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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

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

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THE EXPERIENCE OF POSTNATAL DEPRESSION IN A SAMPLE OF ROMANIAN MOTHERS

ANDREEA BARBU^{1*}, OANA BENGA²

ABSTRACT. Maternal postnatal depression (PND) is a prevalent condition after birth, with significant effects on both mother and child mental health. The aim of the present research was to explore the experience of postnatal depression in a sample of Romanian mothers. Within an interpretative-phenomenological approach, we interviewed and analyzed the data from three mothers, regarding their perception and experience of postnatal depression. All participants were screened for PND in the first place. Within the interviews, three major themes were delineated: 1) postnatal depression: experience, significance, contextualization; 2) ambivalence; 3) social support. Three specific themes also emerged: 1) worries and dysfunctional cognitions; 2) family conflict; 3) dissatisfaction with self. All three mothers recognized the concept of postnatal depression and knew its meaning. The meanings assigned by the mothers to postnatal depression, respectively to their psychological states were: disorder, tendency to harm the baby, sadness, apathy, dissatisfaction with self. Mothers' perception of their PND experience was ambivalent, changing from minimization or denial to acknowledgment. Social support was perceived as present, while emotional support was also acknowledged as understanding (of mothers' experiences). Our results depicted postnatal depression as a phenomenon experienced both in rural and urban contexts, with common and specific features among participants.

Key words: *postnatal depression, mothers, experience, qualitative research.*

ZUSAMMENFASSUNG. Die Erfahrung der postnatalen Depression in einer Stichprobe von rumänischen Müttern. Mütterliche postnatale Depression (MPD) ist eine verbreitete Erkrankung nach der Geburt, mit erheblichen Auswirkungen auf Mutter und Kind psychische Gesundheit. Das Ziel der vorliegenden Studie war die Erfahrung der postnatalen Depression in einer Probe der rumänischen Mütter zu erkunden. Innerhalb eines interpretativ-phänomenologischen Ansatzes haben wir die Daten von drei Müttern in Bezug

¹ Department of Psychology, Faculty of Psychology and Sciences of Education, Babeş-Bolyai University

² Department of Psychology, Faculty of Psychology and Sciences of education, Babeş-Bolyai University

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

auf ihre Wahrnehmung und Erfahrung der postnatalen Depression interviewt und analysiert. Alle Teilnehmer wurden in erster Linie auf MPD geprüft. Innerhalb der Interviews wurden drei Hauptthemen abgegrenzt: 1) postnatale Depression: Erfahrung, Bedeutung, Kontextualisierung; 2) Ambivalenz; 3) soziale Unterstützung. Es gab auch drei spezifische Themen: 1) Sorgen und dysfunktionale Kognitionen; 2) Familienkonflikt; 3) Selbstunzufriedenheit. Alle drei Mütter erkannten das Konzept der postnatalen Depression und wussten ihre Bedeutung. Die Bedeutungen zugewiesen von den Müttern zur postnatalen Depression bzw. zu ihre psychologischen Zustände waren: Störung, Tendenz dem Baby zu schaden, Traurigkeit, Apathie, Selbstunzufriedenheit. Die Wahrnehmung der Mütter in Bezug auf ihre MPD-Erfahrung war ambivalent und wechselte von der Minimierung oder der Ablehnung der Anerkennung. Die soziale Unterstützung wurde als Gegenwart wahrgenommen, während die emotionale Unterstützung war auch als Verständnis (der Erfahrungen der Mütter) anerkannt. Unsere Ergebnisse zeigten eine postnatale Depression als ein Phänomen, das sowohl im ländlichen als auch im urbanen Kontext auftritt, mit gemeinsamen und spezifischen Merkmalen unter den Teilnehmern.

Schlüsselwörter: *postnatale Depression, Mütter, Erfahrung, qualitative Forschung*

INTRODUCTION

Affective disturbances in the postnatal period can be differentiated into 1) postnatal blues or baby blues – a mild intensity and temporary state, with onset in the first three to five days after birth (Nobel, 2005, Wisner, Parry, Piontek, 2002); 2) postnatal depression; and 3) postpartum psychosis – an acute disturbance, beginning in the first two to four weeks after birth (Sit, Rothschild, & Eisner, 2006). With a proportion of affected mother estimated around 10–15%, postnatal depression (PND) is considered a prevalent mental health complication after childbirth (O’Hara & McCabe, 2013, Robertson, Celasun, & Stewart, 2003). This condition (PND) may be characterized by sadness or depressive disposition, crying, fatigue, sleep/ appetite/ weight disturbance, suicidal ideation, thoughts of harming the baby and infanticide in extreme cases. It is included in the cluster of affective disorders, like major depression with postnatal onset - in the following four weeks after delivery (American Psychiatric Association, 2013). According to a recent conceptualization, for example, this condition represents “any major or subsyndromal depression present any time during the first year after birth” (O’Hara & McCabe, 2013, pp. 380). Generally, as we described above, the symptomatology is supposedly similar to major depression diagnosed at any other time in life (O’Hara & McCabe, 2013).

