2015, p.8).

In sum, by analysing behavioural studies, Foti et al. (2015) found no evidences of an IL deficit in ASD. However, behavioural evidences do not necessarily capture the complexity of ASD's cognitive profile. For example, as suggested by Livingston and Happé (2017), in some cases an individual with ASD can display a typical behavioural functioning which is sustained by an atypical cognitive functioning. In the next section we will discuss the dynamic of the behavioural phenotype of ASD and a potential mechanism of change (i.e., compensatory processing). This will

allow us to analyse some available research on the IL deficit in ASD hypothesis from a compensatory processing framework; and finally will allow us to formulate some future research directions for this hypothesis.

4. Behavioural change and compensation in ASD

The behavioural phenotype of individuals with ASD is not necessarily stable across development. Symptoms may alleviate or worsen from childhood to adulthood (for a qualitative review, see Magiati, Tay, & Howlin, 2014). However, the mechanisms that determine the amelioration and/or worsening of symptomatology (i.e., changes of an individual relative to its own and/or his group's anticipated trajectory) across development remains a hot topic for debate and research (Georgiades, Bishop, & Fraizer, 2017).

The concept of compensatory processing - introduced by Livingston and Happé (2017) - seems useful in explaining both symptoms alleviation and worsening in ASD. As a conceptualization, the authors propose that compensatory processing occurs when an individual with ASD demonstrates a typical performance in an assessed behaviour, however his performance is sustained by the recruitment of additional cognitive and/or neurobiological resources which are not typically recruited in individuals with TD.

With regard to symptoms' alleviation, the authors advance two alternative mechanisms. First, the autistic behavioural phenotype may ameliorate in adulthood due to genuine remedies at the cognitive and / or neurobiological phenotype. Alternatively, apparent improvements in the behavioural phenotype may actually be sustained by a series of compensatory strategies - which aid to an enhanced behavioural presentation of symptomatology - despite persisting cognitive and/or neurobiological impairments (see Mukaddes, Mutluer, Ayik, & Umut, 2017). Thus, compensatory processing may explain why some individuals with ASD cease to meet diagnostic criteria when they reach adulthood (Georgiades, Bishop, & Fraizer 2017). Compensatory processing might also account for cases in which symptoms worsen across development or, cases in

which individuals receive an ASD diagnosis only when they reach maturity. This may occur in contexts where previously successful compensatory strategies become inefficient due to incremental changes in the complexity of the individual's surrounding social environment (Livingston and Happé, 2017).

Evidences of compensatory processing were documented across a variety of cognitive processes in ASD. In general, it has been suggested that the typically intact declarative memory of individuals with ASD might be engaged in compensating impairments in their socio-cognitive functioning (Ullman & Pullman, 2015). In the remainder of this section, we will review literature which suggests that individuals with ASD compensate in some Theory of Mind tasks, thinking and reasoning tasks and category learning tasks.

4.1. Theory of Mind (henceforth, ToM): ToM refers to the intuitive understanding of others' and one's own mental states (White, Coniston, Rogers, & Frith, 2011). It is now widely accepted that individuals with ASD have a ToM deficit (Happé, 2015; Schuwerk, Vuori & Sodian 2015; Senju, Southgate, White, & Frith 2009; White, Frith, Rellecke, Al-Noor, & Gilbert, 2014). Nevertheless, the extent of ToM deficit detected in ASD varies as a function of the ToM task. Some, more able individuals with ASD pass Off-line ToM tasks, however they are unlikely to pass On-line ToM tasks (White, Coniston, Rogers, & Frith, 2011). Even though both On-line and Off-line measures of ToM evaluate the ability to appropriately attribute mental states, only the former allows for an evaluation in real time. In order to discuss how Off-line and On-line measures of ToM differently relate with compensatory processing, we will further present the findings of Abell, Happe, and Frith (2000).

Among other comparisons, Abell, Happe, and Frith (2000) evaluated 15 children with ASD in terms of their ToM abilities with both On-line and Off-line tasks. Concerning the offline measure of ToM, participants completed two first-order ("she thinks that...") false-belief tasks: The Sally-Ann test (Baron-Cohen et al., 1985) and Smarties test (Perner et al., 1989) and two second-order ("she thinks that he thinks that...") false-belief tasks: the Ice-Cream story (Perner & Wimmer, 1985) and Birthday

Puppy test (Sullivan et al., 1994). Concerning the online measure of ToM, participants viewed a pseudorandomized series of 10 video animations depicting the motion of two triangles. In 2 of the animations, the triangles were moving randomly on the screen (e.g., bouncing on the edges of the screen). In 4 of the animations, the triangles were physically responding to one another (e.g., synchronising movement as in a dance). Finally, 4 of the animations, “showed one character reacting to the other character's mental state. In one animation, one character tried to seduce and persuade the other to let it free.” (Abell, Happe, & Frith, 2000, p. 5). After each animation, participants were asked “What happened in the cartoon?” Their responses were recorded and scored for appropriateness (see Abell, Happe, & Frith, 2000, p. 7). Authors found that even participants with ASD who passed both first and second-order false-belief tasks had marked impairments in appropriately describing the ToM animations. In sum, it seems that some individuals with ASD compensate their ToM impairments by relying on explicit processing of information. This compensatory processing strategy allows them to pass Off-line ToM measures (such as false-beliefs tasks) however, when tasks such as the Frith-Happe Animations (Abell, Happe, & Frith, 2000) do not allow for such compensatory processing strategy, their deficit in ToM becomes apparent.

4.2. Thinking and reasoning: According to the Dual Process Theory, human reasoning is composed of two distinct families of processes: Type One processing – which is not specific only to humans, is evolutionary old, unconstrained by working memory capacity, automatic, effortless, uncorrelated with general measures of intelligence, allowing intuitive judgements; and Type Two processing - which is specifically human, evolutionary recent, constrained by working memory capacity, controlled, effortful, correlated with general measures of intelligence, allowing abstract and hypothetical reasoning (for additional details, see Evans, 2003). Brosnan, Lewton, and Ashwin (2016) investigated if individuals with ASD have a tendency to rely on one type of processing more than the other. In order to achieve their goal, the authors compared 17 individuals with ASD with 18 individuals with TD on their performance on The Cognitive Reflection Task (CRT, Frederick, 2005). CRT is a 3 items

performance questionnaire which assesses the human tendency to rely on Type One or Type Two processing. The questionnaire is designed in such manner that each question has both, potentially intuitive and deliberative answers. However, the intuitive answer is always wrong. Authors found that when compared with TDs, participants with ASD had a significantly higher performance on the CRT task therefore, they exerted a tendency to systematically rely on more deliberative and less intuitive reasoning. In sum, it seems that as opposed to individuals with TD, the default processing style of individuals with ASD is characterised by a tendency to rely on explicit reasoning.

4.3. Category learning: Klinger and Dawson (2001) investigated if the deficit to integrate previously learned concepts to new situations - often reported in ASD research - is determined by an impairment in category formation. The authors compared 12 individuals with ASD and 12 individuals with TD on an explicit category learning task (which could be completed successfully with a rule-based approach) and an implicit category learning task (for which successful categorization was not permitted by a rule-based approach, but rather by automatically extracting prototypes from the encountered exemplars). Their results indicate that, when compared with individuals with TD, individuals with ASD demonstrated learning impairments when they completed the implicit category learning task and a sharp performance when they completed the explicit category learning task. For a paper describing the role of IL in category learning, see Goshke and Bolte (2007). In sum, consistent with literature reported earlier in this section, the results obtained by Klinger and Dawson (2001) also suggest that individuals with ASD compensate their deficit in automatic processing by adopting a rule-based, more deliberative style of reasoning.

In our opinion, the general form of compensatory processing which emerged from the studies reviewed in this section is that individuals with ASD compensate their impairments in automatic / intuitive processing by engaging in more effortful, deliberate processing. In the next section, we will discuss existing evidences which suggest that individuals with ASD engage such compensatory processing in IL tasks.

5. Are there evidences that individuals with ASD compensate in IL tasks?

As suggested by Foti et al. (2015), individuals with ASD seem to have a normal functioning of IL. However, behavioural studies offer only a quantitative, not qualitative measure of learning. The lack of between-groups differences in behaviourally measured performances cannot automatically exclude the use of a compensatory processing strategy or, a different processing style.

In this regard, Zwart et al. (2017) compared 20 individuals with ASD with 20 age, gender and IQ matched controls in terms of both their behavioural performance and electrical brain activity while performing the Serial Reaction Time Task. Participants in both groups were asked to respond via a key press to a sequence of arrows presented on the screen. Unknown to them, the arrows followed a complex sequence in 87.5% of all trials. Learning was indexed by the differences in the reaction times between the acquisition and deviant trials. The researchers recorded the electric brain activity while participants completed the acquisition phase. From a behavioural perspective, consistent with the conclusion of Foti et al. (2015), Zwart et al.'s (2017) results indicated no between-groups differences. However, the learning style of individuals with ASD was rather intentional - as it was associated with an increased P3 EEG component - and TD's learning was rather intuitive - as it was characterised by an increased N2b EEG component. In short, the authors argue that the typical performance of participants with ASD was sustained by a compensatory processing strategy - that is, an intentional style of learning, which is contrary to the learning style of individuals with TD.

Another study provides evidences consonant with the conclusion of Zwart et al. (2017) via a different methodological route. Specifically, Klinger et al. (2001, apud. Klinger, Klinger, & Pohlig, 2007) compared adolescents with TD and adolescents with ASD in terms of their performance on the Artificial Grammar Learning (AGL) task. Participants from both groups were exposed to a number of letter strings which, unbeknown to them, followed a complex artificial grammar. Subsequently, they were confronted with novel letter strings, out of which only half were consistent with the earlier artificial grammar. Participants underwent a classification phase, indicating for each string if it is grammatical

or not. Learning was operationalised as an above-chance-accuracy in the classification phase. The results of Klinger et al. (2001) indicated that participants with TD had a 67% accuracy while participants with ASD had a 70% accuracy. The implicit nature of the learned knowledge was sustained by participant's inability to verbally describe the rules. With a general agreement between scientists, it is considered that - contrary to explicit learning - the functioning of IL is unrelated to intelligence (for details, see Reber, Walkenfeld, & Hernstadt, 1991). Importantly, Klinger et al. (2001) found that participants with ASD's performance in the AGL task was significantly related ($r = 0.45$) to their fluid intelligence (on the matrices task of the Kaufman Brief Intelligence Testm Kaufman & Kaufman, 1990) which was not the case for participants with TD ($r = 0.13$). In sum, consistent with earlier results, Klinger et al. (2001) suggest that the typical behavioural performance of individuals with ASD in the AGL task is associated with a potential compensatory processing strategy under the form of a more intentional style of learning.

The previous two studies discussed compensatory processing at a cognitive level. According to Livingston and Happé (2017), compensation can also be observed at a neural level. In this case, as opposed to non-compensators, individuals who compensate recruit different and/or additional neural pathways for completing a cognitive task. To this end, Müller, Cauch, Rubio, Mizuno, and Courchesne (2004) compared a group of 8 participants with ASD with 8 age, gender and IQ matched controls in terms of both their behavioural performances and neural correlates of implicit sequence learning. Participants completed a variation of the SRT task in a functional magnetic resonance imaging scanner. Contrary to the control group, participants with ASD showed less overall prefrontal activation in late phases of the learning task. Interestingly, the authors reported that individual with ASD were characterised by an enhanced activation in right pericentral and premotor cortex - which was a pattern not observed in the control group. Müller, Cauch, Rubio, Mizuno, and Courchesne (2004) provide empirical evidences suggesting that the typical behavioural performance observed in the ASD group was achieved by recruiting additional neuronal networks, which are not normally recruited by individuals with TD.

Finally, on the basis of the literature presented in this section, we will next discuss how the concept of compensatory processing can inform future research in the IL deficit in ASD hypothesis.

6. Directions for future research

On one hand, the majority of the available research examined the functioning of IL in ASD by employing standard, non-social paradigms. Studies exposed participants to stimuli such as: *circle shapes* (in Mostofsky, Goldberg, Landa, & Denckla, 2000); *blue dots* (in Müller, Cauich, Rubio, Mizuno, & Courchesne, 2004); *star shapes* (in Gordon & Stark, 2007); *black-and-white race cars* (in Travers, Klinger, Mussey, & Klinger, 2010); shapes of *Ls* and *Ts* (in Kourkoulou, Leekam, & Findlay, 2012), etc. On the other hand, individuals with ASD have marked deficits especially in the social domain. Crucially, IL is not a homogenous construct; subtle variations in the research paradigms reveal different facets of IL (for details, see Seger, 1997, 1998).

Here, we suggest that *a)*: different cognitive mechanisms might be involved in the IL of social versus non-social information (thus, the extrapolation of results obtained with non-social paradigms to the functioning of IL in social contexts is, in our opinion, unadvisable) and *b)*: considering the artificial nature of those tasks we suggest that the lack of behavioural evidences of an IL deficit in ASD might be generated by a successful compensatory processing strategy (an important question is whether or not such strategy will continue to be effective in more complex tasks that are more relevant for social functioning).

We speculate that the potential compensatory processing strategy which allowed participants with ASD to demonstrate intact performances in standard IL tasks (i.e., an intentional learning style) will stop being effective in more socially relevant paradigms – especially considering that ASDs' face processing impairments are well documented in the literature. For instance, Dawson et al. (2002) argue that ASD is characterised by face recognition impairment that is manifest early in life. The comprehensive review of Weigelt, Koldewyn, and Kanwisher (2012) suggest that people with ASD perform worse than typical individuals when they have to remember or discriminate facial identities. Literature also

provides consistent evidence regarding areas of the human face where individuals with ASD preferably allocate their attentional resources. More specifically, individuals with ASD are characterized by deficits in fixating the region of the eyes (Riby, Doherty-Sneddon, & Bruce, 2009; Dawson, Webb, & McPartland, 2005) and prolonged fixations in the mouth area (Neumann, Spezio, Piven, & Adolphs, 2006).

In sum, here we suggest that *a)*: the ability to implicitly learn information on the basis of artificial stimuli might engage different processes than the ability to implicitly learn information on the basis of socially relevant stimuli (such as human expressions) and *b)*: future research could test if the potential compensatory processing strategy (i.e., an intentional learning style) which allowed participants to demonstrate intact performances in standard IL tasks will continue to be effective in IL paradigms that are more relevant for social functioning. For an example of a research paradigm (which could be used by future research to retest the IL deficit in ASD hypothesis) designed to induce IL of cognitive structures on the basis of human emotional facial expressions, see Jurchis, Costea, Opre (under review).

7. Conclusion

The hypothesis of an IL deficit in ASD assumes that the social deficits of individuals with ASD may be underlined by their impaired ability to implicitly learn regularities from the social realm. The majority of the available empirical studies testing this hypothesis report a lack of behavioural differences between individuals with ASD and normative controls. However, we discussed that in some cases, a typical behavioural functioning can be subserved by an atypical cognitive functioning. In this sense, we introduced the concept of compensatory processing, which occurs when a typical performance in a cognitive task is achieved through the recruitment of additional cognitive and/or neurobiological resources which are not recruited by individuals with TD).

After reviewing literature suggesting that individuals with ASD compensate in some ToM, Reasoning and Category learning tasks, we analysed evidences of compensatory processing in the available IL research. On the basis of the reviewed literature on the SRT and AGL tasks, it seems

that individuals with ASD compensate in IL tasks by engaging in a rather intentional style of learning. As such strategy might be effective in simple, artificial tasks, we suggested that future research should test its effectiveness in more complex contexts that are more relevant for social functioning.

If future research will indeed detect that individuals with ASD have a deficit to implicitly learn socially relevant information then, this line of research will have several potential practical and research implications.

From a practical standpoint, it might inform the optimization of interventions for addressing this potentially malfunctioning process. For instance, in typical populations, it has been shown that IL is functioning optimally when individuals are in a subjectively defined non-optimal time of the day (Delpouve, Schmitz, & Peigneux, 2014). This could suggest a certain ordering of activities in the therapeutic sessions: starting with activities that require conscious thought (language learning, writing, etc.) when patients feel energised than, continuing with activities that require automatic processing (for instance, recognising emotions, etc.) when participants feel less energised. Additionally, this line of research, might inform caregivers and professionals about the importance that contextual factors – implicit learning - play in ASDs social functioning.

Finally, on a more speculative note, if confirmed, this line of investigation could have implications for future research and theory. For instance, it could lay the foundation to test if some currently distinct findings can be unified under a computational model of social cognition impairments in ASD. Specifically, we consider that it would be interesting to investigate the potential downstream effects that abnormal sensory processing of individuals with ASD (Crane, Goddard, & Pring, 2009; Marco, Hinkley, Hill, & Nagarajan, 2011) might have on the IL of socially relevant information and also, the potential downstream effects that an impaired ability to implicitly learn socially relevant information might have on ToM functioning in ASD.

REFERENCES

- Abell, F., Happe', F., & Frith, U. (2000). Do triangles play tricks? Attribution of mental states to animated shapes in normal and abnormal development. *Cognitive Development*, 15, 1-16.
- American Psychiatric Association. (1981). *Diagnostic and Statistical Manual of Mental Disorders. DSM-III. American Psychiatric Association*, Washington, DC.
- American Psychiatric Association. (1987). *Diagnostic and Statistical Manual of Mental Health Disorders (DSM-III-R). American Psychiatric Association*, Washington, DC.
- American Psychiatry Association. (1994). *Diagnostic and statistical manual of mental disorders (DSM-IV). American Psychiatry Association*, Washington, DC.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5®). American Psychiatry Association*, Washington, DC.
- Baio, J., Wiggins, L., Christensen, D.L., Maenner, M.J., Daniels, J., Warren, Z., ... & Durkin, M.S. (2018). Prevalence of autism spectrum disorder among children aged 8 years—Autism and Developmental Disabilities Monitoring Network, 11 Sites, United States, 2014. *MMWR Surveillance Summaries*, 67(6), 1.
- Baron-Cohen, S., Leslie, A. M., & Frith, U. (1985). Does the autistic child have a "theory of mind"? *Cognition*, 21, 37±46.
- Barnes, K.A., Howard Jr, J.H., Howard, D.V., Gilotty, L., Kenworthy, L., Gaillard, W. D., & Vaidya, C.J. (2008). Intact implicit learning of spatial context and temporal sequences in childhood autism spectrum disorder. *Neuropsychology*, 22(5), 563.
- Brosnan, M., Lewton, M., & Ashwin, C. (2016). Reasoning on the autism spectrum: a dual process theory account. *Journal of autism and developmental disorders*, 46(6), 2115-2125.
- Brown, J., Aczel, B., Jiménez, L., Kaufman, S.B., & Grant, K. P. (2010). Intact implicit learning in autism spectrum conditions. *The quarterly journal of experimental psychology*, 63(9), 1789-1812.
- Cleeremans, A., Destrebecqz, A., & Boyer, M. (1998). Implicit learning: News from the front. *Trends in Cognitive Sciences*, 2(10), 406-416.
[http://dx.doi.org/10.1016/S1364-6613\(98\)01232-7](http://dx.doi.org/10.1016/S1364-6613(98)01232-7)

- Cleeremans, A., & Jiménez, L. (2002). Implicit learning and consciousness: A graded, dynamic perspective. *Implicit learning and consciousness*, 1-40.
- Crane, L., Goddard, L., & Pring, L. (2009). Sensory processing in adults with autism spectrum disorders. *Autism*, 13(3), 215-228.
- Dawson, G., Webb, S.J., & McPartland, J. (2005). Understanding the nature of face processing impairment in autism: insights from behavioral and electrophysiological studies. *Developmental neuropsychology*, 27(3), 403-424.
- Delpouve, J., Schmitz, R., & Peigneux, P. (2014). Implicit learning is better at subjectively defined non-optimal time of day. *Cortex*, 58, 18-22.
- Dienes, Z., & Scott, R. (2005). Measuring unconscious knowledge: Distinguishing structural knowledge and judgment knowledge. *Psychological research*, 69(5-6), 338-351.
- Evans, J.S.B. (2003). In two minds: dual-process accounts of reasoning. *Trends in cognitive sciences*, 7(10), 454-459.
- Foti, F., De Crescenzo, F., Vivanti, G., Menghini, D., & Vicari, S. (2015). Implicit learning in individuals with autism spectrum disorders: a meta-analysis. *Psychological medicine*, 45(05), 897-910.
- Frederick, S. (2005). Cognitive reflection and decision making. *Journal of Economic Perspectives*, 19, 25-42.
- Georgiades, S., Bishop, S.L., & Frazier, T. (2017). Editorial Perspective: Longitudinal research in autism—introducing the concept of ‘chronogeneity’. *Journal of Child Psychology and Psychiatry*, 58(5), 634-636.
- Gidley Larson, J.C., & Mostofsky, S.H. (2008). Evidence that the pattern of visuomotor sequence learning is altered in children with autism. *Autism Research*, 1(6), 341-353.
- Gordon, B., & Stark, S. (2007). Procedural learning of a visual sequence in individuals with autism. *Focus on autism and other developmental disabilities*, 22(1), 14-22.
- Goschke, T., & Bolte, A. (2007). Implicit learning of semantic category sequences: response-independent acquisition of abstract sequential regularities. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 33(2), 394.
- Happé, F., (2015). Autism as a neurodevelopmental disorder of mind-reading. *J. Br. Acad.* 3, 197–209. <http://dx.doi.org/10.5871/jba/003.197>.
- Hayward, D.A., Shore, D.I., Ristic, J., Kovshoff, H., Iarocci, G., Mottron, L., & Burack, J.A. (2012). Flexible visual processing in young adults with autism: The effects of implicit learning on a global-local task. *Journal of Autism and Developmental Disorders*, 42(11), 2383-2392.
- Heerey, E.A., & Velani, H. (2010). Implicit learning of social predictions. *Journal of Experimental Social Psychology*, 46(3), 577-581.

- Izadi-Najafabadi, S., Mirzakhani-Araghi, N., Miri-Lavasani, N., Nejati, V., & Pashazadeh-Azari, Z. (2015). Implicit and explicit motor learning: Application to children with Autism Spectrum Disorder (ASD). *Research in developmental disabilities, 47*, 284-296.
- Jeste, S.S., Kirkham, N., Senturk, D., Hasenstab, K., Sugar, C., Kupelian, C., ... & Paparella, T. (2015). Electrophysiological evidence of heterogeneity in visual statistical learning in young children with ASD. *Developmental science, 18*(1), 90-105.
- Jiang, Y.V., Capistrano, C.G., Esler, A.N., & Swallow, K.M. (2013). Directing attention based on incidental learning in children with autism spectrum disorder. *Neuropsychology, 27*(2), 161.
- Jurchis, R., Costea, A., Opre, A. (under review) Implicit and Explicit Learning of Socio-Emotional Information in Depression.
- Kaufman, A.S. and Kaufman, N.L. (1990) Kaufman Brief Intelligence Test (K-BIT). *Circle Pines, MN: American Guidance Service.*
- Klinger, L.G., & Dawson, G. (2001). Prototype formation in autism. *Development and Psychopathology, 13*(1), 111-124.
- Klinger, L.G. Lee, J.M., Bush, D., Klinger, M.R. and Crump, S.E. (2001) 'Implicit learning in autism: artificial grammar learning.' Presented at the *Biennial Meeting of the Society for Research in Child Development*, Minneapolis, MN, April.
- Klinger, L.G., Klinger, M.R., & Pohlig, R.L. (2007). Implicit learning impairments in autism spectrum disorders. *New developments in autism: The future is today*, 76-103.
- Kourkoulou, A., Leekam, S.R., & Findlay, J.M. (2012). Implicit learning of local context in autism spectrum disorder. *Journal of Autism and Developmental Disorders, 42*(2), 244-256.
- Kuhn, G., & Dienes, Z. (2005). Implicit learning of nonlocal musical rules: Implicitly learning more than chunks. *Journal of Experimental Psychology-Learning Memory and Cognition, 31*(6), 1417-1432.
- Lieberman, M.D. (2000). Intuition: a social cognitive neuroscience approach. *Psychological bulletin, 126*(1), 109.
- Limoges, E., Bolduc, C., Berthiaume, C., Mottron, L., & Godbout, R. (2013). Relationship between poor sleep and daytime cognitive performance in young adults with autism. *Research in developmental disabilities, 34*(4), 1322-1335.
- Livingston, L.A., & Happé, F. (2017). Conceptualising compensation in neurodevelopmental disorders: reflections from autism spectrum disorder. *Neuroscience & Biobehavioral Reviews, 80*, 729-742.

- Marco, E.J., Hinkley, L.B.N., Hill, S.S., & Nagarajan, S. S. (2011). Sensory Processing in Autism: A Review of Neurophysiologic Findings. *Pediatric research*, 69(5 Pt 2), 48R.
- Magiati, I., Tay, X.W., & Howlin, P. (2014). Cognitive, language, social and behavioural outcomes in adults with autism spectrum disorders: a systematic review of longitudinal follow-up studies in adulthood. *Clinical Psychology Review*, 34(1), 73-86.
- Mayo, J., & Eigsti, I.M. (2012). Brief report: A comparison of statistical learning in school-aged children with high functioning autism and typically developing peers. *Journal of autism and developmental disorders*, 42(11), 2476-2485.
- Mealor, A.D., & Dienes, Z. (2013). The speed of metacognition: Taking time to get to know one's structural knowledge. *Consciousness and cognition*, 22(1), 123-136.
- Mercado III, E., Church, B.A., Coutinho, M.V., Dovgopoly, A., Lopata, C.J., Toomey, J.A., & Thomeer, M.L. (2015). Heterogeneity in perceptual category learning by high functioning children with autism spectrum disorder. *Frontiers in integrative neuroscience*, 9, 42.
- Mostofsky, S.H., Goldberg, M.C., Landa, R.J., & Denckla, M.B. (2000). Evidence for a deficit in procedural learning in children and adolescents with autism: implications for cerebellar contribution. *Journal of the International Neuropsychological Society*, 6(7), 752-759.
- Müller, R.A., Cauich, C., Rubio, M.A., Mizuno, A., & Courchesne, E. (2004). Abnormal activity patterns in premotor cortex during sequence learning in autistic patients. *Biological psychiatry*, 56(5), 323-332.
- Mukaddes, N.M., Mutluer, T., Ayik, B., & Umut, A. (2017). What happens to children who move off the autism spectrum? Clinical follow-up study. *Pediatrics International*, P59(4), 416-421.
- Nemeth, D., Janacsek, K., Balogh, V., Londe, Z., Mingesz, R., Fazekas, M., ... & Vetro, A. (2010). Learning in autism: implicitly superb. *PloS one*, 5(7), e11731.
- Neumann, D., Spezio, M.L., Piven, J., & Adolphs, R. (2006). Looking you in the mouth: abnormal gaze in autism resulting from impaired top-down modulation of visual attention. *Social cognitive and affective neuroscience*, 1(3), 194-202.
- Norman, E., & Price, M.C. (2012). Social intuition as a form of implicit learning: Sequences of body movements are learned less explicitly than letter sequences. *Advances in Cognitive Psychology*, 8(2), 121-131.
- Pacton, S., Perruchet, P., Fayol, M., & Cleeremans, A. (2001). Implicit learning out of the lab: The case of orthographic regularities. *Journal of Experimental Psychology General*, 130(3), 401-426.

- Perner, J., Frith, U., Leslie, A.M., & Leekham, S. R. (1989). Exploration of the autistic child's theory of mind: knowledge, belief and communication. *Child Dev*, 60, 689±700.
- Perner, J., & Wimmer, H. (1985). John thinks that Mary thinks that ...: attribution of second-order beliefs by 5- to 10-year-old children. *J Exp Child Psychol*, 39, 437±471.
- Raab, M., & Johnson, J. G. (2008). Implicit learning as a means to intuitive decision making in sports. *Intuition in judgment and decision making*, 119-133.
- Reber, A.S. (1967). Implicit learning of artificial grammars. *Journal of verbal learning and verbal behavior*, 6(6), 855-863.
- Reber, A.S. (1989). Implicit learning and tacit knowledge. *Journal of experimental psychology: General*, 118(3), 219.
- Reber, A.S. (1993). *Implicit learning: An essay on the cognitive unconscious*. New York, NY: Oxford University Press.
- Reber, A.S., Walkenfeld, F.F., & Hernstadt, R. (1991). Implicit and explicit learning: Individual differences and IQ. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 17(5), 888.
- Riby, D.M., Doherty-Sneddon, G., & Bruce, V. (2009). The eyes or the mouth? Feature salience and unfamiliar face processing in Williams syndrome and autism. *The Quarterly Journal of Experimental Psychology*, 62(1), 189-203.
- Schuwert, T., Vuori, M., & Sodian, B. (2015). Implicit and explicit theory of mind reasoning in autism spectrum disorders: the impact of experience. *Autism*, 19(4), 459-468.
- Schipul, S.E., & Just, M.A. (2016). Diminished neural adaptation during implicit learning in autism. *Neuroimage*, 125, 332-341.
- Schipul, S.E., Williams, D.L., Keller, T.A., Minshew, N.J., & Just, M.A. (2011). Distinctive neural processes during learning in autism. *Cerebral cortex*, 22(4), 937-950.
- Segar CA (1997). Two forms of sequential implicit learning. *Consciousness and Cognition* 6, 108-131.
- Segar CA (1998). Multiple forms of implicit learning. *In Handbook of Implicit Learning* (Eds. M.A. Stadler and P.A. Frensch), pp. 295-320. Sage Publications: Thousand Oaks, CA.
- Senju, A., Southgate, V., White, S., & Frith, U. (2009). Mindblind eyes: an absence of spontaneous theory of mind in Asperger syndrome. *Science*, 325 (5942), 883-885.
- Sharer, E.A., Mostofsky, S.H., Pascual-Leone, A., & Oberman, L.M. (2016). Isolating visual and proprioceptive components of motor sequence learning in ASD. *Autism Research*, 9(5), 563-569.

- Sparaci, L., Formica, D., Lasorsa, F.R., Mazzone, L., Valeri, G., & Vicari, S. (2015). Untrivial pursuit: measuring motor procedures learning in children with autism. *Autism Research*, 8(4), 398-411.
- Sullivan, K., Zaitchik, D., & Tager-Flusberg, H. (1994). Preschoolers can attribute second-order beliefs. *Dev Psychol*, 30, 395±402.
- Travers, B.G., Kana, R.K., Klinger, L.G., Klein, C.L., & Klinger, M.R. (2015). Motor learning in individuals with autism spectrum disorder: activation in superior parietal lobule related to learning and repetitive behaviors. *Autism Research*, 8(1), 38-51.
- Travers, B.G., Klinger, M.R., Mussey, J.L., & Klinger, L.G. (2010). Motor-linked implicit learning in persons with autism spectrum disorders. *Autism Research*, 3(2), 68-77.
- Travers, B.G., Powell, P.S., Mussey, J.L., Klinger, L.G., Crisler, M.E., & Klinger, M.R. (2013). Spatial and identity cues differentially affect implicit contextual cueing in adolescents and adults with autism spectrum disorder. *Journal of autism and developmental disorders*, 43(10), 2393-2404.
- Ullman, M.T., & Pullman, M.Y. (2015). A compensatory role for declarative memory in neurodevelopmental disorders. *Neuroscience & Biobehavioral Reviews*, 51, 205-222.
- Virag, M., Janacsek, K., Balogh-Szabo, V., Chezan, J., & Nemeth, D. (2017). Procedural learning and its consolidation in autism spectrum disorder. *Ideggyogyaszati szemle*, 70(3-4), 79-87.
- Weigelt, S., Koldewyn, K., & Kanwisher, N. (2012). Face identity recognition in autism spectrum disorders: a review of behavioral studies. *Neuroscience & Biobehavioral Reviews*, 36(3), 1060-1084.
- White, S.J., Coniston, D., Rogers, R., & Frith, U. (2011). Developing the Frith-Happé animations: A quick and objective test of Theory of Mind for adults with autism. *Autism Research*, 4(2), 149-154.
- White, S.J., Frith, U., Rellecke, J., Al-Noor, Z., Gilbert, S.J., (2014). Autistic adolescents show atypical activation of the brain's mentalizing system even without a prior history of mentalizing problems. *Neuropsychologia* 56, 17-25. <http://dx.doi.org/10.1016/j.neuropsychologia.2013.12.013>.
- Zwart, F.S., Vissers, C.T.W., van der Meij, R., Kessels, R.P., & Maes, J.H. (2017). Autism: Too eager to learn? Event related potential findings of increased dependency on intentional learning in a serial reaction time task. *Autism Research*, 10(9), 1533-1543.

MECHANISMS OF PROFESSIONAL TRAINING IN GENERATING (EVEN) BETTER VETS. APPROACHES TO LEARNING AS MEDIATORS OF THE RELATIONSHIP BETWEEN DEPRESSIVE TENDENCIES AND ACADEMIC PERFORMANCE IN FEMALE VETERINARY STUDENTS

ÉVA KÁLLAY^{1*}, SEBASTIAN PINTEA¹, IONEL PAPUC²

ABSTRACT. The timely identification of learning approaches is an essential aspect in those forms of education where the capacity of understanding, permanent integration of new knowledge as opposed to rote learning is key to a successful career. Moreover, literature underscores the importance of affect in the learning processes. The major aim of our study was to test (*i*) the relationship between depressive tendencies and academic performance, and (*ii*) the mediating effect of approaches to learning (deep, strategic, and surface approach) between depressive tendencies and academic performance in veterinary students. Our study included 260 voluntary female students (mean age 20.88 years), assessed on the following levels: academic performance, depressive tendencies (Beck Depression Inventory), and approaches to studying (ASSIST). Our results indicate that depressive tendencies present a significantly negative relationship with academic performance, suggesting that female veterinary students with depressive symptoms tend to have lower academic performance. Furthermore, all three types of approaches to learning are significant predictors of academic performance: the deep and the strategic approach have a positive predictive value, while the surface approach has a negative effect. Our results also indicate that

¹ *Department of Psychology, Babes-Bolyai University, Cluj-Napoca, Romania*

² *Faculty of Veterinary Medicine, University of Agricultural Science and Veterinary Medicine Cluj-Napoca, Romania*

* *Corresponding author: evakallay@gmail.com*

strategic and surface approaches are significantly related to depressive tendencies. Finally, both strategic and surface approaches proved to function as mediators between academic performance and depressive tendencies. In other words, female students with more intense depressive tendencies favor less strategic approaches and use more surface approaches which further decreases academic performance, implicitly decreasing the level of professional development and the probability of matching with the specific needs of the labor market.

Keywords: *deep learning, strategic learning, surface learning, depressive tendencies, academic performance*

1. Introduction

The accelerated social, technological, and economic changes of the last few decades (Amundson, 2006) have significantly contributed to the reconsideration of career development and lifelong career management, as well as underlying mechanisms (Bloch, 2005; Demirel, 2009). Recently, increasingly more policy-makers and employers have expressed their concerns regarding the degree of match between the skills of their workforces and the actual needs of the labor market (World Economic Forum, 2014). The skill-mismatch, namely, the gap between the skills possessed by the employees and the actual skills that are needed to perform a specific job raises several extremely important questions. One of these questions refer to the gap between the skills with which education endows students and what is actually needed on the job. The scientific literature has identified different types of skill-mismatch, as follows: skill shortage (the demand for a particular type of skill exceeds the skills the person possesses); qualification mismatch (the level of qualification and/or the field of qualification is different from that required to perform the job adequately); over-(under-) qualification/ education (the level of qualification/education is higher (lower) than required to perform the job adequately); skill gap (the type or level of skills is different from that required to perform the job adequately); over-(under-) skilling (the level of skill is higher (lower) than required to adequately perform the job)

(Cedefop, 2010; OECD, 2011). Consequently, the quality and specificity of education becomes an extremely salient issue with both short and long-term consequences.

Thus, the adaptation to the newly formed work-conditions require the existence of specific abilities through which one can continuously acquire, update, and enhance one's knowledge-base necessary for the successful fulfillment of different work-related tasks (Kirkwood, Bond, May, McKeith, & Teh, 2010).

Traditional teaching and assessment styles mostly promote the development of passive learning habits, significantly undermining the acquisition of those learning abilities which would facilitate enduring adaptation to the newly formed work environments (Entwistle, 1997). Not surprisingly, in the last decades, the development and maintenance of high quality learning among students has become a considerable priority both for academic education and funding authorities (Byrne, Flood, & Willis, 2004; Zeegers, 2004). Educational policies have repeatedly emphasized the need for recalibrating the major educational objectives (Perry, Phillips, & Hutchinson, 2006; Boekaerts & Corno, 2005; Winne & Perry, 2000; Zimmerman, 1990), suggesting that education should focus especially on the development of those abilities that sustain in students self-regulated learning, and stimulate permanent and active engagement in significant learning processes. In this sense, research within higher education has begun to systematically investigate the factors and mechanisms that facilitate successful academic learning.

Recent research yielded that the quality of academic learning depends on a myriad of factors, which may be grouped in several major categories, as: individual student characteristics, the requirements of the disciplines(s) that are studied (e.g., type of assessment, work-load, quality of teaching, teaching objectives), characteristics of the departmental and university culture, etc. (Rowe, 2002; Ramsden, 1991). The domain that was most widely investigated was that of student characteristics. For a long time, students' intellectual abilities and previous academic achievements have been considered the best predictors of success in higher education (Gottfredson, 2002; Zeegers, 2004). However, subsequent research indicated that the measures of intelligence accounted

much less than previously presumed of the variance in academic performance (Chamorro-Premuzic & Furnham, 2004, as cited in Rogaten, Moneta, & Spada, 2013). Consequently, research started to investigate specific student learning styles, which were supposed to be strongly associated with learning outcomes. Most of the learning style models developed in time (e.g., Myers-Briggs, 1998; Felder-Silverman, 1996; Kolb, 1985) approach these abilities exclusively referred to the students' personal characteristics, without taking into consideration the crucial importance of external factors and their interaction.

Based on Marton and Saljö's (1976) original research, the alternative model based on the students' approaches to study considers learning from a more holistic point of view, as an interaction of the students' characteristics and the specificities of the educational context (Entwhistle, Tait, & McCune, 2000; Tait, Entwhistle, & McCune, 1998; Marton & Saljö, 1997; Entwistle & Tait, 1990; Entwistle & Ramsden, 1983). In other words, approaches to learning describes the way in which students, based on their attitudes towards learning and their intentions regarding the learning outcomes, respond to an academic task in a given context (Byrne et al., 2004; Diseth, 2001; Biggs, 1993). Next, we will briefly present the major tenets of this approach.

1.1. Approaches to studying

In their seminal investigations targeting the identification of individual differences in learning, Marton and Saljö (1976) found that the depth of understanding and processing an academic task was strongly determined by students' intentions towards learning prior to the actual learning process. According to these authors' observations, students select specific learning strategies in order to attain their primary goals. Marton and Saljö's (1976) original theory referred to two distinct factors: deep and surface learning. Later approaches expanded the bi-factorial model, introducing the third factor, that of strategic learning (Entwistle, Hanley, & Ratcliffe, 1979).

The *deep approach* to learning is characterized by the student's intention of understanding the material that has to be learned, associated with continuous attempts to integrate the newly processed materials with what is already known. The learning process is driven by intrinsic

motivation, being fueled by epistemic interest and the need of vocational development (Diseth, 2001; Ryan et al., 2004). Students using this kind of learning usually monitor their own understanding and progress in learning (Entwistle, McCune, & Walker, 2000), the most frequently used strategies being: establishment of relationships between ideas, search for patterns and principles, use of evidence, examining the logic of an argument (Entwistle, 2000).

Surface approach is characterized by the rote memorizing of facts, without attempting to understand the material at hand. Students using this form of learning do not usually understand the relevance of a material or the value of a course. They usually cannot integrate the newly learned information into a whole (Ryan et al., 2004). Their learning is usually driven either by the fear of failure or by the concern to complete a course or only to pass the exam. Because of their inflexible, mechanical learning, students resorting to this type of learning cannot transfer the memorized concepts to new situations and new material. The surface approach is usually associated with different forms of rote learning (Diseth, 2001). Notwithstanding, there are specific situations when the appropriately applied rote, mechanical learning of a material may become an efficient learning strategy, since it may facilitate the encoding of relevant material into memory (Ryan et al., 2004).

The *strategic approach* is usually adopted by students who aim to obtain the highest possible grades, by adapting their learning to the specific assessment demands (Byrne et al., 2004; Diseth, 2000). Such students usually have well-organized learning habits, efficient time management skills, are highly capable to monitor the effectiveness of their learning (Entwistle, 2000; Ryan et al., 2004). An important incentive in this strategy is the students' need to compete with their colleagues. Unlike deep and surface approaches, the strategic approach is not associated with specific learning strategies. Students adopting this kind of approach usually flexibly adapt their learning strategies (operation, comprehension, rote learning) in order to attain their objectives (highest grades possible) (Diseth, 2001).

Out of the three types of approaches to learning, the deep, profound one is considered as most desirable, and surface learning as the most undesirable (Rowe, 2002). From the efficiency point of view, the

deep approach is the one that assists students in achieving the most solid knowledge base that would help them transform declarative knowledge into procedural one. Highest academic achievements are usually attained when students adopt the deep strategic approach. However, it is important to emphasize that this approach, which is mostly related to academic achievement is efficient only in those cases when assessment procedures stimulate and reward personal understanding (Entwistle, 2000).

1.2. Characteristics of studying veterinary medicine

The basic education for obtaining a Doctor Veterinary Surgeon (DVM) degree in Romania lasts for 6 years. Beginning with their first semester of study, vet students are presumed to process a considerable amount of information from very diverse and complex domains (anatomy, comparative anatomy, biology, biophysics, biomathematics, chemistry, physics, histology and embryology, genetics, and so on). They have to attend both courses (predominantly teaching) and seminars (predominantly practical laboratory activities). In order to succeed in both activities, students are supposed to memorize large amounts of information during courses, and to transform declarative knowledge in procedural one during laboratory activities. In these conditions superficial learning would only be useful for short periods of time, since memorization without understanding and finding relationships with concepts would seriously jeopardize practical activities (Kogan, McConnell, & Schoenfeld-Tacher, 2005; USAMV, 2018).

1.3. Affect and academic performance

The scientific literature abounds in studies underscoring the importance played by affect in the learning processes (D'Mello & Graesser, 2012; Linnenbrink, 2007; Turner & Schallert, 2001). Positive and negative emotions experienced in the classroom, during the learning process (inside and outside school, during preparation for examinations), social emotions associated with academic performance, emotions originating from private life (family, friends) all seem to have a powerful impact on the way students learn, approach learning, and achieve (Pekrun, 2014). More specifically, the quality and intensity of affective states determines

the amount of attention assigned to a task, the motivation and involvement in learning, as well as the type of strategy selected to learn (Schutz & Pekrun, 2007). However, the bulk of investigations focused most intensely on studying students' test anxiety and considerably less on other emotions, as depression, anger, hopelessness, shame, and the entire range of positive emotions (Pekrun, Goetz, Titz, & Perry, 2002; Schutz & Pekrun, 2007). Research has repeatedly indicated that there is a significant association between depression and efficiency of learning (Ellis, Seibert, & Varner, 1995; Ellis & Ashbrook, 1988; Shapiro, Shapiro, & Schwartz, 2000), relationship influenced by the impairment of different subjacent cognitive abilities as memory, attention, speed of processing, decision making (Burt, Zembar, & Niederehe, 1995; Hubbard, Hutchison, Turner, Montroy, Bowles, & Rypma, 2016; Underwood, 2013).

Regarding the way students approach learning, research indicates that usually positive affect is strongly associated with strategic learning while negative (e.g., depressive tendencies) affect with the surface approach (Rogaten, Moneta, & Spada, 2013). Similarly, positive affect is a very good predictor of academic performance, while negative affect predicts low academic achievement (Rogaten et al., 2013).

Since negative affectivity and depressive tendencies are relatively frequent among female medical (human and veterinary) students, and higher than in the male students (Levey, 2001; Shapiro et al., 2000; Brewin & Firth-Cozens, 1997; Elliot & Girard, 1986; Firth-Cozens, 1990; Kogan et al., 2005; Rosal, Ockene, Ockene, Barrett, Ma, & Herbert, 1997), the timely identification of learning approaches is an essential aspect in those forms of education where the capacity of understanding, permanent integration of new knowledge as opposed to rote learning is key to a successful career, the major aims of our study was to test (*i*) the relationship between depressive tendencies and academic performance, (*ii*) the mediating effect of approaches to learning (deep, strategic, and surface approach) between depressive tendencies and academic performance in veterinary students.

2. METHODS

2.1. Participants

Since the overwhelming majority of students at the Veterinary Institute in Cluj-Napoca, Romania is female, and in order to have enough statistical power on a homogeneous sample, we decided to focus this study only on investigating the learning approaches and mental health of female vet students, males' learning approaches being subject of a different investigation. Consequently, we included in our study 260 voluntary female students, with an average age of 20.88 years (SD= 1.77 years).

2.2. Instruments

Academic performance was measured by the average grade obtained at the end of first semester. These values may vary from 1 to 10. The academic performance in our sample varied from 5.80 to 10, with an average of 7.65 (SD= 0.87).

Depressive tendencies were measured with the Beck Depression Inventory-II (BDI, Beck, Rush, Shaw, & Emery, 1979; Romanian adaptation David & Dobrean, 2012). The BDI is a 21-item, multiple-choice format inventory, designed to measure the presence of depression in adults and adolescents. Each of the 21 items assesses a symptom or attitude specific to depression, inquiring its somatic, cognitive, mood, and behavioral aspects. By its assessments, single scores are produced, which indicate the intensity of the depressive episode. Scores ranging from 0 to 9, represent normal levels of depression. Scores situated between 10 and 18 represent mild to moderate depression; values between 19 and 29 represent moderate to severe depression, while scores above the value of 30 represent severe depression. Internal consistency indices of the BDI are usually above .90. In our study we did not use clinical cut-off points for analysis or selection of participants, but treated depression tendencies as a continuum ranging from minimal to maximal scores obtained by participants on the BDI scale.

Approaches to studying were assessed with ASSIST (Approaches and Study Skills Inventory for Students, Tait, Entwistle, & McCune, 1998), adapted to Romanian. The ASSIST is a 52-item self-report questionnaire,

assessing the three major approaches to leaning on a 5-point Likert scale (1= disagree, 5=agree). Each of the three subscales of the ASSIST is divided in further subscales, as follows: (a) *Deep approach*: seeking meaning, relating ideas, use of evidence, and interest in ideas; (b) *Surface apathetic approach*: lack of purpose, unrelated memorizing, syllabus-boundness, and fear of failure, and (c) *Strategic approach*: organized studying, time management, alertness to assessment demands, achieving, and monitoring effectiveness. Cronbach's alpha for the three subscales are satisfactory (Deep approach = .83; Surface approach= .89; and Strategic Approach= .76).

2.3. Procedure

All students were assessed by the same investigator. After giving their written consent, they had to complete the paper-pencil set of the instruments selected to assess the target variables. The completion of a set of questionnaires (demographics, BDI and ASSIST) took around 30 minutes.

3. RESULTS

In Table 1 we presented the descriptive statistics for the main variables assessed in this study.

Table 1.
Descriptive statistics of the sample for the main variables included in the analysis

	Minimum	Maximum	Mean	Std. Deviation
Age	19	34	20.88	1.77
Academic performance	5.80	10.00	7.65	0.87
Deep approach	6	119	62.48	10.58
Strategic approach	13	108	68.20	13.40
Surface approach	9	100	42.91	10.56
Depression tendencies	0	50	9.28	7.93

Table 2 presents the correlations between depression tendencies, learning styles, and academic performance.

Table 2.

The matrix of correlation between Depression, Learning styles and objective academic performance

Measure	1	2	3	4
1. Academic performance				
2. Deep approach	.157**			
3. Strategic approach	.255**	.560**		
4. Surface approach	-.213**	-.069	-.113	
5. Depression	-.153*	-.005	-.223**	.377**

* Statistically significant at $p < 0.05$, **Statistically significant at $p < 0.01$, $N = 260$

As it can be noticed, depression tendencies are negatively correlated with academic performance (with a small to moderate effect size), and also correlated with two of the learning styles measured (negative low to moderate correlation with strategic approach and moderate positive correlation with surface approach). Also, the same two strategies are related to academic performance (positively with strategic approach and negatively with surface approach). In other words, conditions are satisfied for testing the mediation role of those two learning approaches (strategic and surface) between depression tendencies and academic performance.

Strategic Approach as a mediator

In Figure 1 we present the mediation diagram of the relationship between Depression and Objective Academic Performance, mediated by Strategic Approach.

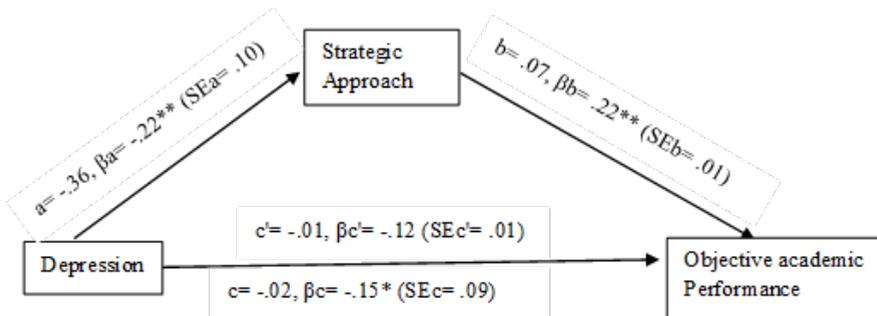


Figure 1. The diagram for the mediation of Strategic Approach between Depression and Objective Academic Performance ($N = 260$ female students)

As Figure 1 shows, there is a significant but small total effect of Depression upon Objective Academic Performance ($\beta c = -.15, p = .031$). When controlling for the mediator, the predictor has no significant direct effect ($\beta c' = -.12, p = .094$). The mediation effect ($c - c' = a * b$) proved to be statistically significant according to the Sobel test ($Z = -3.20, p = .001$). The proportional effect size of the mediation effect, computed as $[(c - c') * 100] / c$ according to MacKinnon (2008) indicates that 20% of the total relation between Depression and Academic Performance is mediated by Strategic Approach.

Surface approach as a mediator

In Figure 2 we present the mediation diagram of the relationship between Depression and Objective Academic Performance, mediated by Surface Approach.

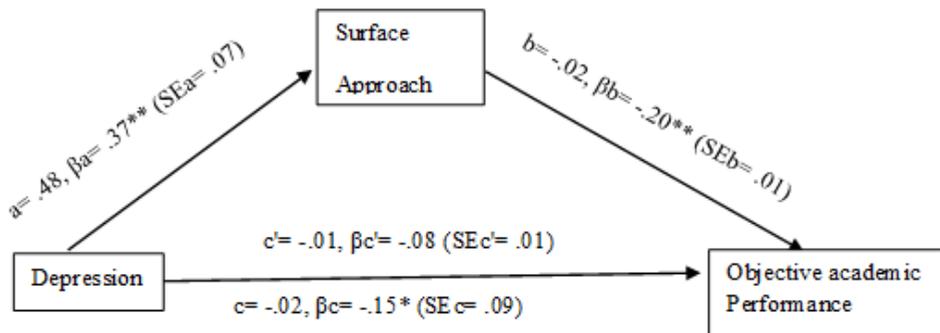


Figure 2. The diagram for the mediation of Surface Approach between Depression and Objective Academic Performance (N= 260 female students)

As figure 2 shows, when controlling for the mediator, the predictor has no significant direct effect ($\beta c' = -.08, p = .303$). The mediation effect ($c - c' = a * b$) proved to be marginally significant according to the Sobel test ($Z = -1.92, p = .054$). The proportional effect size of the mediation effect (MacKinnon, 2008) indicates that 46% of the total relation between Depression and upon Academic Performance is mediated by Surface Approach.

4. DISCUSSIONS AND CONCLUSIONS

As presented in the introductory part of this paper, there is a perceived mismatch between the skills of workforce and the actual needs of the labor market, namely, a gap between the skills education endows students with and the real need on the job. Consequently, the quality and specificity of education becomes an extremely salient issue with both short and long-term consequences (Cedefop, 2010; OECD, 2011). In this regard, one of the major issues refers to the way students approach studying. More specifically, the problem resides in the possibility that some students use deep learning, thus enhancing the chance to process information in depth, while others resume to surface learning, by which they prefer rote learning, thus memorizing information for a short period of time (usually for examination), and neglecting to deepen their knowledge base (Entwistle et al., 2000; Ryan et al., 2004). Moreover, literature indicates that there is an empirically based association between approaches to learning and affective states, thus the academic performance of students and implicitly professional formation depends upon intrapersonal factors (D'Mello & Graesser, 2012; Linnenbrink, 2007; Turner & Schallert, 2001).

Closing in these questions to the specific case of medical and veterinary students, they are presumed to process a considerable amount of information from very diverse and complex domains (Rogaten et al., 2013). In order to succeed in both activities, students are supposed to memorize huge amounts of information, and to transform declarative knowledge in procedural one. In these conditions superficial learning would only be useful for short periods of time, since memorization without understanding and finding relationships with concepts would seriously jeopardize practical activities. In this context, clarifying the relationship of affective life with approaches to learning, as well as academic performance and professional development, becomes a topic of great relevance.

The main objectives of our study were to test: (i) the relationship between depressive tendencies and academic performance, and (ii) the mediating effect of approaches to learning (deep, strategic, and surface approach) between depressive tendencies and academic performance in veterinary students.

Our results indicate that depressive tendencies present a significantly negative relationship with academic performance which confirms

previous findings (e.g., Rogaten et al., 2013), suggesting that female veterinary students who experience negative affectivity from the depressive spectrum tend to have lower academic performances. Furthermore, we found that all three types of approaches to learning are significant predictors of academic performance. More specifically, the deep and the strategic approach have a positive predictive value, while surface approach has a negative effect. Regarding the relationship between approaches to learning and affect, our results indicate that strategic and surface approaches are significantly related to depressive tendencies. Finally, both strategic and surface approaches proved to function as mediators between academic performance and depressive tendencies. In other words, female students with more intense depressive tendencies favor less strategic approaches and use more surface approach which further decreases academic performance, which implicitly decreases the level of professional development and matching with the specific needs of the labor market (Kogan, McConnell, & Schoenfeld-Tacher, 2005).

We would like to reiterate the idea that this kind of investigations concentrate on elucidating the mechanisms subjacent the academic learning process, and implicitly on the enhancement of the match between the developed skills and the actual needs of the labor market. In this context, our results suggest several practical directions to follow in the process of generating better veterinary professionals. First of all, in this process, the focus should be moved from the one exclusively technical (specific contents, knowledge, competencies) toward the mechanisms behind professional training such as the affective and the in-depth cognitive dimensions. Thus, at a more general level, affective states and traits, depressive tendencies of veterinary students should be identified and interventions should be implemented to reduce maladaptive tendencies where inappropriate levels of functioning might interfere with professional training. Also, approaches to studying should be measured, and based upon the proportion of cases with rather dysfunctional approaches, programs should be conceived and implemented in order to stimulate or develop deep and strategic approaches and discourage surface approaches.

One of the major limitations of our investigation is that it is cross sectional correlational study which can prove direct or mediational relationships only in a statistical sense, without establishing causality. Nevertheless, the direction of established relationships derived from this investigation may be used in further experimental or longitudinal studies, which enables researchers to obtain the proof for the temporal succession of the assessed variables. Another limitation of this study refers to the fact that our sample is exclusively formed of female participants, which is based on the fact that the proportion of male and female students at the Veterinary University in Cluj is mainly inclined towards female students. Consequently, further studies should include a corresponding number of both male and female students, which would allow a comparative analysis between male and female participants in order to detect whether gender can moderate the relationships yielded by us. Furthermore, we consider that future studies could include in the mediating models other variables, complementary to the learning approaches assessed by us, as well as expand the investigation to other faculties/specialties, also including a cross-cultural perspective.

REFERENCES

- Amundson, N. (2006). Challenges for career interventions in changing contexts. *International Journal for Educational and Vocational Guidance*, 6, 3–14.
- Beatty, L., Gibbs, G., & Morgan, A. (1997). Learning orientations and study contracts. In F. Marton, D. Hounsell, & N.J. Entwistle (Eds.), *The experience of learning: Implications for teaching and studying in higher education* (pp. 72-85). Edinburgh: Scottish Academic Press.
- Beck, A.T., Rush, A.J., Shaw, B.F., & Emery, G. (1979). *Cognitive therapy of depression*. New York: The Guilford Press.
- Biggs, J. (1987). *Student approaches to learning and studying*. Hawthorn, VIC: Australian Council for Educational Research.
- Biggs, J. (1993). What do inventories of students' learning processes really measure? A theoretical review and clarification. *British Journal of Educational Psychology* 63(1), 3-19.

- Bloch, D.P. (2005). Complexity, chaos, and nonlinear dynamics: A new perspective on career development theory. *The Career Development Quarterly*, 53, 194–207.
- Boekaerts, M., & Corno, L. (2005). Self-regulation in the classroom: A perspective on assessment and intervention. *Applied Psychology: An International Review*, 54(2), 199-231.
- Brewin, C.R., & Firth-Cozens, J. (1997). Dependency and self-criticism as predictors of depression in young doctors. *Journal of Occupational Health Psychology*, 2, 242–246.
- Burt, D.B., Zembar, M.J., & Niederehe, G. (1995). Depression and memory impairment: a meta-analysis of the association, its pattern, and specificity. *Psychological Bulletin*, 117(2), 285-305.
- Byrne, M., Flood, B., & Willis, P. (2004). Validation of the Approaches and Study Skills Inventory for Students (ASSIST) using accounting students in the USA and Ireland: a research note. *Accounting Education*, 13(4), 449-459.
- Cedefop (2010). *Validation of non-formal and informal learning*. European Centre for the Development of Vocational Training. Retrieved 24 February, 2018.
- Chamorro-Premuzic, T., & Furnham, A. (2004). A possible model for understanding the personality-intelligence model. *British Journal of Psychology*, 95(2), 249-264.
- D'Mello, S.K., & Graesser, A. C. (2012). Dynamics of affective states during complex learning. *Learning and Instruction*, 22, 145-157.
- David, D., & Dobrean, A. (2012). *Inventarul de Depresie Beck - (BDI - II)*. Romanian Psychological Testing Services.
- Diseth, Å. (2001). Validation of a Norwegian version of the Approaches and Study Skills Inventory for students (ASSIST): application of structural equation modeling. *Scandinavian Journal of Educational Research*, 45(4), 381-394.
- Elliot, D.L., & Girard, D.E. (1986). Gender and the emotional impact of internship. *Journal of the American Medical Women's Association* 4, 54–56.
- Ellis, H.C., & Ashbrook, P.W. (1988). Resource allocation model of the effects of depressed mood states on memory. In K. Fiedler & J. Forgas (Eds.), *Affect, cognition, and social behavior: New evidence and integrative attempts* (pp. 25-43). Toronto: C. J. Hogrefe.
- Ellis, H., Seibert, P., & Varner, L. (1995). Emotion and memory: Effects of mood states on immediate and unexpected delayed recall. *Journal of Social Behavior and Personality*, 10, 349-362.

- Entwhistle, N. (2000). *Promoting deep learning through teaching and assessment: conceptual frameworks and educational context*. Paper presented at the TLRP Conference, Leicester.
- Entwhistle, N., & Ramsden, P. (1983). *Understanding student learning*. London: Croom Helm.
- Entwhistle, N., & Tait, H. (1990). Approaches to learning, evaluations of teaching, and preferences for contrasting academic environments. *Higher Education, 19*, 169–194.
- Entwhistle, N., McCune, V., & Walker, P. (2000). Conceptions, styles, and approaches within higher education: analytic abstractions and everyday experience. In R.J. Sternberg & L-F. Zhang (Eds.), *Perspectives on cognitive, learning and thinking styles*. Mahwah, N.J.: Lawrence Erlbaum (in press).
- Entwhistle, N., Tait, H., & McCune, V. (2000). Patterns of response to approaches to studying inventory across contrasting groups and contexts. *European Journal of Psychological Education, 15*, 33–48.
- Entwhistle, N. (1997). Contrasting perspectives on learning. In F. Marton, D. Hounsell, & N.J. Entwistle (Eds.), *The experience of learning: Implications for teaching and studying in higher education* (pp. 3-22). Edinburgh: Scottish Academic Press.
- Entwhistle, N., Hanley, M., & Ratcliffe, G. (1979). Approaches to learning and levels of understanding. *British Educational Research Journal, 5*(1), 99-114.
- Felder, R.M. (1996). Matters of style. *ASEE Prism, 6*(4), 18-23.
- Firth-Cozens, J. (1990). Sources of stress in women junior house officers. *British Medical Journal, 301*, 89–91.
- Gottfredson, L.S. (2002). Where and why g matters: Not a mystery. *Human performance, 15*(1-2), 25-46.
- Hubbard, N.A., Hutchison, J.L., Turner, M., Montroy, J., Bowles, R.P., & Rypma, B. (2016). Depressive thoughts limit working memory capacity in dysphoria. *Cognition and Emotion, 30*(2), 193-209.
- Keefe, J.W. (1979). *Learning style: An overview*. In *NASSP's Student Learning Styles: Diagnosing and Prescribing Programs* (pp. 1-17). Reston, VA: National Association of Secondary Schools.
- Kirkwood, T., Bond, J., May, C., McKeith, I., & Teh, M.-M. (2010). Mental capital and wellbeing through life: future challenges. In C. L. Cooper, J. Field, U. Goswami, R. Jenkins, & B.J. Sahakian (Eds.), *Mental capital and well-being* (pp. 3-53). Chichester: Wiley-Blackwell Publishing.
- Kogan, L.R., McConnell, S.L., & Schoenfeld-Tacher, R. (2005). Veterinary students and non-academic stressors. *Journal of Veterinary Medical Education, 32*(2), 192-200.

- Kolb, D.A. (1985). *Learning Style Inventory* (LSI). Boston: McBer & Co.
- Levey R.E. (2001). Sources of stress for residents and recommendations for programs to assist them. *Academic Medicine*, 76, 142–150.
- Linnenbrink, E.A. (2007). The role of affect in student learning: A multi-dimensional approach to considering the interaction of affect, motivation, and engagement. In P. Schutz & R. Pekrun (Eds.), *Emotion in education* (pp. 107-124). San Diego, CA: Academic Press.
- MacKinnon, D.P. (2008). *Multivariate applications series. Introduction to statistical mediation analysis*. New York, NY: Taylor & Francis Group/Lawrence Erlbaum Associates.
- Marton, F., & Saljö, R. (1976). On qualitative differences in learning: I-Outcome and processes. *British Journal of Educational Psychology*, 46, 4-11.
- Marton, F., & Saljö, R. (1997). Approaches to Learning. In F. Marton, D. Hounsell, N. Entwistle (Eds.), *The experience of learning* (pp. 39–58). Edinburgh: Scottish Academic Press.
- Myers, I.B., McCaulley, M.H., Quenck, N., & Hammer, A. (1998). *MBTI manual: A guide to the development and use of the Myers-Briggs Type Indicator* (3rd Edition). Palo Alto, CA: Consulting Psychologists Press.
- OECD (2011). *Education at Glance*. OECD Indicators. OECD Publishing. <http://dx.doi.org/10.1787/eag-2011-en>
- Pekrun, R. (2014). *Emotions and Learning*. International Academy of Education.
- Pekrun, R., Goetz, T., Titz, W., & Perry, R.P. (2002). Academic emotions in students' self-regulated learning and achievement: A program of quantitative and qualitative research. *Educational Psychologist*, 37, 91-106.
- Perry, N.E., Phillips, L., & Hutchinson, L.R. (2006). Preparing student teachers to support for self-regulated learning. *Elementary School Journal*, 106, 237-254.
- Ramsden, P. (1991). A performance indicator of teaching quality in higher education: The Course Experience Questionnaire. *Studies in Higher Education*, 16, 129-149.
- Richardson, J.T.E. (2000). *Researching Student Learning: Approaches to Studying in Campus-based and Distance Education*. Buckingham: The Society for Research in Higher Education.
- Rogaten, J., Moneta, G.B., & Spada, M.M. (2013). Academic performance as a function of approaches to studying and affect in studying. *Journal of Happiness Studies*, 14(6), 1751-1763.
- Rosal, J.C., Ockene, I.S., Ockene, J.K., Barrett, S.V., Ma, Y., & Herbert, J.R. (1997) A longitudinal study of students' depression at one medical school. *Academic Medicine* 72, 542–546.

- Rowe, J.W.K. (2002). First year engineering students' approaches to study. *International Journal of Electrical Engineering Education*, 39(3), 201-209.
- Ryan, M.T., Irwin, J.A., Bannon, F.J., Mulholland, C.W., & Baird, A.W. (2004). Observations of veterinary medicine students' approaches to study in pre-clinical years. *European Veterinary Education: Structuring Future Development*, 31(3), 242-254.
- Schutz, P.A., & Pekrun, R. (Eds.). (2007). *Emotion in education*. San Diego, CA: Academic Press.
- Shapiro, S.L., Shapiro, D.E., & Schwartz, G.E.R. (2000). Stress management in medical education: A review of the literature. *Academic Medicine*, 75, 748-759.
- Shelton, D.J., & Kirwan, C.B. (2013). A possible negative influence of depression on the ability to overcome memory interference. *Behavioral Brain Research*, 256, 20-26.
- Tait, H., Entwistle, N., & McCune V. (1998). ASSIST: A re-conceptualization of the Approaches to Studying Inventory. In C. Rust (Ed.). *Improving Student Learning: Improving Students as Learners* (pp. 262-271). Oxford: Oxford Centre for Staff and Learning Development.
- Turner, J.E., & Schallert, D.L. (2001). Expectancy-value relationships of shame reactions and shame resiliency. *Journal of Educational Psychology*, 93, 320-329.
- Underwood, G. (2013). *Attention and memory*. Elsevier.
- USAMV (2018). <http://fmv.usamvcluj.ro/> retrieved 28th of September, 2018.
- Weehuizen, R.M. (2008). *Mental capital. The economic significance of mental health*. Maastricht: Universitaire Pers Maastricht.
- Winne, P.H. & Perry, N.E. (2000). Measuring self-regulated learning. In P. Pintrich, M. Boekaerts, & M. Seidner (Eds.), *Handbook of self-regulation* (p. 531-566). Orlando, FL: Academic Press.
- Zeegers, P. (2004). Student learning in higher education: A path analysis of academic achievement in science. *Higher Education Research & Development*, 23(1), 35-56.
- Zimmerman, B.J. (1990). Self-regulated learning and academic achievement: An overview. *Educational Psychologist*, 25, 3-17.

ROMANIA'S CULTURAL PROFILE AND RECENT SOCIO-ECONOMIC CHANGES: IMPLICATIONS FOR PARENTAL BELIEFS AND PRACTICES

IONUȚ MONE^{1*}, OANA BENGA¹

ABSTRACT. In the present review our first aim is to analyze the Romanian culture and the way it is related to prevalent parental beliefs and practices. Our second aim is to explore how recent socio-economic changes that have taken place in the country are associated with changes in the Romanian culture and prevalent parental beliefs and practices. To this end, we will firstly analyze the Romanian culture starting from Hofstede's cultural dimensions. Afterwards, we will discuss the implications of this analysis for prevalent parental beliefs and practices. Next, we will review extant studies that focus on the Romanian culture, socio-economic changes and parental beliefs and practices, so as to see if they suggest that recent socio-economic changes are associated with the modification of the Romanian culture and prevalent parental beliefs and practices.

Keywords: *Romanian culture; parental beliefs; cultural change*

1. Introduction

In the present review, we will focus on the Romanian culture and the way it is related to parental beliefs and practices of parents from Romania. We will also review current evidence regarding the impact of recent socio-economic changes that have taken place in the country, to

¹ *Developmental Psychology Laboratory, Department of Psychology, Babeș-Bolyai University, Cluj-Napoca, 37 Republicii Str., Cluj-Napoca, CJ 400015, Romania.*

* *Corresponding author: E-mail: ionutmone@psychology.ro*

investigate whether they are associated with changes in cultural orientations, as well as in prevalent parental beliefs and practices. Such an endeavor is significant, given the very few reviews that integrate research dedicated to the association between culture and parenting beliefs and practices, in the case of East-European countries, and in particular Romania. Also, the present review fills an important gap in existing knowledge about cultural changes in the case of countries that are transitioning, both socially and economically. In this review, by countries exposed to social and economic transitions we refer to countries that are transitioning towards democracy, higher levels of formal education and wealth, market economy, urbanization and globalization (Greenfield, 2018).

In the first part of the paper, we will discuss the Romanian culture by focusing on Hofstede, Hofstede and Minkov's (2010) cultural dimensions. Based on these cultural dimensions, we will consider the potential impact of the Romanian culture on prevalent parental beliefs and practices. In the second part, we will review existing studies that will aid us in elucidating how the socio-economic changes that Romania has been exposed to are associated with changes in the Romanian culture and prevalent parenting beliefs and practices.

2. Conceptualization of culture

Culture is a concept that is very difficult to define. Consequently, there are many definitions and conceptualizations of culture (Triandis, 2007). Yet, most theories concur in postulating that culture refers to a shared system of meanings (i.e., abstract values, beliefs or norms; e.g., Greenfield, 2018; Hofstede, 2011; Keller, 2018; Keller & Kartner, 2013; Markus & Kitayama, 1991; Triandis, 1996), practices, and artefacts. These symbols, practices, and artefacts are generated and implemented through social interactions, as well as interactions with the environment, while they are also inter-generationally transmitted (Keller & Kartner, 2013). Most theoretical models of culture also maintain that the shared systems of meaning have a central and guiding role in influencing how members of a culture think, act, and feel (Berry & Poortinga, 2006; Solomon & Glenberg, 2014). It is important to underline the fact that culture

is neither stable, nor transmitted “as it is” across generations, since it suffers modifications due to changes in the ecocultural environment, interactions with other cultures or innovations (Georgas et al., 2006).

In this review, we will adopt a theory of culture that is based on the ecological framework, which states that culture is an adaptation to the ecological context in which a community functions (Dong, Talhelm, & Ren, 2018; Keller, 2018; Keller & Kartner, 2013). As such, we define culture as a community that has a shared system of symbols, practices, and artefacts, in the virtue of a common socio-demographic profile (Keller, Borke, Chaudhary, Lamm, & Kleis, 2010). We define a community by its shared socio-demographic profile, and we view it as the basis of the values, practices, and artefacts people share, because we start from the assumption that culture is an adaptation to the context we live in; therefore, as a function of the socio-demographic profile, certain beliefs, practices, and artefacts are adaptive and others are not. In this sense, in rural communities with a low level of economic development and education, where subsistence agriculture is the main means of survival, people develop a focus on heteronomy or obedience and harmonious interaction, because these values and the practices associated with them are essential for survival (Greenfield, 2018). For example, Fonseca, Cavalcante, Kartner, and Koster(2018) studied agricultural communities in the Amazon region, near the city of Belem, and showed that there was a focus on heteronomy and relatedness in such cultural niches, since every individual's contribution to the tasks of the community was essential for survival. In these types of communities, the economic value of children is very important (i.e., the importance of children for the economic survival of the family and for the survival of parents at old-age; Kagitcibasi, 2017; Kagitcibasi & Ataca, 2016; Sam, Peltzer, & Mayer, 2005). In urban contexts from Western societies, where there is a high level of education and economic development, individuals do not depend on their community for livelihood, and the economic value of children is not very important. The school and work contexts in these communities are promoting and rewarding uniqueness, autonomy, creativity, and the ability to interact with new people. Starting from these descriptions, it is evident that a focus on heteronomy and relatedness is not adaptive in such contexts; instead, a focus on being autonomous, separate, and distinct from others,

as well as capable to adapt to novel social situations is more important (Kagitcibasi, 2017; Keller, 2013).

Starting from this ecological framework, in the present paper we will firstly focus on Romania's culture and the possible impact it might have on parenting beliefs and practices. Secondly, we will focus on how the recent social, economic, and political changes that the country has been through since the fall of communism have affected its culture, and the prevalent parenting beliefs and practices, respectively (Mone, Benga, & Susa, 2014). Culture is considered an adaptation to the eco-social context from the standpoint of the ecological framework. Hence, we assume that the recent socio-economic changes that Romania has gone through have influenced the Romanian culture as well as prevalent parental beliefs and practices, increasing their fit with and adaptability to the new socio-economic context.

3. Cultural dimensions, parental beliefs, and parental practices: The Romanian case

In the first step, we will use the cultural dimensions defined by Hofstede and colleagues (2010) to analyze the Romanian culture. We will also explore what predictions can be made regarding prevalent parental beliefs and practices based on this analysis of Romanian culture. Hofstede and colleagues (2010) assume that cultural change is produced on an extended time-frame, thus their predictions regarding prevalent parental beliefs and practices in Romania do not take into consideration recent social and economic developments. Hofstede et al.'s (2010) cultural dimensions are society level factors that are associated with variations in prevalent cultural norms between societies. These variations in cultural norms arose from differences in ecocultural contexts and histories of the different cultures (e.g., the influence of Confucianism on the development of Chinese national culture; Hofstede et al., 2010) but they govern how the different institutions and social structures are constructed in the present. The cultural dimensions on which the cultures of different societies vary are: Power Distance, Individualism - Collectivism, Masculinity - Femininity, Avoidance of Uncertainty, Short-Term - Long-Term

Orientation and Indulgence - Restraint (Hofstede et al., 2010). Power Distance refers to the degree to which individuals with less power from a society accept inequalities regarding how power is distributed and consider that these inequalities are unavoidable (Hofstede, 2011; Hofstede et al., 2010). Regarding the definition of Individualism - Collectivism, Individualism refers to the preference for a diffuse social network in which individuals focus on taking care of themselves and their family. Collectivism is conceptualized as referring to a compact social network in which individuals, in exchange for loyalty, expect that the other members of the in-group will take care of them (Hofstede et al., 2010). Masculinity - Femininity refers to the degree to which gender roles overlap in a society. In Masculine cultures or societies, there is a focus on success, challenge, competition, advancement, earning, being recognized and there is a clear delineation between gender roles (Ljunge, 2016). A Feminine society is one in there is a focus on cooperation, modesty, consensus, relationships and quality of life and in which gender roles overlap. Both men and women should be tender, modest and concerned with the quality of life (Hofstede et al., 2010). Uncertainty Avoidance refers to the degree to which individuals from a culture or society feel uncomfortable with uncertainty, ambiguity, and unpredictability (Hofstede & McCrae, 2004). Long-Term Orientation - Short-Term Orientation refers to the degree to which values oriented towards achieving future goals and attaining future rewards are encouraged in a culture (Hofstede, 1991; Hofstede et al., 2010). In Long-Term cultures, we can observe that values like perseverance and thrift are promoted because they are oriented towards future rewards. In Short-Term cultures, we can observe that values like preservation of face, respect for tradition and fulfilling social obligations (e.g., returning favors) are promoted. Indulgence -Restraint refers to the degree to which a culture allows gratification of basic and natural human desires (Hofstede et al., 2010). In a culture characterized by Indulgence we can observe a tendency to allow free gratification of these basic human desires related to enjoying life and having fun. In cultures characterized by Restraint we can observe the fact that there is a belief that the satisfaction of these needs has to be curbed and regulated by rigid social norms. The countries that have been included in studies of Hofstede et al., (2010) have a score ranging from 0 to 100 on each of the dimensions.

The higher the score, the higher the country is positioned on the respective dimension.

In the following we will present Romania's standing on each of the six dimensions and discuss how this might impact parenting beliefs and behaviors. Romania's scores on the six dimensions were taken from Hofstede and colleagues (2010). Regarding Hofstede's et al. (2010) Power Distance dimension, Romania has a score of 90, signifying that it is a country with a high Power Distance, in which individuals accept power inequalities and hierarchies. In these types of cultures, subordinates think that it is normal to be told what to do and expect their leader to behave as an autocrat, while centralization of institutions is popular (Hofstede et al., 2010). In cultures with high Power Distance like Romania, as compared to cultures with low Power Distance, there is a focus on child obedience, on family hierarchy, and on the power difference in the mother-child relationship (Dermuth, 2013; Shearman & Dumlao, 2008; Scwhab, 2013). Hofstede et al (2010) also states that in high Power Distance cultures, children are socialized to be obedient and respectful to those that are higher in the hierarchy (oftentimes status is associated with age) and decision-making in the family is done by those higher in the hierarchy (i.e., parents; Oetzel et al., 2003). In the case of these cultures, independence and exploration on the part of the child is not encouraged (Oetzel et al., 2008).

On the Individualism-Collectivism dimension, Romania has a score of 30, thus being considered a Collectivistic culture, with high interdependence between members. This can be seen in a prevalence of extended families, long commitment of individuals and emotional investment in groups to which they belong (Hofstede et al., 2010; Mone et al., 2014). In this type of culture, the group also accentuates the fact that all members are responsible for each other. Based on Romania's standing on this dimension, we would expect that parents would value the development of abilities that facilitate harmonious interpersonal interactions (e.g., cooperation, empathy, self-effacing behaviors) and obedience (Hofstede et al., 2010; Keller, 2018; Minkov et al., 2018). Regarding valued parental practices, we would expect that parents from Romania value parental practices through which one promotes obedience (e.g., punishing

the child for disobedience, not offering explanations for requests), interpersonal harmony, and relatedness (e.g., encouraging cooperativeness and self-effacing behaviors; Kagitcibasi, 2017; Majdandzic, 2017).

Regarding Masculinity-Femininity, Romania has a score of 42, suggesting that it is a Feminine society with a lower discrepancy between gender roles with both genders focusing on quality of life and interrelatedness (Hofstede et al., 2010). In a Feminine culture, we would expect to see the fact that there are smaller differences between how boys and girls are socialized. More specifically, we would expect that in the case of both boys and girls, parents will value and promote modesty, non-aggressiveness, expressing one's emotion, developing a focus on relationships and interrelatedness. We would also expect to see that caring for children and earning money is equally distributed between parents. As we shall see when discussing the impact of socio-economical change on the Romanian culture, there are studies that contradict this contention by showing that there is greater inequality between gender roles (Friedlmeier & Gavreliuc, 2013).

Regarding Uncertainty Avoidance, Romania has a score of 90 and is thus a high Uncertainty Avoidant culture, in which new ideas and behaviors are avoided, and there are strict, rigid codes of conduct and beliefs (Hofstede et al., 2010). Individuals in these cultures have a need for security, rules, predictability, punctuality, while innovation is discouraged. Hofstede et al (2010) claim that in high Uncertainty Avoidance cultures there is a stronger system of rules and norms in the family and children are more likely to experience guilt. Children are also protected from experiencing unknown situations and are more likely to develop the belief that the world is hostile and novel and unknown situations are risky. In high Uncertainty Avoidance cultures, parents as well as children express emotions, both positive and negative, with a greater intensity (Dwairy & Achoui, 2006).

Regarding Long-Term Orientation, Romania has a score of 52, which suggests it is intermediate in this respect, neither being a Long-Term orientated culture, neither a Short-Term oriented culture. As regarding the influence of this dimension on family functioning, Hofstede et al. (2010) states that, in families from Long-Term orientation cultures, there is a focus on socializing delay of gratification, thrift, determination

in pursuing goals and humility, while self-assertion is not encouraged. In the case of families from Short-Term orientation cultures, there is a focus on socializing children to respect traditions, to be stable individuals, to respect social rituals (e.g., reciprocating favors, greetings or gifts), to immediately gratify needs, to spend and be sensitive to social trends of consumption. Taking into consideration that Romania has a score that doesn't allow us to categorize it as being a Long-Term or Short-Term culture, we might expect that there is a mix of characteristics pertaining to both a Long-Term and a Short-Term culture, when we look at parenting practices and beliefs.

Regarding Indulgence, Romania has a score of 20, suggesting that it is a culture of Restraint, in which there isn't a focus on leisure time and hedonism, but on the control of the gratification of desires and on the fact that indulging oneself is wrong. In these types of cultures, there is also a high frequency of pessimism and cynicism (Hofstede et al., 2010). This is the most recently added dimension and as such its association with parenting beliefs and behaviors is not yet determined. What is established is the fact that restraint cultures are tight cultures (i.e., many strong norms and low tolerance for deviant behavior, Gelfand et al., 2011) in which individuals have an external locus of control and feel they do not control what happens to them. In these cultures, there is a lower importance of leisure and having friends and a higher importance of thrift. Individuals from these cultures have a lower satisfaction with life, manifest high social cynicism, are more frequently neurotic, have high moral discipline, and are more frequently pessimistic. They also are more likely to accept strictly prescribed gender norms and unequal sharing of household chores with partners (Hofstede et al., 2010). Based on this description, we would expect that parents would value and encourage the development of obedience, thrift, discipline, and self-control.

From what we discussed, starting from Hofstede and colleagues' (2010) model, we can expect that in Romanian families there would be a focus on hierarchy, with strict, rigid rules and a focus on child's obedience and conformism. We would also expect a focus on the development of thrift, respect towards elders, relatedness, humbleness, self-control, and delay of gratification in the case of the child. Another expectation would be that girls and boys are socialized in similar ways. We would

also expect children to be taught to avoid unknown, risky situations and to develop a need for predictability. Another expectation would be that children would develop a high level of social cynicism.

As we stated before Hofstede et al (2010) conclude that cultural changes take place on an extended time-frame, and, as such, they do not take into consideration recent social, economic, and political changes that have taken place in Romania, when predicting prevalent parental beliefs and practices. Romania has gone through major social and economic transitions since the fall of communism in December 1989, with shifts towards democracy, market economy, urbanization, and globalization (Friedlmeier & Gavreliuc, 2013; Mihai & Butiu, 2012; Mone et al., 2014). In concordance with these economic, social, and political transitions, we observe that the educational level of parents has increased, the fertility rate has started to decline, the age at first birth has started to increase, the number of children has started to decrease, and the nuclear family has become more frequent (Mureşan, Hărăguş, Hărăguş, & Schroder, 2008). There is also a higher focus on child's education and general well-being (Negovan, Glăveanu, & Stănculescu, 2016). Despite Hofstede et al.'s (2010) predictions, this might have produced shifts in the structure of the Romanian culture and prevalent socialization patterns. In the following, we will review theoretical models that are based on the ecological framework and that have divergent predictions from those of Hofstede et al.'s (2010) regarding how these social, economic, and political changes have affected the Romanian culture. We will also review studies whose results will offer hints regarding the nature and presence of an effect of recent social, economic, and political changes on the Romanian culture and prevalent parental beliefs and practices.

4. Influence of socio-economic changes on the Romanian culture and on prevalent parenting beliefs and practices

There are two models in the literature that make different claims about how socio-economic development impacts a society's culture and prevalent parenting beliefs and practices. One of the models is that of family change, developed by Kagitcibasi (1985, 1990, 2017), which fo-

cuses on the influence of ecocultural context and culture on human development. Kagitcibasi (2017) identifies socio-economic development of a community as the major factor that influences the structure of its culture, parenting beliefs, and practices. The model starts from the culture (i.e., individualistic or collectivistic) that a community has and the living conditions of the community (e.g., urban or rural environment, socio-economical profile of the community, level of affluence). The culture of a community and the living conditions influence how the family is structured. The family structure is defined by characteristics such as fertility, household patterns (e.g., nuclear or extended families), women's status or economical responsibilities of family members. Culture, living conditions, and family structure influence what are the values that guide the family, how family interactions are structured and what are the prevalent socialization patterns (Georgas, Berry, van de Vijver, Kagitcibasi, & Poortinga, 2006). Family values, interactions and socialization patterns then influence the type of self and self-other interactions that the child will have, and this ultimately feeds back and influences not only how future families will be structured, but also how the culture and context in which a family lives will be structured (Kagitcibasi, 2005, 2017).

Kagitcibasi (2017) states that self-construals of individuals can vary on two orthogonal or independent dimensions: agency and interpersonal distance. The first dimension, agency, refers to the degree of autonomous functioning of the individual and varies from autonomy to heteronomy. Autonomy refers to defining oneself as being an individual that acts upon one's own will, purposes and motivations. Heteronomy refers to defining oneself as being an individual that is governed from the outside, acting based on social pressure and norms (Kagitcibasi, 2013). Interpersonal distance refers to the degree of distance between self and others and can vary from separateness to relatedness. At one end of the continuum, we have the separate self, who is defined as being distinct and separate from others. At the other end of the continuum, we have the related self which is connected to others and defined as a function of the relationships in which it is included.

Kagitcibasi focuses on three types of selves and their associated cultures, living conditions, and family models. A first family model described by Kagitcibasi (2017) is the model of interdependence, which

leads to the development of a heteronomous related self. We observe the interdependent model in rural communities with low educational and economic development, whose survival is based on subsistence agriculture. These communities have a collectivistic culture that is focused on relatedness. In these types of cultures and living conditions, the most frequent type of family structures are extended family structures, in which there is high fertility (i.e., high number of children), low status of women, and a lower age at first birth (Greenfield, 2018; Kagitcibasi, 2005). In this type of community, there is a focus on obedience and social harmony, and children have economical values (i.e., they will help parents at old age and they have a contribution to the family economy and survival; Trommsdorff, Kim, & Nauck, 2005). There is also emotional/psychological interdependence between members of the family (i.e., low interpersonal distance with overlapping selves; Kagitcibasi & Ataca, 2015)

A second family model identified by Kagitcibasi (2017) is the model of independence, which leads to the development of an autonomous separate self. This type of family model can be seen in urban Western communities with a high level of education and economic development. These types of communities are characterized by an individualistic culture with a focus on autonomy. The prevalent family structure found in these communities is the nuclear family (i.e., two generations living in the same household), with low fertility and with older ages of mother at first child and higher woman's status. This type of culture, living conditions, and family structure lead to family values related to the development of independence, creativity, curiosity, and separateness; the child has psychological value (i.e., parents have children for the psychological satisfaction they provide; Kagitcibasi, 2017) and the emotional interdependence is low.

Kagitcibasi (2017) describes a third family model, that of emotional interdependence or autonomous-relatedness. The author states that, with economic development, what happens is that the utilitarian value of the child and the economical dependency between generations disappear, but the emotional dependency remains (Kagitcibasi, 1996, 2005, 2017; Kagitcibasi & Ataca, 2015; Kagitcibasi & Yalin, 2014). This type of family model can be seen in collectivistic communities in which there has been increased economic and educational development, and

thus we observe industrialized urban communities with increased affluence (Georgas, Berry, van de Vijver, Kagitcibasi, & Poortinga, 2006). In this type of cultures and living conditions, families start to organize in nuclear patterns (two families in a household), to have fewer children at older ages and to have increased woman status. In this type of family, the extended family is still important, but for psychological and emotional reasons, not for economic ones (Kagitcibasi, 2005). The material dependency between generations is gone, as children are no longer needed to sustain their parents at old age, with parents now being the ones that invest in their children's development until late in their development (Kagitcibasi & Ataca, 2015). The emotional dependence still remains, with emotional interdependence between family members being important and with selves that are defined as a function of the relationships they have (Kagitcibasi & Yagmurlu, 2015; Mayer, 2017). In this type of culture, living conditions and family structure, the prevalent values in the family are centered on family and group loyalty and relatedness, emotional connections between family members, autonomy and independence of the child. In these communities, the child has a psychological, not utilitarian value (Kagitcibasi, 2017).

Based on the theory of Kagitcibasi (2017), we expect that in Romania, because of recent social and economic development, we will notice the emergence of an autonomous-related cultural model. As such, based on this model we would expect that Hofstede's predictions regarding the existence of a focus on obedience and conformity of the child will not be confirmed, but those regarding the existence of a focus on relatedness will be confirmed.

Another model that focuses on the influence of culture on development and stems from the ecocultural tradition is the model developed by Greenfield (2013, 2016, 2018). This model focuses on how economic, social, and political changes lead to modifications in culture and human development. More specifically, this model focuses on what changes in the culture of a community when a series of social and economic transitions take place. The model specifically refers to the transition from a rural community, based on subsistence agriculture, with low educational, economic and technological development, to an urban community, whose survival is based on commerce and market economy, with high

educational, economic and technological development. This shift from a rural to an urban community is also associated with a shift from the high prevalence of extended families (i.e., three or more generations under the same roof) to the high prevalence of nuclear families (i.e., two generations under the same roof). This shift also leads to an increase in the age when the mother has the first child. Greenfield (2018) speculates that these changes lead to a shift from a focus on collectivistic values (e.g., focus on obedience, hierarchy, interpersonal harmony, tradition), that characterizes rural communities, to a focus on individualistic values (e.g., focus on equality, independence, creativity, innovation, materialism). With the change from collectivistic to individualistic values, several changes are shown to appear at the level of the learning environment and socialization of children: more autonomy is given to the child and less guidance; there is less criticism and more praise and support directed towards the child; there is less focus on what the obligations of the child are to the family and more focus on his individual development; there are more social interactions mediated by technological means (Greenfield, 2016). These changes in turn have an impact on how the individual develops. More specifically, we see a shift from children that develop to be respectful, obedient, and shy to children that develop to be independent, autonomous, curious, and extraverted. There is another shift in child development, from children that develop to have abilities that make them able to harmoniously interact with the group (e.g., greater social skills, empathy, desire to fit in, a focus on other's needs, low self-esteem) to children that develop to have abilities that make them able to focus on self-development and on being assertive in social interactions (e.g., focus on own internal states and feelings, greater technological skills, high self-esteem, desire to stand out).

Based on Greenfield's (2018) model, we would expect to see a transition not towards an autonomous-related model in the case of Romania, but to an independent model. These predictions are in contradiction with those of Hofstede et al.'s (2010) model. Hofstede et al.'s (2010) model predicts that there will be a focus on obedience, heteronomy and relatedness in the case of parents from Romania.

In the following, we will review studies that will help us assess if there is an association between socio-economic developments and

changes in the Romanian culture and prevalent parental beliefs and practices. This assessment will also help us in finding out which of the models is better supported by the data.

As we shall see, most studies that have focused on the association between the Romanian culture and prevalent parental beliefs and practices support Kagitcibasi's (2017) model. As such, a mixed method study realized by Mone et al., (2014), with a sample of 72 mothers for a quantitative analysis of mother's cultural models and parenting beliefs and 11 mothers for the qualitative analysis of parenting beliefs showed that, at least in the case of middle-class mothers of infants from Romania, we see an autonomous-related cultural model. More specifically, mothers in this sample placed an emphasis on socialization goals associated with both autonomy (e.g., independence, being able to decide on one's own) and relatedness (e.g., being able to harmoniously interact with others, being cooperative). Also, mothers valued parental practices that have been shown to be conducive to both relatedness (e.g., body contact, maintaining physical proximity to the child; Keller & Kartner, 2013) and autonomy of the child (e.g., focusing and adjusting to the child's needs, face-to-face interaction; Keller, 2018).

The shift towards a model of autonomy and relatedness is also supported by evidence provided by a study realized by Gavreliuc and Ciobota (2013) with a sample of undergraduates from Timisoara, a large developed city and university center from Western Romania. The results of this study show that these undergraduates' self-construal presented a mix between autonomy, with high scores for self-reliance and uniqueness, and relatedness, with high scores for inclusion (Gavreliuc & Ciobota, 2013). Participants in this study were not parents, yet this study is indicative of how recent socio-economic developments are associated with changes in the Romanian culture.

A study submitted to publication by Mansour, Summers, Mone, Kathuria, Sanders, and Friedlmeier (2018) compared the conception of child competence in the case of mothers of preschoolers from Romania, India, USA and Israel, and investigated if observed differences were associated with maternal cultural self-construal. The results of the study showed that there was no difference regarding the focus on autonomy at the self-construal level between cultures, but that there was a difference regarding relatedness, with Romanian mothers somewhere between USA

mothers, who scored the lowest on relatedness, and Israeli Arab mothers, who scored the highest. These results suggest that Romanian mothers have a cultural self-construal with a focus on autonomy equal to that of mothers from more individualistic cultures. The results also suggest that Romanian mothers have a focus on relatedness that is higher than that of mothers from individualistic cultures. These findings suggest that Romanian mothers have an autonomous-related cultural model, with a focus on both autonomy and relatedness. Regarding the skills that are essential for a competent child, mothers from all groups placed the most emphasis on social skills. Israeli-Arab and Indian mothers placed more emphasis on proper demeanor, suggesting a focus on heteronomy. Romanian and Israeli Jew mothers placed more emphasis on the development of child's autonomy than on the development of interrelatedness. This suggests that, although Romanian mothers had an autonomous-related model, autonomy had a higher importance at least for this age range. Regarding the association between mother's self-construal and conceptions regarding child competence, the results suggest that there was an association only in the case of Romanian mothers. More specifically, in the case of Romanian mothers, a higher focus on relatedness in one's self-construal was associated with a higher focus on the child's autonomy and less on his cognitive skills. Also, in the case of Romanian mothers, a higher focus on relatedness in one's self-construal was related to a higher emphasis put on the social and physical skills of the child. The fact that a mother's focus on relatedness in her self-construal was associated with a focus on the child's autonomy and on his social skills offers more evidence that there is a coupling of autonomy and relatedness in maternal cultural models. Thus, these results suggest the existence of an autonomous-related cultural model in the case of Romanian mothers.

A study by Wege, Gonzalez, Friedlmeier, Mihalca, Goodrich, and Corapci (2014) investigated which types of emotions are most often depicted in American, Romanian, and Turkish storybooks. The results suggest that in Turkish and Romanian storybooks, as compared to American storybooks, negative powerless emotions (i.e., negative emotions that do not interfere with social interaction - sadness or fear) were more frequently displayed than negative powerful emotions (i.e., negative emotions that interfere with social interaction - anger). Also, the emotional

intensity of the expressions presented in Turkish and Romanian storybooks was lower. This underlines the fact that in the Romanian culture, similar to the Turkish one, there was a higher focus on interpersonal harmony and relatedness, as both a lower intensity of emotional expressions and a more frequent focus on powerless negative emotions facilitate harmonious interpersonal interactions. Interestingly, in the case of Romanian storybooks, powerful emotions were more frequently manifested towards out-group members. This underlines a focus on the need for interpersonal harmony in the in-group context, as this is the context in which the expression of powerful negative emotions was avoided. The results also suggest that negative emotions, and especially powerful ones were more highly devalued in Romanian storybooks than in Turkish storybook, indicating a higher focus on relatedness in this culture.

Another study that suggests individuals from Romania have an autonomous-related model was conducted by Corapci, Friedlmeier, Benga, Strauss, Pitica and Susa (2017). The authors conducted a study in which they examined how mothers of 2-year-old children foster emotional competence in USA, Romania, and Turkey. The authors measured the self-construal of the mothers, to check if their categorization of the mothers from USA as being independent and of the mothers from Romania and Turkey as being autonomous-related was correct. The analysis of the self-construal data confirmed that mothers from Romania had a self-construal that focused on both relatedness and autonomy. Consistent with a focus on relatedness, mothers from Turkey and Romania focused on using reasoning by offering explanations and referring to social norms and empathic understanding of others when the child had an anger episode. Mothers also had a high focus on teaching problem solving skills as a response to anger in each sample, which suggests an underlying focus on autonomy and developing the child's ability to handle situations that he/she faces. In Turkey and Romania, as compared to the USA, there was also a greater focus on comforting and reassuring the child when having an anger episode and less on using time-out and behavioral discipline. This also suggest a focus on relatedness and on close affectionate ties as mechanisms through which the child's emotion is regulated. Regarding sadness eliciting episodes, mothers from all countries similarly endorsed using problem-focused coping strategies and emotion-focused strategies

to alleviate sadness, with a priority on emotion-focused strategies. This suggests the fact that in the case of mothers from all cultures there was a focus on supportively socializing self-reliance. In conformity with another research (Denham, Caal, Bassett, Benga, & Geangu, 2014) that shows the fact that Romanian mothers consider sadness as a sign of weakness, Romanian mothers most frequently showed dismissive responses to sadness. Congruent with this interpretation is the fact that Romanian mothers also showed lower emotion-focused responses and more reasoning in response to sadness than Turkish mothers. This suggests the need to control the expression of sadness, as it is perceived as weakness. In response to the child's fear, all mothers prioritized emotion-focused responses, as a sign that at this age, children are in need of comfort primarily when experiencing fear. Mothers from all samples also manifested problem-focused responses with a low frequency, thus emphasizing the fact that comforting is the primary need they perceive for children of this age when experiencing fear. Another relevant finding for our discussion is that Turkish and Romanian mothers more frequently endorsed reasoning in the context of fear responses. This is important given the fact that the vignettes regarding fear involved the presence of others and thus attempts at reasoning to diminish the response might reflect an emphasis on relatedness and interpersonal harmony. Altogether, the results of the study suggested that mothers from Turkey and Romania emphasized both the autonomy and relatedness of the child while managing his or her negative emotions. Regarding positive emotions, the authors evaluated how mothers respond to the happiness of the child. In accordance with studies that show happiness is more frequent in individualistic cultures, USA mothers more frequently validated and promoted the child's happiness (Corapci et al., 2017). Interestingly, Turkish mothers showed the tendency to upregulate and increase the intensity of happiness more than Romanian mothers and USA mothers, probably reflecting the focus on relatedness coupled with the norm of openly expressing emotion, characteristic for Turkey.

Another study that brings support for Kagitcibasi's (2017) model is the one developed by Friedlmeier and Trommsdorff (2011) in which the authors compared Romanian and USA dyads of mothers and teenage

children regarding similarities in value orientations. They also investigated if parenting practices influenced this similarity. They started from the idea that the value dissimilarity should be greater in the case of Romanian dyads, as Romania has been going through more economic, political, and social changes than the USA in the last period. The results suggested that mothers and teenage children were similar regarding collectivistic values in both cultures. Similarity regarding individualistic values was found only in the case of mothers from the USA. This is supportive of the assumption that Romania is a collectivistic culture in which economic, political, and social changes that have taken place affected individual's focus on heteronomy or obedience, switching it to a focus on autonomy, but did not affect their focus on relatedness.

Other studies bring support for Kagitcibasi's (2017) model, by showing that the cultural model of Romanian mothers has shifted more towards an autonomous-related one and not an independent one, through suggesting that there is still a focus on interdependence in the Romanian culture, despite economic and social advances. These studies show that close family relationships and emotional interdependence are still highly valued in Romania and children have a psychological value for the family (Robila & Krishnakumar, 2004). Other studies show that, as compared to mothers from individualistic cultures, Romanian mothers place a higher emphasis on interdependence. More specifically, a study by Moscardino, Bertelli, and Altoè, (2011) showed that mothers from Romania placed a higher emphasis on interdependence as compared to mothers from Italy.

There are other studies that indicate a higher focus on autonomy in younger generation, but they do not conclusively offer support for Kagitcibasi's (2018) or Greenfield's (2018) model, as they do not investigate if the focus on relatedness is different between generations. An example is the study conducted by Marici (2015), who investigated the effect of parental behaviors on the development of internalizing and externalizing problems, in the case of Romanian adolescents. The study showed that parental control had the most detrimental effect on the development of the child. Parental control has more detrimental effects in cultures in which autonomy is valued and socialized and control is perceived as an illegitimate strategy (Chao, 1994) and as such this study

might suggest that the Romanian culture places an emphasis on autonomy, and control is not perceived as legitimate. These results of Marici (2015) are complemented and supported by those of Marici and Turliuc (2011), who showed that parental punitive discipline was one of the strongest predictors of teenager deviance.

There is also a study conducted by Negru-Subtirica, Damian and Friedlmeier (2015), which showed that younger generations had a higher focus on autonomy. The study was a qualitative one, which investigated what are the differences between emerging adults, born after the communist regime fell, and their parents, born during the communist regime, regarding the factors that are considered important for personal success. Parents considered that characteristics, behaviors, goals influence financial success, but they also mentioned that luck or fate is important. The emerging adults focused only on the influence of personal traits, behaviors, and goals. This shows that, in the case of the emerging adults, there was a higher focus on autonomy and a lower focus on heteronomy, because their personal characteristics and ambitions were considered as being factors that drive financial success, but there was no mentioning of fate or luck, factors external to oneself, as determinants of success.

There are also lines of research that showed the fact that Romanian individuals value autonomy more than those from individualistic cultures. These studies run contrary to both Kagitcibasi's (2018) and Greenfield's (2017) model, as we would expect that individualistic cultures with higher economic development (e.g., USA) would place more focus on independent cultural models than countries with lower economic development. As an example, Frost and Frost (2000) compared 217 Romanian undergraduates with 201 American undergraduates and found that the Romanian undergraduates valued conformity and tradition less than American undergraduates, but wisdom, beauty, peace, social justice, and environmental safety more. Another study by Moza, Lawrie, Gavreliuc, and Kim (2018), that compared the structure of the self-construals of 251 American and 243 Romanian undergraduate students, showed that there was indeed a higher focus on independent self-construals and less on interdependent self-construals. The study also pointed out the fact that the structure of independent and interdependent cultural models differed as a function of culture. For example, there

was a higher connectivity between scores on scales that measure independence and interdependence in the case of American undergraduates than in the case of Romanian undergraduates. Also, vertical interdependent self-construal (i.e., interdependence and focus on hierarchy) included the degree of inclusion of the family in the self only in the case of Romanian undergraduates.

There is also another line of research that suggests the fact that there was no transition towards an autonomous-related model or an independent model with economic development. A survey conducted by Gavreliuc (2012), which included samples from both urban and rural areas, belonging to 3 age cohorts (20 years old, 35 years old, and 50 years old) showed that, across generations, there was a pattern regarding individual's attitudes that suggested the presence of low self-determination, dominant externalism, high interdependence, moderate independence, and high self-esteem (Gavreliuc, 2012). What's more important though is that the younger cohorts were the most dependent and the least self-reliant. This runs counter to the expectation that, with higher educational levels and higher wealth, generations become more independent (Greenfield, 2018) or develop a combination between autonomy and relatedness (Kagitcibasi, 2017). The results of the study also suggest intergenerational stability regarding cultural orientation, despite economic and social progress. The results of the study by Gavreliuc (2012) are congruent with the results of the study by Gavreliuc and Gavreliuc (2012), which showed that, in the case of a sample of 522 secondary school teachers and university teachers from Timisoara, the younger generations had the highest scores of social cynicism, fate control, religiosity, power distance, and external locus of control. This again suggests that, in the case of younger cohorts, contrary to what we would expect to see in a country where there have been economic and social developments, there was lower self-determination, more fatalism, and higher desire and acceptance of hierarchy. Another study by Gavreliuc and Gavreliuc (2014) with 253 secondary school teachers and 269 University teachers from Timișoara showed that university teachers, as compared to secondary school teachers, had higher power distance and higher social cynicism. This suggests that in Romania, increased social capital, educational level, and wealth might be associated not with an increased focus on equality,

self-determination, and acceptance of others, but with an increased focus on hierarchy, obedience, and mistrusts of others. This is again contrary to both the predictions of Greenfield's (2009) model and to the predictions of Kagitcibasi (2017).

David (2015) analyzed data from the European Social Survey (2016) and the World Values Survey (2010-2014) and showed that individuals from Romania have a high need for power, conformism, and achievement. The data also suggested that individuals from Romania manifest low scores for self-determination, benevolence (i.e., a goal of improving the wellbeing of those with whom we interact; Schwartz, 2012), hedonism (i.e., seeking pleasure and gratification; Schwartz, 2012), stimulation (i.e., seeking novelty and challenge; Schwartz, 2010), and universalism (i.e., protection, appreciation, tolerance of individual's and nature's welfare; Schwartz, 2012). This suggests the fact that individuals from Romania have high conformism and low autonomy and, as such, neither Kagitcibasi's (2017) nor Greenfield's (2018) predictions are confirmed by these data. But more interestingly, David (2015) also presented data indicating that individuals from Romania have low trust in others and higher interpersonal distance with regard to strangers and acquaintances than individuals from 42 other countries, but lower interpersonal distance with regard to people that are close to them. This suggests that Romanian individuals' relatedness is manifested and centered on those with whom they have close relationships. On the other hand, there is a high level of mistrusting others and inferring that others have malevolent intentions towards oneself (David, 2015). David (2015) also analyzed Romanian individual's socialization goals based on data obtained from the World Values Survey (2010-2014) and showed that in Romania, compared to the other 9 countries (i.e., China, Spain, Turkey, Ukraine, Russia, USA, Japan, Poland, Germany), individuals mentioned less frequently the need of the child to develop a sense of responsibility, thrift, determination, altruism, obedience, independence. In exchange, individuals from Romania mentioned more frequently the need for the child to develop creativity, religious beliefs, and more hard work. This data suggests that there is a low focus on heteronomy in child socialization, but also a low focus on independence.

Bond and Lun (2014) also presented Romania as a country characterized by heterodetermination (i.e., focus on religion and obedience; Jing & Bond, 2015), not autodetermination (i.e., focus on autonomy and independence; Jing & Bond, 2015).

Friedlmeier and Gavreliuc (2013) discussed evidence that suggests the fact that Romania is rather a traditionalistic society, with an increased importance of family. The study also showed that parents from this culture more frequently mentioned socialization goals related to hard work and religious faith, rather than independence and creativity, as is the case of other European countries. These results were based on European Values survey data from 1993, 1999 and 2005. Another interesting finding was that the proportion of individuals who had post-materialistic values (i.e., a focus on self-expression and autonomy rather than materialistic values) remained practically unchanged from 1993 to 2005. This finding is interesting, because we would expect that with economic development individuals would move from materialistic values to post-materialistic values (Inglehart, 2008). There was also a high degree of faith in the Church as a provider of solutions for family and moral issues, again suggestive of a traditionalistic culture. As a possible and surprising sign of a focus on self-determination, the participants also manifested self-direction, with two thirds of them suggesting that they can plan and manage their own lives.

Other evidence that supports the fact that there hasn't been a transition towards an increased focus on autonomy and an increased prevalence of independent or autonomous-related models comes from a study conducted in Romania named "Transylvania Adolescent Identity Development Study" (Negru-Subtirica & Pop, 2016; Pop, Negru-Subtirica, & Opre, 2015). The Transylvania Adolescent Identity Development Study is a three-wave longitudinal study that spanned the length of an academic year and that focused on adolescent identity development and its correlates. Negru-Subtirica, Pop, and Crocetti (2015) reported the results of this study that focused on the associations between adolescent career adaptability (i.e., general adaptive resources and strategies that individuals use when engaging with critical situations) and vocational identity. Pop, Negru-Subtirica, Crocetti, Opre and Meeus (2016) reported the results of this study that focused on the associations between identity

processes and academic achievement. Negru-Subtirica, Pop, Luyckx, Dezutter, and Steger (2016) reported the results of this study that focused on associations between identity processes regarding global future plans and meaning in life. As Negru-Subtirica and Damian (2018) point out, there are several results presented in these research papers that highlight interesting patterns regarding adolescent identity development, that are relevant for our present discussion. Firstly, the studies showed that identity commitment, as reflected in educational commitment (i.e., enduring choices made in the educational domain and the self-confidence associated with these choices; Crocetti et al., 2015; Pop et al., 2016) and identification with vocational commitments (i.e., the process through which the adolescent devotes himself/herself to a vocational choice that has been taken; Porfeli, Lee, Vondracek, & Weigold, 2001; Negru-Subtirica et al., 2015), decreased over the school year. Commitment making and identification with commitment related to general future plans also decreased (Negru-Subtirica et al., 2016). Negru-Subtirica and Damian (2018) suggest that this happens because the vocational and educational choices and commitments of the teenagers are guided by external factors, due to a rigid educational system, in which personal interests have a small influence on the academic subjects to which the student is exposed or due to guidance from parents. The results of the Transylvanian Identity Development study suggest that identity exploration processes also decline over the academic year, with a decrease in in-depth exploration (i.e., process by which adolescents monitor and think about their current commitments; Meeus, 2011) of vocational (Negru-Subtirica et al., 2015) and educational options (Pop et al., 2016) and in in-breadth exploration of options related to future plans (i.e., process by which adolescents actively explore different paths for future development; Luyckx, Goosens, & Soenens, 2006; Negru-Subtirica et al., 2016). The findings of the study show that there was also an increase in ruminative exploration (i.e., the appearance of doubts regarding the possibility of making mistakes while choosing, Luyckx et al., 2006) of options related to future plans (Negru-Subtirica et al., 2016). These results underline the fact that Romanian adolescents have a low focus on autonomy and independence and they have difficulties in exploring their choices as a function of their goals, desires and motivations. The results also suggest

that there is a high rate of adolescents that question their identity commitments regarding the educational and vocational domain as the year continues. This profile of an adolescent whose identity commitments are weakened during the academic year and who doesn't explore identity options, and reconsiders the educational and vocational commitments he/she made is suggestive of an adolescent that has a low sense of personal agency and autonomy and who lives in a rigid environment which constrains his/her actions. This suggests that the new generations have a low focus on autonomy and live in an environment that is not conducive to the development of a sense of personal agency, but rather to the development of obedience and conformism.

5. Concluding remarks

To summarize, we would like to point out that most studies that have focused on the association between recent socio-economic changes in the case of Romania, Romanian culture and prevalent parental beliefs and practices have concluded that there has been a shift towards an autonomous-relational model. Other studies suggest that there has been an increase in autonomy, but provide us with no evidence regarding how the focus on relatedness has changed. This underlines the need of future studies to assess the impact of socio-economic change on both autonomy and relatedness. Yet, other studies suggest that there is still a focus on heteronomy and relatedness in the Romanian culture and that the effect of socio-economic change, at least in Romania, isn't towards a greater emphasis on an independent or an autonomous relational model. These divergent sets of results suggest that the effects of socio-economic changes aren't as straightforward or linear as current models would suggest. They also indicate the need for more research that identifies reasons or moderating variables responsible for the divergent results.

One of the reasons for the divergent results might be the fact that socio-economic change might differentially impact a society, based on the structure of its culture. For example, Mone, Benga and Opre (2016) provide evidence that indicates the fact that a country's standing on Power Distance moderates the relationship between the educational

level of individuals from that country and the socialization goals they endorse. The results of the study showed that the difference between those with high versus low education in valuing obedience and self-expression was smaller in high Power Distance cultures, than in low Power Distance cultures. As such, this might imply that an increase in the level of education in high power distance cultures such as Romania might lead to small modifications in the degree to which parents endorse obedience.

Interpreting the divergent results of these lines of research must also be based on the fact that economic and social development differentially impacts different communities from a society or country. As such, in rural communities from Romania, where education level and wealth are still lower and extended families with many children and young age at childbirth are still frequent, we still expect to observe interdependent cultural models with associated parenting strategies (Keller, 2018). This assertion is backed up by a study realized by Neculaesei and Tatarusanu (2008), which showed that there are differences between historical regions of Romania (i.e., Transylvania, Moldova, and Walachia) regarding their standing on Hofstede et al (2010) cultural dimensions. As such, although all three regions were high on Power Distance, Moldova was the highest and Transylvania the lowest. Also, although the level of Individualism was low overall, the results of the study suggested that there were differences between historical regions, with Transylvania being the most Individualistic and Moldova the least. The study also showed that although all three regions were characterized by low Masculinity, Walachia was the least Masculine and Moldova the most. Regarding Uncertainty Avoidance, we observe that Moldova and Walachia were high on this dimension, while Transylvania was characterized by low Uncertainty Avoidance. Regarding Long-Term orientation, Moldova and Walachia were the most Short-Term oriented, while Transylvania was the least. Regarding Indulgence, the authors observed that Walachia and Transylvania were characterized by high Indulgence, while Moldova was characterized by low Indulgence. These regional variations might be a product of the fact that there are variations in the history, ethnic compositions, religious structure, and economical as well as social development of the dif-

ferent regions. The study by Neculaesei and Tatarusanu (2008) corresponds with the prediction of Greenfield's theory (2009), as Transylvania, the region with the highest Individualism, lowest Power Distance, highest Indulgence, and lowest Uncertainty Avoidance, highest Long-Term orientation also has a high level of economic development (INSE, 2017). The assertion that the divergent results are caused by a differential impact of socio-economic change on different communities from a society is also supported by the fact that the studies which supported Kagitcbasi's (2018) claim were mostly conducted with samples of individuals from the middle or upper class, while studies that didn't provide evidence of a shift towards increased autonomy used more diverse samples. Future studies should investigate different communities from Romania and investigate how economic, social, and political change differentially impact their cultural values and prevalent parental beliefs and practices.

Another reason for the divergent results might be that economic and social changes also differentially affect individuals of different ages. Friedlmeier (2006) compared how adolescents and their parents from 100 families perceive the changes that are taking place in Romania. More specifically, it was evaluated whether they perceived their future as being uncertain along with their trust in others. Older samples perceived the future as being more uncertain and they had lower trust in others. Mothers and daughters perceived the future as being more uncertain than fathers and sons. This might be influenced by a more traditional distribution of gender roles and more difficulties in employment in the case of women (Friedlmeier & Gavreliuc, 2013). This suggests that economic, social, and political changes influence individuals differently, as a function of their age and even of their gender.

The discrepant findings might also be explained by the diverging methodologies used by different researchers. It is important that future studies will be conducted on a nationally representative sample, comprised of individuals from different communities, followed longitudinally. This type of design would allow us to longitudinally trace how socio-economic change is associated with variations in the Romanian culture and prevalent parental beliefs and practices, and to compare the impact these changes have on different communities. Other types of designs

that would be useful are studies that employ cohorts from different historical epochs, to have a more direct test of how the Romanian society and prevalent parenting beliefs and practices have been modified by socio-economic and political change.

In conclusion, the present review brings important contributions, as it is the first synthesis of studies that have investigated Romanian culture and its impact on parental beliefs and practices. In addition, it specifically emphasizes the fact that current models of cultural and family change need to be nuanced.

Acknowledgement: This work was supported by a grant of Ministry of Research and Innovation, CNCS - UEFISCDI, project number PN-III-P4-ID-PCE-2016-0934, within PNCDI III, awarded to the second author.

REFERENCES

- Berry, J.W. & Poortinga, Y.H. (2006). Cross-cultural theory and methodology. In J.E., Georgas, J.W., Berry, F.J., Van de Vijver, Ç.E., Kağıtçıbaşı & Y.H. Poortinga (Eds), *Families across cultures: A 30-nation psychological study* (pp 51-72). Cambridge: Cambridge University Press.
- Bond, M.H., & Lun, V.M.C. (2014). Citizen-making: The role of national goals for socializing children. *Social Science Research*, 44, 75-85. <https://doi.org/10.1016/j.ssresearch.2013.11.002>.
- Chao, R.K. (1994). Beyond parental control and authoritarian parenting style: Understanding Chinese parenting through the cultural notion of training. *Child development*, 65(4), 1111-1119. <https://doi.org/10.1111/j.1467-8624.1994.tb00806.x>.
- Corapci, F., Friedlmeier, W., Benga, O., Strauss, C., Pitica, I., & Susa, G. (2018). Cultural socialization of toddlers in emotionally charged situations. *Social Development*, 27(2), 262-278. <https://doi.org/10.1111/sode.12272>.
- Crocetti, E., Rubini, M., & Meeus, W. (2008). Capturing the dynamics of identity formation in various ethnic groups: Development and validation of a three dimensional model. *Journal of Adolescence*, 31, 207-222. <https://doi.org/10.1016/j.adolescence.2007.09.002>.

- Crocetti, E., Cieciuch, J., Gao, C.H., Klimstra, T., Lin, C.L., Matos, P.M., ... & Meeus, W. (2015). National and Gender Measurement Invariance of the Utrecht-Management of Identity Commitments Scale (U-MICS) A 10-Nation Study with University Students. *Assessment*, 22(6), 753-768. <https://doi.org/10.1177/1073191115584969>.
- David, D. (2015). *Psihologia poporului român: profilul psihologic al românilor într-o monografi ecognitiv-experimentală*. Cluj-Napoca: Polirom via Publish Drive.
- Denham, S.A., Caal, S., Bassett, H.H., Benga, O., & Geangu, E. (2004). Listening to parents: cultural variations in the meaning of emotions and emotion socialization. *Cogn. Brain Behav.* 8, 321-350.
- Dermuth, C. (2013). Socializing infants toward a cultural understanding of expressing negative affect: A Bakhtinian informed discursive psychology approach. *Mind, Culture, and Activity*, 20(1), 39-61. <https://doi.org/10.1080/10749039.2012.719992>.
- Dong, X., Talhelm, T., & Ren, X. (2018). Teens in Rice County Are More Interdependent and Think More Holistically Than Nearby Wheat County. *Social Psychological and Personality Science*, 1948550618808868. <https://doi.org/10.1177/1948550618808868>.
- Dwairy, M., & Achoui, M. (2006). Introduction to three cross-regional research studies on parenting styles, individuation, and mental health in Arab societies. *Journal of Cross-Cultural Psychology*, 37(3), 221-229. <https://doi.org/10.1177/0022022106286921>.
- EVS (2016): European Values Study 2008: Integrated Dataset (EVS 2008). GESIS Data Archive, Cologne. ZA4800 Data File Version 4.0.0, doi:10.4232/1.12458.
- Fonseca, B.R., Cavalcante, L.I.C., Kärtner, J., & Köster, M. (2018). Maternal socialization goals and the spontaneous prosocial behavior of children in rural contexts. *Psicologia: Reflexão e Crítica*, 31(1), 27. <https://doi.org/10.1186/s41155-018-0108-x>.
- Friedlmeier, M. (2006). *Transmission of values within families in Romania* (Doctoral dissertation).
- Friedlmeier, M., & Gavreliuc, A. (2013). Value orientations and perception of social change in post-communist Romania. *Intergenerational Relations. European Perspective on Family and Society*, 119-130. DOI: 10.1332/policy press/9781447300984.003.0008.
- Friedlmeier, M., & Trommsdorff, G. (2011). Are mother-child similarities in value orientations related to mothers' parenting? A comparative study of American and Romanian mothers and their adolescent children. *European Journal of Developmental Psychology*, 8(6), 661-680. <https://doi.org/10.1080/17405629.2011.590649>.

- Frost, K.M., & Frost, C.J. (2000). Romanian and American life aspirations in relation to psychological well-being. *Journal of Cross-Cultural Psychology*, 31, 726-751. doi:10.1177/0022022100031006004.
- Gavreliuc, A. (2012). Continuity and change of values and attitudes in generational cohorts of the post-communist Romania. *Cogn. Brain Behav.*, 16(2), 191-212.
- Gavreliuc, A., & Ciobotă, C.I. (2013). Culture and self-construal: Implications for the social cognitions of young cohorts in Romania. *Procedia-Social and Behavioral Sciences*, 78, 270-274. <https://doi.org/10.1016/j.sbspro.2013.04.293>.
- Gavreliuc, A., & Gavreliuc, D. (2012). Social axioms, cultural dimensions and personal autonomy in Romanian educational field. *Procedia-Social and Behavioral Sciences*, 33, 223-227. <https://doi.org/10.1016/j.sbspro.2012.01.116>.
- Gavreliuc, D., & Gavreliuc, A. (2014). Symbolic capital and cultural dimensions in Romanian educational organizations. *Procedia-Social and Behavioral Sciences*, 127, 392-395. <https://doi.org/10.1016/j.sbspro.2014.03.277>.
- Georgas, J., Berry, J.W., Van de Vijver, F.J., Kagitçibasi, Ç., & Poortinga, Y.H. (Eds.). (2006). *Families across cultures: A 30-nation psychological study*. Cambridge University Press.
- Gelfand, M.J., Raver, J.L., Nishii, L., Leslie, L.M., Lun, J., Lim, B.C., ... & Aycan, Z. (2011). Differences between tight and loose cultures: A 33-nation study. *Science*, 332(6033), 1100-1104. DOI: 10.1126/science.1197754.
- Greenfield, P. M. (2013). The changing psychology of culture from 1800 through 2000. *Psychological science*, 24(9), 1722-1731. <https://doi.org/10.1177/0956797613479387>
- Greenfield, P.M. (2016). Social change, cultural evolution, and human development. *Current Opinion in Psychology*, 8, 84-92. <https://doi.org/10.1016/j.copsyc.2015.10.012>
- Greenfield, P.M. (2018). Studying social change, culture, and human development: A theoretical framework and methodological guidelines. *Developmental Review*, 50, 16-30. <https://doi.org/10.1016/j.dr.2018.05.003>.
- Hofstede, G. (1991). *Cultures and organizations. Intercultural cooperation and its importance for survival. Software of the mind*. London: McGraw-Hill.
- Hofstede, G. (2011). Dimensionalizing cultures: The Hofstede model in context. *Online readings in psychology and culture*, 2(1), 8. <https://doi.org/10.9707/2307-0919.1014>.
- Hofstede, G., & McCrae, R.R. (2004). Personality and culture revisited: Linking traits and dimensions of culture. *Cross-cultural research*, 38(1), 52-88. <https://doi.org/10.1177/1069397103259443>.
- Hofstede, G., Hofstede, G.J. & Minkov, M. (2010). *Cultures and Organizations: Software of the Mind* (Rev. 3rd ed.). New York: McGraw-Hill.

- Inglehart, R., C. Haerpfer, A. Moreno, C. Welzel, K. Kizilova, J. Diez-Medrano, M. Lagos, P. Norris, E. Ponarin & B. Puranen et al. (eds.). 2014. *World Values Survey: Round Six - Country-Pooled Data File Version*: www.worldvaluessurvey.org/WVSDocumentationWV6.jsp. Madrid: JD Systems Institute.
- Jing, Y., & Bond, M.H. (2015). Sources for trusting most people: How national goals for socializing children promote the contributions made by trust of the in-group and the out-group to non-specific trust. *Journal of Cross-Cultural Psychology*, 46(2), 191-210. <https://doi.org/10.1177/0022022114557488>.
- Kagitcibasi, C. (1985). A model of family change through development: The Turkish family in comparative perspective. *From a different perspective: Studies in behavior across cultures*, 120-135.
- Kâğitçibaşı, Ç. (1990). Family and socialization in cross-cultural perspective: A model of change. In J. J. Berman (Ed.), *Current theory and research in motivation, Vol. 37. Nebraska Symposium on Motivation, 1989: Cross-cultural perspectives* (pp. 135-200). Lincoln, NE, US: University of Nebraska Press.
- Kagitcibasi, C. (2005). Autonomy and relatedness in cultural context: Implications for self and family. *Journal of cross-cultural psychology*, 36(4), 403-422. <https://doi.org/10.1177/0022022105275959>.
- Kagitcibasi, C. (2013). Adolescent autonomy-relatedness and the family in cultural context: What is optimal? *Journal of Research on Adolescence*, 23(2), 223-235.
- Kagitcibasi, C. (2017). *Family, self, and human development across cultures: Theory and applications*. Routledge.
- Kagitcibasi, C., & Ataca, B. (2005). Value of children and family change: A three-decade portrait from Turkey. *Applied Psychology*, 54(3), 317-337. <https://doi.org/10.1111/j.1464-0597.2005.00213.x>.
- Kagitcibasi, C., & Ataca, B. (2015). Value of children, family change, and implications for the care of the elderly. *Cross-Cultural Research*, 49(4), 374-392. <https://doi.org/10.1177/1069397115598139>.
- Kagitcibasi, C., & Yagmurlu, B. (2015). Parenting attitudes and beliefs across cultures. In J. Wright (Ed.), *International encyclopedia of the social and behavioral sciences* (2nd ed. Vol. 17, pp. 493-498). New York, NY: Elsevier.
- Kagitcibasi, C., & Yalin, C. (2014). Family in adolescence: Relatedness and autonomy across cultures. In L. A. Jensen (Ed.), *The Oxford handbook of human development and culture: An interdisciplinary perspective*. New York, NY: Oxford University Press.
- Keller, H. (2013). *Cultures of infancy*. Psychology Press.

- Keller, H. (2018). Parenting and socioemotional development in infancy and early childhood. *Developmental Review*, 50, 31-41.
- Keller, H., Borke, J., Chaudhary, N., Lamm, B., & Kleis, A. (2010). Continuity in parenting strategies: A cross-cultural comparison. *Journal of Cross-Cultural Psychology*, 41(3), 391-409. <https://doi.org/10.1177/0022022109359690>.
- Keller, H. & Kärtner, J. (2013). Development – The culture-specific solution of universal developmental tasks. In M.L. Gelfand, C.-Y., Chiu & Y.Y. Hong (Eds.), *Advances in culture and psychology*, Vol. 3 (pp. 63-116). Oxford, NY: Oxford University Press.
- Luyckx, K., Goossens, L., & Soenens, B. (2006). A developmental contextual perspective on identity construction in emerging adulthood: Change dynamics in commitment formation and commitment evaluation. *Developmental psychology*, 42(2), 366. <http://dx.doi.org/10.1037/0012-1649.42.2.366>.
- Ljunge, M. (2016). Cultural Determinants of Gender Roles: Pragmatism Is an Important Factor Behind Gender Equality Attitudes Among Children of Immigrants. IFN Working Paper No. 1137. Available at SSRN: <https://ssrn.com/abstract=2863769>.
- Mansour, L. Summers, N.M., Mone, I., Kathuria, T., Sanders, V. & Friedlmeier, W. (2018). *Maternal conceptions of young children's competence in five cultural groups*. Manuscript submitted for publication.
- Majdandžić, M. (2017). Commentary on Fathers' Play: Measurement, conceptualization, culture, and connections with child development. *Infant mental health journal*, 38(6), 789-794. <https://doi.org/10.1002/imhj.21677>.
- Marici, M. (2015). Psycho-behavioral consequences of parenting variables in adolescents. *Procedia-Social and Behavioral Sciences*, 187, 295-300. <https://doi.org/10.1016/j.sbspro.2015.03.055>.
- Marici, M., & Turliuc, M. N. (2011). How much does it matter? Exploring the role of parental variables in school deviance in Romania. *Journal of Psychological and Educational Research*, 19(1), 9.
- Markus, H.R., & Kitayama, S. (1991). Cultural variation in the self-concept. In Strauss, J. & Goethals, G.R., (Eds.), *The self: Interdisciplinary approaches* (pp. 18-48). Springer, New York, NY.
- Mayer, Boris (9 June 2017). Intergenerational value transmission and value change - Commentary (Unpublished). In: *International Workshop on "Intergenerational Relations in the light of Migration and Ageing – IRMA"*. University of Luxembourg. 09.06.2017.
- Meeus, W. (2011). The study of adolescent identity formation. A review of longitudinal research 2000–2010. *Journal of Research on Adolescence*, 21, 75–94. <https://doi.org/10.1111/j.1532-7795.2010.00716.x>.

- Mihai, A., & Butiu, O. (2012) The family in Romania: Cultural and economic context and implications for treatment, *International Review of Psychiatry*, 24:2, 139-143, DOI: 10.3109/09540261.2012.658029.
- Minkov, M., Dutt, P., Schachner, M., Jandosova, J., Khassenbekov, Y., Morales, O., ... & Mudd, B. (2018). What Values and Traits Do Parents Teach to Their Children? New Data from 54 Countries. *Comparative Sociology*, 17(2), 221-252. <https://doi.org/10.1108/CCSM-03-2017-0033>.
- Mone, I.S., Benga, O., & Opre, A. (2016). Cross-cultural differences in socialization goals as a function of power distance, individualism-collectivism, and education. *Romanian Journal of Experimental Applied Psychology*, 7(1), 331-334.
- Mone, I., Benga, O., & Susa, G. (2014). The relationship between cultural model, socialization goals and parental ethno theories: A mixed method study. *Cog, Brain, Behav*, 18(3), 191-208.
- Moscardino, U., Bertelli, C., & Altoè, G. (2011). Culture, migration, and parenting: A comparative study of mother-infant interaction and childrearing patterns in Romanian, Romanian immigrant, and Italian families. *International Journal of Developmental Science*, 5(1-2), 11-25. doi:10.3233/DEV-2011-11072.
- Moza, D., Lawrie, S., Gavreliuc, A., & Kim, H. (2018). *Independent and interdependent representations of the self in emerging adults from an individualistic versus a collectivistic culture*. Paper presented at the Self and Identity In Emerging Adulthood Conference, Cluj-Napoca, Romania.
- Mureșan, C., Hărăguș, P.T., Hărăguș, M., & Schröder, C. (2008). Romania: Childbearing metamorphosis within a changing context. *Demographic Research*, 19, 855-906.
- Neculăesei, A., & Tătărușanu, M. (2008). Romania-cultural and regional differences. *Scientific Annals of the Alexandru Ioan Cuza University of Iasi LV*, 198-204.
- Negovan, V., Glăveanu, V.P., & Stănculescu, E. (2016). Mapping psychological well-being: The case of children and adolescents in Romania. In B.K. Nastasi & A.P. Borja (Eds.), *International handbook of psychological well-being in children and adolescents* (pp. 151-170). New York: Springer.
- Negru-Subtirica, O., & Damian, L.E. (2018). The great escape: Linking youth identity development to growing up in post-communist Romania. In N. Lebedeva, R. Dimitrova, & J. Berry (Eds.), *Changing Values and Identities in the Post-Communist World* (pp. 333-347). Springer, Cham.
- Negru-Subtirica, O., Damian, L., & Friedlmeier, M. (2015). What does it take to be financially successful? Views of emerging adults versus their parent. In: Negru-Subtirica, O. (chair). *All about the money: Negotiation of financial*

- socialization in emerging adults and their parents.* Symposium conducted at the 7th Biennial Conference on Emerging Adulthood, Miami, FL.
- Negru-Subtirica, O., & Pop, E.I. (2016). Longitudinal links between career adaptability and academic achievement in adolescence. *Journal of Vocational Behavior*, 93, 163-170. <https://doi.org/10.1016/j.jvb.2016.02.006>
- Negru-Subtirica, O., Pop, E.I., & Crocetti, E. (2015). Developmental trajectories and reciprocal associations between career adaptability and vocational identity: A three-wave longitudinal study with adolescents. *Journal of Vocational Behavior*, 88, 131-142. <https://doi.org/10.1016/j.jvb.2015.03.004>.
- Negru-Subtirica, O., Pop, E.I., Luyckx, K., Dezutter, J., & Steger, M.F. (2016). The Meaningful Identity: A Longitudinal Look at the Interplay Between Identity and Meaning in Life in Adolescence. *Developmental Psychology*. Advance online publication. <http://dx.doi.org/10.1037/dev0000176>.
- Oetzel, J., Ting-Toomey, S., Chew-Sanchez, M.I., Harris, R., Wilcox, R., & Stumpf, S. (2003). Face and face work in conflicts with parents and siblings: A cross-cultural comparison of Germans, Japanese, Mexicans, and US Americans. *Journal of Family Communication*, 3(2), 67-93. https://doi.org/10.1207/S15327698JFC0302_01.
- Porfeli, E.J., Lee, B., Vondracek, F.W., & Weigold, I.K. (2011). A multi-dimensional measure of vocational identity status. *Journal of Adolescence*, 34, 853-871. <https://doi.org/10.1016/j.adolescence.2011.02.001>.
- Pop, E.I., Negru-Subtirica, O., Crocetti, E., Opre, A., & Meeus, W. (2016). On the interplay between academic achievement and educational identity: A longitudinal study. *Journal of adolescence*, 47, 135-144. <https://doi.org/10.1016/j.adolescence.2015.11.004>.
- Pop, E.I., Negru-Subtirica, O., & Opre, A. (2015). Challenging or conserving your beliefs: A person-centered approach of pre-service teachers' educational identity. *Procedia – Social and Behavioral Sciences*, 187, 147-152. <https://doi.org/10.1016/j.sbspro.2015.03.028>.
- Robila, M., & Krishnakumar, A. (2004). The role of children in Eastern European families. *Children & Society*, 18(1), 30-41. <https://doi.org/10.1002/chi.773>.
- Schwab, K.W. (2013). Individualism-Collectivism and Power Distance Cultural Dimensions: How Each Influences Parental Disciplinary Methods. *Journal of International Education and Leadership*, 3(3), 3.
- Schwartz, S.H. (2012). An overview of the Schwartz theory of basic values. *Online readings in Psychology and Culture*, 2(1), 11. <https://doi.org/10.9707/2307-0919.1116>.
- Shearman, S.M., & Dumlao, R. (2008). A cross-cultural comparison of family communication patterns and conflict between young adults and parents. *Journal of Family Communication*, 8(3), 186-211. <https://doi.org/10.1080/15267430802182456>.

- Soliman, T. & Glenberg, A.M. (2014). The embodiment of culture. In L. Shapiro (Ed) *Routledge Handbook of Embodied Cognition* (pp.207-219). London: Routledge.
- Triandis, H.C. (1996). The psychological measurement of cultural syndromes. *American psychologist*, 51(4), 407. <http://dx.doi.org/10.1037/0003-066X.51.4.407>.
- Triandis, H.C. (2007). Culture and psychology: A history of the study of their relationship. In S. Kitayama & D. Cohen, Dov (Eds), *Handbook of cultural psychology* (pp. 59-76). New York, NY, US: Guilford Press. <https://doi.org/10.1016/j.dr.2018.03.001>.
- Trommsdorff, G., Kim, U., & Nauck, B. (2005). Factors influencing value of children and intergenerational relations in times of social change: analyses from psychological and socio-cultural perspectives: introduction to the special issue. *Applied Psychology*, 54(3), 313-316. <https://doi.org/10.1111/j.1464-0597.2005.00212.x>.
- Wege, B.V., Sánchez González, M.L., Friedlmeier, W., Mihalca, L.M., Goodrich, E., & Corapci, F. (2014). Emotion displays in media: a comparison between American, Romanian, and Turkish children's storybooks. *Frontiers in psychology*, 5, 600. <https://doi.org/10.3389/fpsyg.2014.00600>.

AM I A GOOD CAREGIVER FOR YOUTH AT RISK? SOCIO-EDUCATIONAL WORKERS' PERCEPTION OF SELF-EFFICACY THROUGH THE LENS OF ATTACHMENT THEORY

PAZIT LEVI SUDAI¹

ABSTRACT. "Have I succeeded in helping the youths I care for? Does our relationship enable the youths to make a progress? To feel better?" These questions are frequently raised during the supervision sessions with the socio-educational workers (SEWs) of the Youth Advancement Units². SEWs provide care for youths, many of whom have dropped out from formal educational frameworks in Israel. The main role of these workers is to enhance the youths, integrating them in society by establishing a personal relationship and promoting interventions. More than once, the SEW have to cope with complex tasks in their work. Moreover, they encounter professional and personal difficulties leading to a sense of frustration, failure, and rejection. A high perception of self-efficacy enables the SEWs to experience the difficulties as challenges, believing that they can promote these youths and attain success in their work, despite the difficulties. Conversely, SEWs with low perception of self-efficacy experience the difficulties as threats and believe less in the ability of the youths to change. This article examines the benefit and importance of another variable that facilitates the work with youths in situations of risk, as such, it may contribute to the perception of self-efficacy, the attachment style of socio-educational workers, when at the core of their work these workers must build a safe and beneficial relationship and be a significant adult for youths at-risk.

Keywords: *Secure base, Caregiver, Socio-educational worker (SEW), Adult attachment, Self-efficacy*

¹ *The Faculty of Social Sciences and Humanities Oranim Academic College of Education, Israel. E-mail: Lspazit@gmail.com*

² *The Department for Youth Advancement in Israel is a joint service of the Ministry of Education and the local authorities that provides care and education services within the community for at-risk youths.*

1. Introduction

Many definitions of social educational work have been conceived around the world. In North America, the prevalent definition is “child and youth care work”, “social pedagogy” and in Europe “social pedagogy”, “socio-Educational care work”, “social education” is applied. In Israel the terms guidance, care, social education, promotion of youths at risk, psycho-educational intervention, social educational work, or therapeutic educational work are used (Grouper, 2011; Lahav, 2011). Social educational work is defined as “the theory about how psychological, social and material conditions and various value orientations encourage or prevent the general development and growth, life quality and welfare of the individual or the group” (European Bureau of the International Association of Social Educators, 2006, p. 375).

Socio-educational workers function in the Youth Advancement Units in Israel, a service that provides a socio-educational answer for youths at-risk. The socio-educational workers provide care for youths aged fourteen to eighteen who are characterized by dropping out from the formal education system. They also provide care for youths who work or who learn and find it difficult to adjust to various frameworks. They are at risk of dropping out and are cared for in the community (Cohen-Starvichensky, 1998; Lahav, 2011). The socio-educational workers are required to cope with complex and difficult professional and emotional tasks on the background of the family, social, and emotional difficulties, poverty and distress. The encounter with individuals at high risk may cause these workers negative stress responses, including compassion fatigue and/or burnout (Himi, 2009; West, 2015). Working with youths who demonstrate these characteristics requires special efforts so as to promote them. This entails dealing with a sense of stress, continuous failure, and helplessness, similar to those of the youths themselves (Razer, 2009). Other position-holders who care for youths in situations of risk and who are responsible for certain and well-defined aspects in their lives. Unlike them, socio-educational workers are responsible for of the entirety of aspects in the youths’ life and mediates between the youths and other position-holders and the caregiving institutions, simi-

lar to the way that the parents do (Cohen & Cohen, 2003). SEWs are required to fulfil for the youths under their care different roles, when the family that is supposed to fulfil these roles cannot do so (Bar-On Cohen, 2011). One of the prominent characteristics of socio-educational workers is their continuous and intensive direct and unmediated relationship with the population they care for (Maier, 1979). Parents or other caregivers need to provide children with a secure base to which the latter can return in states of distress and stress (Bowlby, 1988). Similarly, socio-educational workers, who care for youths characterized as being in states distress or stress, should serve as a secure base for these youths. Thus, the SEWs are essentially “professional caregivers”. Acting as a secure base for the youths achieves one of the basic goals in the SEWs’ work and therefore may enhance the perception of self-efficacy. The assumption underpinning this article is that in addition to the perception of self-efficacy, which itself is of unparalleled importance in the work with youths at-risk (Sela-Shayovitz, 2014), there is another personality trait that SEWs. That is the attachment style which, on the one hand, may affect the individual’s perception of self-efficacy and on the other, the work with youths at-risk.

2. Aspects of Self-Efficacy and Its Effect on the Work of the Social-Educational Workers

The research literature attributes considerable importance to the concept of self-efficacy. This concept was developed by Bandura (1982, 1986), and it constitutes a central component in his Learning Theory. The perception of self-efficacy is people's beliefs about their abilities to produce specific levels of performance that affect events having an impact on their lives. Self-efficacy beliefs determine how people think, feel, behave and motivate themselves (Bandura, 1994). Self-efficacy is a mechanism of the mediators’ perception between beliefs and personal knowledge and skills and the ability to implement them. (Bandura, 1986). Studies show that people with a high sense of self-efficacy set for themselves higher goals and are determined to achieve them. This is due to the direct relation between self-efficacy and expectations of result, thus affecting the future perception (Bandura, 1997). Furthermore, Bandura (2000) maintains that

there is a dramatic effect of the perception of self-efficacy on human behavior: "Among the mechanisms of self - influence, none is more focal or pervading than belief in one's personal efficacy" (p. 179).

The choice of a profession in general and the choice of working with youths at-risk in particular are related to the perception of self-efficacy. This is a decisive factor in the choice and development of one's career (Bandura, 2000). The level of self-efficacy in the professional field affects the extent to which individuals invest greater efforts in performing their roles and being initiative (Judge, Jackson, Shaw, Scott, & Rich, 2007). Workers in general and workers with youths at-risk in particular who have self-efficacy experience "control over the circumstances". They tend to interpret difficulties as affordable challenges, since they believe they have the ability to cope with them and learn from them. Conversely, workers with low perception of self-efficacy tend to emphasize interruptions, constraints, and threats, since they expect to fail (Bandura, 2000; Sela-Shayovitz, 2014). There is a direct relation between self-efficacy and expectation of outcomes, thus affecting the perception of the future. People who believe that they can take part in the generation of the changes they wish for, have a greater commitment to affect and shape their future (Bandura, 1997). A resilient sense of self-efficacy facilitates the power necessary for the persistent pursuit of innovation and excellence (Bandura, 2000) required for rising to the challenges, the complexity of the work, and the difficulties with which socio-educational workers cope (Grouper, 2007). A study that explored the perception of self-efficacy and sense of professional satisfaction among workers in the Department of Youth Advancement in Israel (Sela-Shayovitz, 2014). indicates that workers with high level of personal self-efficacy and sense of professional satisfaction reported high self-efficacy in their coping with youths at-risk.

Moreover, self-efficacy affects the individuals' relations with the organization: workers with high self-efficacy were more involved and engaged in their work (Consiglio, Borgogni, Di Tecco, & Schaufeli, 2016). Initial self-efficacy may affect workers' proactive approach to their social environment by adopting steps for improving the relations with the others who are relevant to the work place. This is undertaken for instance, by gaining the peers' trust and respect, creating opportunities for cooperation and cohesion with colleagues, striving for professional development

and active participation in the decision-making processes, and thus, reducing the distance of power with the supervisors and senior managers (Consiglio et al., 2016). Workers of the Department of Youth Advancement in Israel who described a relationship among in the staff as characterized by support and professional cooperation, displayed a higher level of self-efficacy in the care of the youths at-risk (Sela-Shayovitz, 2014). SEWs' self-efficacy is a meaningful factor in their work since it can affect their self-perception and ability to succeed in the performance of tasks, believe that change can be generated, cope with difficulties and complexity they encounter, be creative in finding the solutions, and manage the organizational aspect in the best way (Grouper, 2007; Sela-Shayovitz, 2014).

3. Effect of the Attachment Style and a Secure Base for Youths At-Risk

Another contribution to the successful socio-educational work with youths at-risk stems from the intervention of another system, the attachment system. According to the attachment theory (Bowlby, 1969/1982), people are born with a system of attachment behavior that directs them to search for proximity to the caregiving figures. The search and preservation of this proximity are survival needs, the goal of which is the protection against psychological and physical threats and the reduction of anxiety. During infancy and childhood, the relations are with the parents or the caregivers who provide protection, security, and support. Later on in life, these relations continue but are complemented by new relationships. As a rule, the search for support is expressed on the part of weak or needy people and less experienced towards somebody perceived as stronger or smarter (child-parent, caregiver-patient). Children or adults who search for support remain within the range of proximity to the caregiving figure. Hence, according to Bowlby (1988), this gives rise to the concept of attachment behavior. Bowlby (1988) considered the search for proximity and preservation of supportive and warm relations as desirable situations, since attachment is an important component in human experience and is prevalent during people's entire life, from the cradle to the grave.

4. Social-Educational Workers as Professional Caregivers Who Provide a Secure Base for the Youths under Their Care

Already in the early theory of attachment (Bowlby, 1969/1982), the assumption was that another behavioral system, aside from the attachment system existed, namely the system of caregiving (CG). The CG system is a behavioral system aimed at the protection of children (Bowlby, 1969/1982; George, Solomon, Cassidy, & Shaver, 2008) and characterized by flexibility and adjustment to the separate needs of every individual (a detailed review on the CG system can be found in George et al., 2008). The caregiving system is implemented when children are in a dangerous situation. In that case, caregivers exert efforts for ensuring the children's wellbeing and welfare. This is a stand-alone system as an organized system of behaviors guided by the representation of the existing parent-child relations. Understanding this aspect in the parental role is vital to the explanation of the meaning and motivation that guides significant aspects of the behavior of parents and caregivers (George et al., 2008; Solomon & George, 1996) as well as of SEWs working with youths at-risk and are required to serve as a secure base for youths in situations of risk (Gur, 2006). Bowlby (1988) proposed that caregivers' role (and similarly socio-educational workers' role), like the parent's role, is to act as a "secure base" for the youths. From this base, the youths can explore the world of their thoughts, emotions, and actions, in the present and in the past. Thus, the caregivers respect and accept the youths as they are, encouraging them to take initiative. The SEW's role is to do everything in their power, using the means at his disposal, in order to promote the youths' wellbeing. Hence, caregivers strive to be trustworthy, attentive, and empathetic, respond sympathetically, and encourage the youths (Bowlby, 1988). The socio-educational workers, the professional caregivers, are in charge of establishing a secure and beneficial relationship with the youths, while being physically and emotionally available to serve as a secure base for the growth and development of the youths under their case. Thus, they facilitate the improvement of the youths' everyday functioning and developmental tasks they are facing (Shemesh & Shemesh, 2010; Soroka, 2008). The attachment theory (Bowlby, 1969/1982) advocates that people's attachment experience

with primary caregivers affects their tendency to investigate, communicate, and control their outside environment. If people have a secure relationship with their caregivers, then they learn to depend on the reliable and stable support, from which they can investigate the world securely, initiate warm and friendly interactions with others, and find comfort in the knowledge that the caregiver is accessible (Bowlby, 1969/1982). The caregivers' response produces an experience of a secure world (Florian, Mikulincer, & Bucholtz, 1995). Such parent-child and caregiver-client interactions, in which the base is seen as responsive, available, and secure, promote the sense of security in the attachment. Over the course of life, this support creates internal models of work that allow understanding whether to rely on others. Hence, the experience of the availability of others, primarily when they are needed, affects the quality of the secure attachment (Feeney & Thrush, 2010). Unlike therapists who sit in the clinic and see patients once a week, socio-educational workers are in the youths' different life spaces (home, neighborhood, work, studies), are available and present for many hours, often not as a routine and particularly when the youths need them (for instance, in states of crisis and distress, arrest by the Police, hearings of their case at court, and so on).

5. Effect of the Attachment Style on Professional Caregivers

Bowlby (1988) maintained that part of the interpersonal treatment process can be understood as an attachment process; the parental care, the accessibility, and the response to children's needs for protection affect the development of attachment styles. Three main patterns of attachment were described by Ainsworth, Blehar, Waters, and Wall (1978): the secure attachment style, the anxious attachment style, and the avoidant attachment style. The secure attachment style characterizes people who believe in the accessibility of others when they need them and at times of distress, they turn to them for support and comfort. Such people perceive relationships as satisfactory, they search for proximity and intimacy, and they have resources available for the engagement in self-realization and giving to others. The anxious attachment style characterizes people who experience others as unavailable in a time of need. They feel rejected and anxious about abandonment, and hence they have

an increased need for proximity. They are dependent and demand attention. In times of distress, they tend to exhibit excessive emotionality and demonstrate an inability to repress negative emotions. People with the avoidant attachment style are characterized by lack of belief in other people's willingness to help them. They tend to rely on themselves and to cope with difficulties and distress by themselves. They repress every need for help and every emotion of rejection and loss, avoiding emotional situations that inspire this. In relationships they are characterized by distance and control and avoidance of emotional and intimate involvement. When coping with distress, they tend to repress anxieties and painful memories (Ainsworth et al., 1978; Bowlby, 1988). The socio-educational workers "come from home" equipped with an attachment style that impacts their ability to establish relationships, build trust, contain and accept the youths, provide a sense of security and love. The parents and the caregivers differ in their ability to provide for their child a secure base. These differences are associated with the way in which they interpret their attachment history. A study of attachment patterns in childhood and adulthood illustrated considerable evidence that parents' ability to provide parental care is related to the pattern of early relationships with their own parents (Cowan, Cohn, Cowan, & Pearson, 1996; George & Solomon, 1989, 1996; Kunce & Shaver, 1994; Slade & Cohen, 1996; van Ijzendoorn, 1995 - cited in Solan & Mikulincer, 2003). The caregivers' attachment affects the youths' treatment process and may constitute inhibiting or promoting factors. Workers with autonomous secure representation, display more positive expectations from the adolescents under their care. Interpersonal differences in the attachment experience of caregivers affect the quality of treatment relations that they create. Secure caregivers answer therapeutically to people's individual needs, identify the true needs which they satisfy in a way that enables change and progress (Dozier, Cue, & Barnett, 1994; Tyrrell, Dozier, Teague, & Fallot, 1999). The research of the attachment representations of adolescents in a care-providing institution as well as their caregiving workers and their effect on the care relations, showed that the treatments and their impact on the caregiving relationships have long-term effect on the dimensions considered central to attachment. In other words, the availability and the possibility of relying on a smart and strong person as a

secure base. Caregivers with an autonomous secure attachment representation displayed more positive expectations from adolescents under their care. Hence, the adolescents experience a sense of security in times of need and distress and more readily rely on their caregivers (Zegers, Schuengel, van IJzendoorn, & Janssens, 2006).

6. Attachment at Work

Hazan and Shaver (1990) were among the first researchers who linked attachment with the job. The findings of their study indicated that, in comparison to the insecure workers, the secure workers presented higher levels of economic wellbeing, experienced greater enjoyment from their work, and were less concerned about relationships at work. Conversely, the anxious workers feared rejection, their performances at work were less good, and they found it difficult to complete tasks. The avoidant workers used the job to shun social interaction and reported lack of satisfaction with collaborative work with their colleagues. A later review of the literature in the field describes an empirical relationship between secure attachment and the manifestation of leadership, effectiveness, trust, positive attitudes towards work, low tension, good health, positive coping, home-family balance, and improved work performances (Harms, 2011). A negative relationship was found between the secure attachment style and workplace burnout. In contrast, there was a positive correlation between the insecure attachment styles, avoidance or anxious/ambivalent styles and burnout in the workplace (Pines, 2004; West, 2015).

Studies also showed a relation between the attachment style of adults and the cognitive, emotional, and behavioral outcomes of pressuring events. In addition, the attachment indicates people's ability to regulate emotions (Bowlby, 1969/1982; Shaver & Mikulincer, 2007). In the research of employees in the health and human services professions, the ability of interpersonal regulation contributes to the social interaction, which also includes caregiving behavior. Insecure behavior may cause excessive involvement or invasiveness during an interpersonal session. Alternately, it may result in the tendency to preserve emotional distance. Adult caregivers with an insecure pattern display less empathy and less

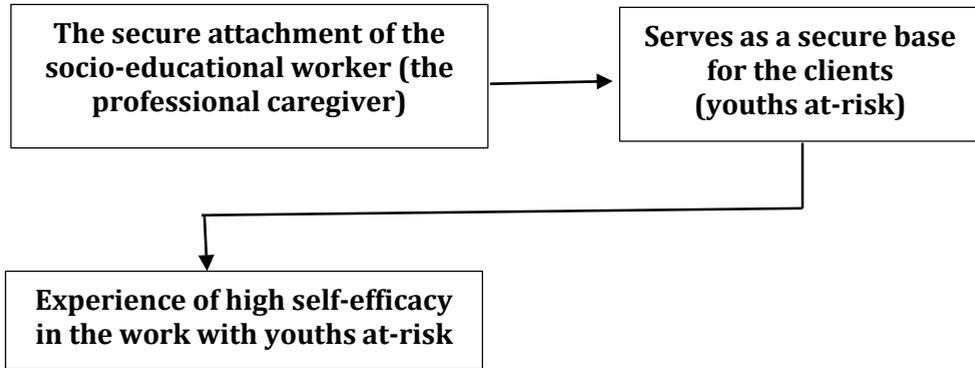
ability to see the perspective of other people. Moreover, they demonstrate high levels of negative emotion regarding those with secure attachment (Cassidy & Shaver, cited in West, 2015). It was further found that people with a high level of avoidance are less capable of being exposed to others in front of them (Shaver & Mikulincer, 2007). The ability to create secure interaction, proximity, empathy, intimacy, and acceptance is incomparably vital in the socio-educational work with youths at-risk (Soroka, 2008), as is coping with states of stress and lack of certainty stemming from the work with populations at-risk (Himi, 2009). The organization of parents' secure attachment provides the internal resources for responding to infants in an appropriately sensitive manner. Thus, the organization of the secure attachment of professional caregivers enables them to provide the resources required for responding with sensitivity and adjustment to the youths at risk (Dozier et al., 1994).

7. Conclusion

This article attempts to shed light on the contribution and importance of the socio-educational workers' attachment style to the work with youths at risk. The work assumption derived from the attachment theory maintains that in states of stress and crisis, the youths seek the caregivers' proximity so that they provide a "safe haven" (Collins & Feeney, 2000). The socio-educational workers who are endowed with a secure attachment style, can serve as a "secure base" for the youths under their care. Their ability to do so, enhances and strengthens their perception of self-efficacy in their work, and therefore intensifies their perception as professional caregivers.

The youths who come to the Youth Advancement Unit need warm, smart, available, accessible, and beneficial attachment figures, in order to grow, develop as well as overcome the difficulties and crises they face. The workers' attachment style has a considerable effect on their ability to be "professional caregivers", namely, to meet the youths' needs, serve as an accessible and secure base, and create suitable and promoting interventions. Secure attachment consolidates the inner sense of self-efficacy (Hazan & Shaver, 2007) that is required for working with youths at-risk.

Figure 1. Secure Attachment and Self-Efficacy at Work with Youths At-Risk: Relationship and Effect



This article illustrates the need for an applied research that will explore the relation between self-efficacy and attachment styles in the work with youths at-risk. Understanding the relation between attachment and perception of self-efficacy can facilitate the development of an instrument of assessment and measurement, the promotion of tailored instruction and training sessions, and the growth of leadership from among the workers (Harms, 2011).

REFERENCES

- Ainsworth, M.D.S., Blehar, M.C., Waters, E., & Wall, S.N. (1978/2015). *Patterns of attachment: A psychological study of the strange situation*. Psychology Press.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37(2), 122.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive perspective*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1994). Self-efficacy. In V.S. Ramachandran (Ed.). *Encyclopedia of Human Behavior*, 4 (pp. 71-81).

- Bandura, A. (1997). *Self-efficacy: The exercise of control. Handbook of principles of organization behavior, 2*. מקורם ההוצאה: Macmillan
- Bandura, A. (2000). Cultivate self-efficacy for personal and organizational effectiveness. *Handbook of principles of organization behavior, 2*, 0011-21.
- Bar-On Cohen, E. (2011). The professional status of the social-educational worker in Israel and its promotion. In: H. Aharoni (Ed.). *Social educational work in Israel* (pp. 287-311). Rehovot: Advance. [Hebrew]
- Bowlby, J. (1969/1982). *Attachment and loss: Vol. 1. Attachment* (2nd ed.). New York: Basic Books.
- Bowlby, J. (1988). *A secure base: Clinical applications of attachment theory*. Taylor & Francis.
- Cohen, E., & Cohen, A. (2003). The social educational worker (Part 2). *Research report in the framework of a policy research on the topic of the professionalization of the social-educational worker in Israel*. Jerusalem: Efshar Association. [Hebrew]
- Cohen-Starvichensky, P. (1998). Survey of youths under the care of the Service for the Advancement of Youth at Risk, Main findings. In: P. Cohen-Starvichensky, T. Dolev, I. Shemesh, & G. Rahav, *From alienation to integration: Initiatives and thoughts, a stage for the workers of the advancement of youths in Israel*, 9 (pp. 6-32). [Hebrew]
- Collins, N.L. & Feeney, B.C. (2000). A safe haven: An attachment theory perspective on support seeking and caregiving in intimate relationships. *Journal of Personality and Social Psychology, 78*(6), 1053.
- Consiglio, C., Borgogni, L., Di Tecco, C. & Schaufeli, W.B. (2016). What makes employees engaged with their work? The role of self-efficacy and employee's perceptions of social context over time. *Career Development International, 21*(2), 125-143.
- Dozier, M., Cue, K.L. & Barnett, L. (1994). Clinicians as caregivers: Role of attachment organization in treatment. *Journal of Consulting and Clinical Psychology, 62*(4), 793-799.
- European Bureau of the International Association of Social Educators (2006). A Common Platform for Social Educators in Europe. *Child and Youth Care Forum* (p. 375). Springer.
- Feeney, B.C., & Thrush, R.L. (2010). Relationship influences on exploration in adulthood: the characteristics and function of a secure base.", *Journal of Personality and Social Psychology, 98*(1), 57.
- Florian, V., Mikulincer, M. & Bucholtz, I. (1995). Effects of adult attachment style on the perception and search for social support. *The Journal of Psychology, 129*(6), 665-676.

- George, C., Solomon, J., Cassidy, J. & Shaver, P. (2008). The caregiving system: A behavioral systems approach to parenting. *Handbook of attachment: Theory, research, and clinical applications*, 2, 833-856.
- Grouper, E. (2007). The professional abilities of social-educational workers needed for professional recognition: Conceptual framework. *Encounter for Social Educational Work*, 25, 115-134. [Hebrew]
- Grouper, E. (2011). Therapeutic educational worker in the international context. In: H. Aharoni (Ed.). *Social educational work in Israel* (pp. 266-284). Rehovot: Advance. [Hebrew]
- Gur, A. (2006). *Changes in the adjustment and representations of systems of attachment of youths in distress during their stay in treatment institutions – the transformative influence of the functioning of treatment figures as a 'secure base'*. Doctoral dissertation. Ramat-Gan: Bar Ilan University. [Hebrew]
- Harms, P.D. (2011). Adult attachment styles in the workplace. *Human Resource Management Review*, 21(4), 285-296.
- Hazan, C. & Shaver, P.R. (1990). Love and work: An attachment-theoretical perspective. *Journal of Personality and Social Psychology*, 59(2), 270.
- Himi, H. (2009). Curriculum and practical training of the program for handling and promoting youths: Past, present, and future. *Encounter for Social Educational Work*, 29, 19-32. [Hebrew]
- Judge, T.A., Jackson, C.L., Shaw, J.C., Scott, B.A., & Rich, B.L. (2007). Self-efficacy and work-related performance: The integral role of individual differences. *Journal of Applied Psychology*, 92(1), 107.
- Lahav, H. (2011). Socio-educational work in the community. In: H. Aharoni (Ed.). *Social educational work in Israel* (pp. 235-265). Rehovot: Advance. [Hebrew]
- Maier, H.W. (1979). The core of care: Essential ingredients for the development of children at home and away from home. *Child Care Quarterly*, 8(3), 161-173.
- Pines, A.M. (2004). Adult attachment styles and their relationship to burnout: A preliminary, cross-cultural investigation. *Work & Stress*, 18(1), 66-80.
- Razer, M. (2009). *Training of teachers and education workers for work with students at risk and social exclusion in the school framework*. Tel Aviv: MOFET Institute, 38, 76-80. [Hebrew]
- Sela-Shayovitz, R. (2014). Perception of self-efficacy among workers of the Advancement for Youth At-Risk Service. In: S. Romi & E. Grouper (Eds.). *Advancement of youth and adolescents at-risk in Israel: Structure of knowledge of the field, methods of intervention, training programs, and future development*. Ramat Gan and Tel Aviv: Bar-Ilan University and MOFET Institute. [Hebrew]

- Shaver, P.R. & Mikulincer, M. (2007). Adult attachment strategies and the regulation of emotion. *Handbook of emotion regulation*, 1, 446-465.
- Shemesh, I., & Shemesh, R. (2010). Promotion of mental resilience in socio-educational work with youths at-risk. *From disconnection to inclusion*, 16, June. [Hebrew]
- Solan, M., & Mikulincer, M. (2003). Patterns of attachment and the implementation of authority when filling a role. *Horizon. 4.* [Hebrew]
- Solomon, J. & George, C. (1996). Defining the caregiving system: Toward a theory of caregiving. *Infant Mental Health Journal*, 17(3), 183-197.
- Soroka, Y. (2008). The power of extra-treatment factors in the processes of education and treatment. *From Disconnection to Inclusion*, 15. [Hebrew]
- Tyrrell, C.L., Dozier, M., Teague, G.B. & Fallot, R.D. (1999). Effective treatment relationships for persons with serious psychiatric disorders: The importance of attachment states of mind. *Journal of Consulting and Clinical Psychology*, 67(5), 725.
- West, A.L. (2015). Associations among attachment style, burnout, and compassion fatigue in health and human service workers: A systematic review. *Journal of Human Behavior in the Social Environment*, 25(6), 571-590.
- Zegers, M.A., Schuengel, C., van IJzendoorn, M.H., & Janssens, J.M. (2006). Attachment representations of institutionalized adolescents and their professional caregivers: predicting the development of therapeutic relationships. *American Journal of Orthopsychiatry*, 76(3), 325.

AN INTERCULTURAL TURN IN PRE-SERVICE TEACHER TRAINING. A PERSPECTIVE ON THE ENGLISH LANGUAGE TEACHING.

RALUCA POP¹

ABSTRACT. This paper intended to emphasize the constant need to tailor teaching to today's educational requirements. Language learning in the 21st century must reflect the diversity of languages and cultures that are met in a formal education setting. Likewise, the roles of teachers are expanding due to the need to teach effectively diverse learners. The research that has been conducted concluded that pre-service teachers managed to a great extent to incorporate in their teaching cultural perspectives and were able to evaluate and select teaching resources that presented the deeply rooted relationship between culture and language.

Keywords: *foreign language learning, pre-service teacher training, intercultural communicative competence, cultural background, diversity, identity, language knowledge, non-native speaker.*

Introduction

The present paper comprises two parts. The first part provides a theoretical perspective on the constant need to reshape teacher training programmes in order to enable prospective teachers to manage well a changing world. This section acknowledges the fact that all learning is

¹ *The Department of the Didactics of Social Sciences and Humanities, Faculty of Psychology and Educational Sciences, Babeş-Bolyai University of Cluj-Napoca, Romania.*
**Corresponding author: raluca.petrus@ubbcluj.ro*

placed in a social and a cultural context and that this has multiple implications for education. The second part provides details about a quantitative research that has been conducted by using a questionnaire.

I. Theoretical underpinnings

The redesign of the pre-service teacher training education

Pre-service teacher training programmes are designed to train prospective teachers in order to help them enter the profession. According to Nardon (2017, 4) working in a multicultural world leads one to the awareness that “intercultural encounters are a pervasive feature of our modern workplaces and affect most of us”. How do pre-service teacher programmes address this demand for culturally responsive teaching? In today’s educational system, factors such as globalization, internalization of education and digitization of information increase the demands on teachers. The roles performed by teachers, the knowledge and skills they have to acquire and the attitudes they have to demonstrate are undergoing various changes that acknowledge a reality, i.e. a thorough rethinking of teacher preparation is needed in order to accommodate all these changes and bridge the gap in teachers’ mindset.

The European Union and the European Commission, emphasize through various directives and educational policies (*The White Paper on Intercultural Dialogue* (2008), *Recommendation 2006/962/EC on key competences for lifelong learning* (2006), *The Aims of Language Teaching and Learning* (2010), *Developing the Intercultural Dimension in Language Teaching. A Practical Introduction for Teachers* (2002)) the need to understand and accept cultural differences that one could encounter in professional, social or educational contexts. In order to be able to handle in an appropriate manner the intercultural contact, some changes are expected to take place both in curricular design and in teacher training programmes (initial and continuous). On the one hand, the curriculum could be infused with an intercultural approach (Cucoş 2000, 265). Likewise, the curriculum does not undergo major changes and the intercultural perspective is added where necessary. On the other hand, teachers

should acquire a certain degree of intercultural communicative competence (i.e. intercultural knowledge, skills and attitudes) which according to Byram (1997, 7) constitutes “an individual’s ability to communicate and interact across cultural boundaries.” The emergence of the intercultural dimension in the field of foreign language education acknowledges the fact that acquiring the four skills in a foreign language does not represent a guarantee of success in international contexts.

A broad analysis on Romanian literature indicates that, as concerns foreign language teaching, there is a definitely great interest in tackling an intercultural perspective via an infusional approach. Various studies constitute a proof of this constant interest for integrating an intercultural perspective within pre-service teacher training practice and developing students’ intercultural communicative competence (Bârlogeanu, L., 2005; Nedelcu, A., 2008; Cozma, T., Butnaru, S., Cucuș, C., 2001; Cosma, M., Cosma, B., 2006; Pop, R. 2015).

Since the “teaching of English has become one of the fastest growing international professions” (Diaz-Rico 2000, 71) participants in educational programmes are required “to build personal knowledge about the interdependence of language, culture and schooling” (Diaz-Rico 2000, 79). Prospective teachers of English, native speakers or non-native speakers, are encouraged to become more aware and think critically of the connections existing between one’s cultural background and the context of learning a foreign language. Because education has a social component attached to it and nowadays it is encouraged to take a more active role in today’s multicultural setting, the responsibility for educating preservice teachers has reached a considerable high level in the past two decades.

The development of the *intercultural communicative competence* (Byram 1997), the emergence of a multicultural perspective on teaching (Carl & Grant 1992) and empirical research (Sercu et. al. 2005) convey a coherent message about the need to reshape teacher training for enabling teachers to manage well a changing world. Increasingly, an emphasis is placed on the teachers’ knowledge, attitudes and skills to understand the implications of multiculturalism in the formal classroom setting. This redesign is backed up by research that targeted teacher efficiency in Europe after completion of initial training programmes. According to the Eurydice

report, teachers admit having moderate or high levels of needs for Continuing Professional Development in areas such as: teaching in multilingual and multicultural settings (European Commission 2015, 3-4). On the one hand, these findings indicate that teachers still need more training in culturally sensitive teaching and in understanding that the individuality of students might require different instructional strategies. On the other hand, teaching brings into consideration multiple layers and dimensions of this cultural mediation that takes place in foreign language classrooms. For example, the development of intercultural communicative competence is a lifelong process since one is constantly interacting with people belonging to different cultural, social and linguistic backgrounds. Likewise, "teachers continually construct knowledge and skills in practice throughout their careers rather than acquiring a finite set of knowledge and skills in their totality before entering the classroom" (Bransford & LaPage 2005, 3).

The multicultural classroom: a resource, not a challenge

Nowadays, most classrooms are comprised of diverse learners who speak different mother tongues, belong to different cultures and come from different social and economic groups. Therefore, teachers "need to be increasingly effective in enabling a diverse group of students to learn ever more complex material and to develop a wider range of skills" (Bransford & LePage 2005, 2). This effectiveness is determined both by a teacher's ability to answer questions related to *what* and *how* to incorporate students' culture and worldviews into teaching and by the development of an informed opinion regarding the impact of this diversity on the learning process.

According to Snyder & Dillow (2015 in DaSilva-Iddings 2017, 1) culturally and linguistically diverse children make up the fastest-growing student population in the U.S. Research aimed at examining the reasons that led in the past two decades to inferior quality education of these diverse learners pointed out two factors: the lack of a curricular design that builds on the learners' broader social environment and the lack of preparation of preservice teachers (Manyak 2000 & Souto-Manning 2013 in

DaSilva-Iddings 2017, 1). These two factors advocate for a reconceptualization of teaching by adopting a curriculum that incorporates a cultural component and a redesign of teacher education that targets a deeper understanding of what teaching to linguistically and culturally diverse learners really means.

In the field of education and particularly in the area of foreign language teaching, educators “should be trained to deal with the growing diversity of learners” (European Commission 2015, 5). Any educational programme, from kindergarten to adult learning, should strive not only to acknowledge and embrace diversity, but also to create the right conditions to explore and benefit from it. Linguistically diverse learners represent a resource in the foreign language classroom because languages do not just facilitate communication but “represent the very fabric of cultural expressions, the carriers of identity, values and worldviews” (UNESCO World Report 2009, 73). It is important to note that the intercultural perspective suggests a new direction, namely the recognition of the contribution of the cultural dimension within the foreign language acquisition process. The intercultural perspective intends to bring to the forefront the need to understand self and others through language, whether these are native speakers or foreign language learners. The complex relationship between language and culture is explored and used as a way to promote understanding and acceptance of cultural diversity.

The foreign language teacher’s roles and competence

The personal and professional development of a teacher takes place in a socio-cultural context. Golombek acknowledges the salience of this context when she concludes that “who we are affects how we teach” (2000, 103). Therefore, teachers of foreign languages need to be able to understand and foresee the interference of the socio-cultural aspects within the foreign language classroom. Moreover, when teaching a foreign language one should keep in mind the fact that language represents both a linguistic and a social phenomenon. Therefore, communication always occurs in context and this context is relevant for providing an efficient decoding of the message.

Villegas and Lucas (2002, 20) propose a framework for preparing culturally responsive teachers and suggest six important qualities that should be attained throughout the teacher education curriculum: teachers (a) are sociocultural conscious, (b) have affirming views of students from diverse backgrounds, (c) see themselves as responsible for and capable of bringing about change to make schools more equitable, (d) understand how learners construct knowledge and are capable of promoting knowledge construction, (e) know about the lives of their students, and (f) design instruction that builds on what their students already know while stretching them beyond the familiar.” These characteristics suggest that knowledge about learners’ cultural, social and linguistic diversity should be put to use and transferred into clear pedagogical objectives. In addition, these characteristics imply that teachers should “demonstrate genuine interest in developing knowledge, skills and attitudes that are conducive to multilingual and multicultural understanding” (Pop 2016, 234-235).

Teachers of foreign languages should demonstrate sound content knowledge, valuable pedagogical knowledge and insightful knowledge of how learning is achieved by diverse learners. By applying a cultural lens to teaching a foreign language one articulates better the elements of inclusive and culturally responsive teaching. An intercultural turn in pre-service teacher training education should permeate all the levels: at macro level educational policies and the curriculum should strive to embrace diversity in schools and acknowledge a need for change; at mezzo level school policies should investigate best practices for preparing teachers to tackle learners’ diversity and thus cross sociocultural boundaries; at micro level every teacher should become an agent of change and strive to integrate an intercultural sensitive approach in their teaching.

In the foreign language classroom teachers make use of various authentic resources that incorporate a rather good amount of cultural information. These authentic resources written in the target language (e.g. newspapers, blogs, movies, songs, ads, weather forecasts etc.) have not been issued especially for educational purposes but can be integrated in a formal educational setting in order to develop students’ intercultural knowledge, skills and attitudes. Still, the foreign language teacher needs to understand the pieces of cultural information inferred by these resources so as to be able to mediate between students’ culture and the target language

culture. It might not be too far-fetched to assume that in the case of foreign language teaching the teacher has to develop both a personal and a professional relationship with the target culture. Teaching foreign languages entails more than just teaching grammar, vocabulary and the enactment of the four skills. In fact, it constitutes an opportunity to question one's identity in relation to the mother-tongue culture and the target culture (Pop 2016, 235). Therefore, in a multicultural language classroom, teachers act as mediators between different cultures. Expanding on the role of teachers, Iucu (2007, 29) states that teachers' professional development represents a fundamental component in redefining Europe's cultural identity. Thus, a culturally responsive teacher plays a salient role in exploring cultural identity through teaching a foreign language.

But foreign language teaching poses some difficulties to a non-native speaker. Various studies (Medgyes 429-442 in Celce-Murcia 2001; Llurda 2005) raise focus on non-native speaking teachers' quest for identity and legitimacy. Leaving aside the unattainable native-like language knowledge, non-native speaker practitioners are more "suited to provide students with a pluralistic cultural perspective" (Kramsch 1998 & Cook 1999 apud. Modiano, 2005, 26). Learning a foreign language enables one, among other things, to interact with a new culture, to show respect towards what is different and to manage effectively various communicative contexts. Therefore, teaching a foreign language is a lot different than teaching another subject matter (Gardner 1985, 146 apud. Regan & Osborn 2002, 64) because it encourages one to express and develop intercultural attitudes.

The Didactics of the English Language

The Didactics of the English language is a course offered to BA students at the Faculty of Letters, Babeş-Bolyai University of Cluj-Napoca within their optional pre-service teacher training programme.

The topics tackled in this course (e.g. teaching grammar and vocabulary, teaching receptive and productive skills, teaching literature etc.) are infused with an intercultural perspective through the use of various authentic resources and literature that focuses on the development of the intercultural

communicative competence. The dialogue between students' mother tongue culture and the foreign language culture aims to enable pre-service teachers to develop their intercultural knowledge, skills and attitudes. This intercultural perspective permeates the three areas that prospective teachers should acquire: subject matter knowledge, pedagogical knowledge and knowledge about how diverse students learn. During their teaching practice, pre-service teachers are required to teach in formal classroom settings and put to good use the theoretical and the practical knowledge that they have already acquired.

II. Research

The details of the research are listed below:

Location: Faculty of Letters, Babeş-Bolyai University, Cluj-Napoca

Span of time: January-February 2018

Respondents: 3rd year students enrolled in the Pre-service teacher training course, specialization: English major

Language knowledge: respondents are multilingual and belong to different cultural backgrounds

Number of respondents: 48

Recruitment: students volunteered to take part in this research after they had been informed about the details of the study.

This is a descriptive research that explores and explains the particularities of a pre-service teaching programme.

Research question

The purpose of this study is to determine to what degree pre-service teachers are able to make use, during their teaching practice, of their intercultural communicative competence in planning activities, in organizing and providing content and in evaluating teaching resources when teaching English in a formal classroom setting.

Research tool

We have adapted the European Portfolio for Student Teachers of Languages (EPOSTL) (Newby et. al. 2007) and selected only the items that related to the ability to make use of and integrate culture in foreign language teaching. The EPOSTL questionnaire is a self-assessment and reflective tool that enables prospective teachers to track their development in accordance with specific competences for planning and teaching lessons. We have selected 10 items for this questionnaire and provided a Likert scale for self-assessment in order to be able to analyse data in a quantitative manner. The 10 items of the questionnaire can be found in Appendix A.

We have also included an open-ended question referring to didactic challenges and difficulties encountered by pre-service teachers during their teaching practice. This section was intended to be analyzed from a qualitative point of view.

Results

The first two items evaluated pre-service teachers' knowledge and skills to organize learning content in order to respond to diverse students. Results for the two items indicated that 85.42% of the respondents considered that they managed *well* and *very well* (68.75%) during their teaching practice to provide language content in appropriate ways and offer a variety of activities that responded to students' needs. The next three items requested respondents to evaluate how well they were able to relate their foreign language teaching to the target culture or to other international contexts. A considerable percentage of 85.42 of the respondents considered that they managed *well* and *very well* to relate the foreign language to the culture of those who speak it. Still, 14.58% considered that they managed just *fair* or even *poor* to perform this task. Respondents answered in great number that they have good (43.75%) and very good (41.67%) skills to emphasize the interdependence of language and culture. None of the respondents assigned poor knowledge skills to this item.

Item number six required respondents to assess their ability to evaluate a variety of texts that are culturally laden. Respondents answered that they managed *very well* (52.08%) to perform this evaluation while

they performed their teaching practice. As regards the next item, 47.92% of the respondents valued their ability to identify similarities and differences between their own culture and the target culture as *good* and 37.50% of the respondents valued it as *very good*. Still, when it comes to developing learners' socio-cultural competence in the formal educational setting, respondents indicated that they felt that they had *poor* level of knowledge (2.08%), a *fair* level of knowledge (10.42%) or did not provide an answer at all (4.17%). In fact, this is the single question where missing answers were registered. Nevertheless, 22 respondents (45.83%) concluded that they had been able to help foreign language learners to develop their socio-cultural knowledge.

Respondents assessed as *good* (43.75%) and *very good* (31.25%) their ability to select resources that would provide foreign language learners with the possibility to reflect on the concept of 'otherness'. The last item intended to assess respondents' ability to evaluate and select teaching resources that would emphasize the deeply rooted relationship between culture and language. A number of 41 respondents (85.42%) concluded that they are *knowledgeable* (41.67%) or *very knowledgeable* (43.75%) in this respect.

The open-ended question was evaluated in a qualitative manner. The answers given to the open-ended question (*What kind of didactic challenges or difficulties have you encountered during your teaching practice?*) did not make reference to difficulties related to inefficient cultural knowledge, abilities or attitudes. A total number of 11 answers were received. Eight of them referred to classroom management problems, namely lack of experience in organizing and planning teaching activities, learner's disruptive behavior and inability to use efficiently paralinguistic cues and non-verbal communication. Three answers related to an external factor connected to the teaching practice, namely that courses at the faculty overlapped with their teaching in schools.

Discussions

In view of the results obtained, we could claim that respondents were able to incorporate in their teaching cultural aspects and perspectives. They were able to evaluate and select teaching resources that would

emphasize the deeply rooted relationship between culture and language. They managed to teach to diverse students regardless of the boundaries that sometimes language might impose. Moreover, respondents' answers reflect the idea that the formal educational setting can become a successful arena for developing one's intercultural communicative competence. Still, without a doubt, respondents need to further develop their knowledge of how to incorporate culture into their teaching practice.

Conclusions

Today's cultural diversity in schools can provide opportunities to encounter other cultures, to be acquainted with other points of views and to learn to respect diversity. Foreign language teachers can use learners' cultural backgrounds in the teaching process. Likewise, the learning process is more real and engaging. The roles of teachers are expanding due to the need to teach effectively to diverse learners and to become cognizant of the social, cultural, economic or political factors that can have an impact on the teaching process.

Appendix A

Source: adapted from European Portfolio for Student Teachers of Languages (2007)

Based on your own preferences, please rate the following statements.
Circle your answer:

CONDUCTING A LESSON: CONTENT

Question	Survey scale				
1. I can present language content (new and previously encountered items of language, topics etc.) in ways which are appropriate for individuals and specific groups of learners	Not at all	Poor	Fair	Good	Very good
	1	2	3	4	5

RALUCA POP

Question	Survey scale				
2. I can vary and balance activities in order to respond to individuals learners' learning styles.	Not at all	Poor	Fair	Good	Very good
	1	2	3	4	5
3. I can relate what I teach to current events in local and international contexts.	Not at all	Poor	Fair	Good	Very good
	1	2	3	4	5
4. I can relate the language I am teaching to the culture of those who speak it.	Not at all	Poor	Fair	Good	Very good
	1	2	3	4	5
5. I can plan activities to emphasize the interdependence of language and culture	Not at all	Poor	Fair	Good	Very good
	1	2	3	4	5
6. I can evaluate and select a variety of texts, source materials and activities which awaken learners' interest in and help them to develop their knowledge and understanding of their own and the other language culture (cultural facts, events, attitudes and identity etc.).	Not at all	Poor	Fair	Good	Very good
	1	2	3	4	5
7. I can evaluate and select a variety of texts, source materials and activities which make learners aware of similarities and differences in socio-cultural 'norms of behaviour'.	Not at all	Poor	Fair	Good	Very good
	1	2	3	4	5
8. I can evaluate and select activities (role plays, simulated situations etc.) which help learners to develop their socio-cultural competence.	Not at all	Poor	Fair	Good	Very good
	1	2	3	4	5
9. I can evaluate and select a variety of texts, source material and activities which help learners to reflect on the concept of 'otherness' and understand different value systems.	Not at all	Poor	Fair	Good	Very good
	1	2	3	4	5
10. I can evaluate and select a variety of texts and activities to make learners aware of the interrelationship between culture and language.	Not at all	Poor	Fair	Good	Very good
	1	2	3	4	5
What kind of didactic challenges or difficulties have you encountered during your teaching practice?					

REFERENCES

- Bârlogeanu, L. (2005). *Intercultural Education*. [Educație interculturală]. București: Editura MEC.
- Byram, M. (1997). *Teaching and assessing intercultural communicative competence*. Clevedon: Multilingual Matters.
- Bransford, J., LePage, L.D-H. (2005). Introduction. In Linda Darling-Hammond & John Bransford (Ed.). *Preparing Teachers for A Changing World. What teachers should learn and be able to do* (pp. 1-39). USA: Wiley Imprint.
- Carl A., Grant, P (1992). *Research & Multicultural Education: From The Margins To The Mainstream*. Oxon, New York: Routledge.
- Cosma, M., Cosma, B. O. (2006). *Intercultural Education: from theory to practice*. [Educația interculturală: de la teorie la practică]. Sibiu: Editura Universității Lucian Blaga
- Cozma T., Butnaru S., Cucuș C. (2001). *Intercultural Education. A guide for trainers*. [Educația interculturală. Ghid pentru formatori]. Iași: Editura Erola.
- Cucuș, C. (2000). *Education. Cultural and Intercultural Dimensions*. [Educația. Dimensiuni culturale și interculturale]. Iași: Editura Polirom.
- DaSilva-Iddings, A.C. (2017). Introduction. In Ana Christina DaSilva-Iddings (Ed.). *Re-Designing Teacher Education for Culturally and Linguistically Diverse Children. A Critical-Ecological Approach*. Oxon, New York: Routledge.
- Diaz-Rico, L.T. (2000). TESOL Education in the Context of Diversity. In Karen E. Johanson (Ed.). *Teacher Education. Case Studies in TESOL. Practice Series* (pp. 71-83). USA: TESOL Inc.
- Dong Y.R. (2000). Learning to See Diverse Students Through Reflective Teaching Portfolios. In *Teacher Education. Case Studies in TESOL. Practice Series*. In Karen E. Johanson (Ed.). *Teacher Education. Case Studies in TESOL. Practice Series* (pp. 137-151). USA: TESOL Inc.
- Iucu, R. (2007). Quality and training – a multicultural dimension of quality assurance processes in teacher training programmes [Calitate și formare – dimensiunea multiculturală a proceselor de asigurare a calității în sisteme de formare a personalului didactic]. In Bârlogeanu L. (Ed.). *Interculturality – studies, research, experiences [Interculturalitate – Studii, cercetări, experiențe]*. București: Editura Universității din București.
- Golombek, P.R, (2000). Promoting Sense-Making in Second Language Teacher Education. In Karen E. Johanson (Ed.). *Teacher Education. Case Studies in TESOL. Practice Series* (pp. 87-104). USA: TESOL Inc.

- Llurda, E. (2005). *Non-Native language teachers: perceptions, challenges and contributions to the profession*. Springer: USA.
- Medgyes, P. (2001). When the Teacher is a Non-Native Speaker. In Celce-Murcia, Marianne (Ed.). *Teaching English as a Second or Foreign Language*, third Edition (pp. 429-442). Boston: Heinle & Heinle.
- Modiano, M. (2005). Cultural studies, foreign language teaching and learning practices, and the NNS practitioner. In Enric Llurda (Ed.). *Non-Native language teachers: perceptions, challenges and contributions to the profession* (pp. 24-44). USA: Springer.
- Nardon, L. (2017). *Working in a Multicultural World. A Guide to Developing Intercultural Competence*. Canada: University of Toronto Press.
- Nedelcu, A. (2008). *Principles in intercultural education*. [Fundamentele educatiei interculturale]. Iași: Editura Polirom
- Pop, R. (2016), Foreign Language Learning in Today's Multicultural and Multilingual Classrooms. In *Studia Universitatis Babeș-Bolyai, Philologia, volume 61, issue 3* (pp 231-238).
- Pop, R. (2015). Developing students' intercultural communicative competence. Applications in The Pre-Service Teacher Training Practice for the English Specialization [Modelarea competenței comunicative interculturale a studenților. Aplicații pentru formarea inițială la specializarea engleză]. Cluj-Napoca: Casa Cartii de Stiinta.
- Regan, T., Osborn, T.A. (2002). *The foreign language educator in society: toward a critical pedagogy*. New Jersey: Lawrence Erlbaum Associates.
- Sercu, L. et al. (2005). *Foreign Language Teachers and Intercultural Competence. An International Investigation*. UK, USA, Canada: Multilingual Matters Ltd.
- UNESCO World Report (2009). *Investigating in Cultural Diversity and Intercultural Dialogue*. France: The United Nations Educational.
- Vang C.T. (2010). *An Educational Psychology of Methods in Multicultural Education*. New York: Peter Lang Publishing Inc.

Electronic sources

- European Commission. (2015). *Joint Report of the Council and the Commission on the implementation of the Strategic framework for European cooperation in education and training (ET2020)*. Retrieved November 15, 2018 from http://ec.europa.eu/education/documents/et-2020-draft-joint-report-408-2015_en.pdf

- European Commission (2015). *Strengthening teaching in Europe: New evidence from teachers compiled by Eurydice and CRELL*. Luxembourg: Office for Official Publications of the European Communities. Retrieved November 20, 2018 from http://ec.europa.eu/assets/eac/education/library/policy/teaching-profession-practices_en.pdf
- Newby, D. et al. (2007). *European Portfolio for Student Teachers of Languages: A reflection tool for language teacher education*. Gratz: ECML. Retrieved November 2, 2018, from http://archive.ecml.at/mtp2/ftc/pdf/c3_epostl_e.pdf
- Villegas, A.M., Lucas, T. (2002). Preparing Culturally Responsive Teachers: Rethinking the Curriculum. In *Journal of Teacher Education*, Volume: 53 issue: 1 (pp. 20-32). Retrieved November 18, 2018 from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.618.3136&rep=rep1&type=pdf>