Postnatal depression is an important topic for research and practice (O'Hara & McCabe, 2013) since it affects the mother, the infant and the parental couple (Beck, 2002, Grace & Sansom, 2003, Robertson et al., 2004, Bliszta et al., 2010). Many women experience postnatal distress, even if not at a clinical level of depression. This happens as giving birth represents a considerable stressor, a new and complex life event. Therefore, it is possible that this stressor will produce affective disturbances (Cooper & Murray, 1995, Robertson et al., 2003). In other words, postnatal depression is affecting mothers by predisposing the ones without a history of depression to subsequent postnatal depression episodes. Moreover, for mothers with a history of depression, PND could lead to recurrence of depressive episodes outside the perinatal period (Cooper & Murray, 1995, O'Hara & McCabe, 2013). Regarding the ongoing experience of motherhood after giving birth, PND appears to affect in a negative way mother's emotional state (e.g. elevated levels of distress or negative emotions), caregiving practices (e.g. problems with breastfeeding, improper car safety practices for the infant) and parenting (e.g. reduced synchrony in dyadic interactions and increased irritability and hostility) (Field, 2010; Lovejoy, Graczyk, O'Hare, & Neuman, 2000; O'Hara & McCabe, 2013). Postnatal depression also influences cognitive processes. For example, depressive symptoms were shown to be associated with reduced attention in dyadic interaction and negative appraisal of infant's behavior (Dix & Meunier, 2009). We will further discuss mothers' perspectives on PND experience in the following section.

The adverse effects that postnatal depression has on the infant via mother-infant interaction are supported by numerous studies (Grace & Sansom, 2003, Field, 2010, O'Hara & McCabe, 2013). In their meta-analysis, Grace & Sansom (2003) show that postnatal depression has a negative effect on mother's communicative behavior – reduced verbal and visual interaction, and upon mother's affect towards the infant – less positive interactions, less sensitivity. The impact of postnatal depression on infant development can be found at various levels: emotional, cognitive and behavioral (Grace & Sansom, 2003, Grace, Evindar, & Stewart, 2003). We briefly point here to effects on infants' attachment. There is an increased risk for children of mothers with postnatal depression to develop an insecure type of attachment (i.e., anxious or avoidant), than for children of non-affected mothers (Wisner, Parry, Piontek, 2002, Grace & Sansom, 2003). At the couple level, postnatal depression can generate conflicts or tension, due to the difficulties mothers encounter in managing their new maternity responsibilities (Bliszta et al., 2010).

Kumar (1994) outlined the fact that pregnancy and childbirth are common events around the world, having the same physiology. However, the experience and perception of these phenomena can vary among mothers and

their social groups (Kumar, 1994, pp. 251). Another way to highlight this fact is through Beck's (2002) analogy of postnatal depression with a chameleon: it might have the same organic or physiological structure, but can have distinctive manifestations and experiences. For example, Hall (2006) reported that the experiences of women she investigated were characterized by difficulties in speaking about their condition, believes that peers will not understand them, perceptions that they were bad mothers, worries about bonding and their mother-infant relations. Moreover, their expectations for a good or happy postnatal experience were disconfirmed by the experience after giving birth (Hall, 2006). Postnatal depression experience was described by mothers interviewed in different studies as a phenomenon of morbid unhappiness after giving birth (Oates et al., 2004) or an experience of major adaptation which often was exhausting (Buultjens & Liamputtong, 2007). Mothers' descriptions of their emotional experience were consonant with at least some of the DSM criteria for depression: fatigue, lack of energy, worthlessness, guilt (see Ugarizza, 2002).

One result we consider important is that of Bilszta et al. (2010), who found that mothers were not aware of their psychopathological conditions since they were conceptualizing depression only in terms of severe manifestations (e.g. not being able to get out of bed or physically function). Women often did not access mental health services, due to this impercipient awareness, but also due to lack of knowledge about specialized aid (Bilszta et al., 2010). Mothers also reported difficulties in telling others about their experiences, because of social stigma, either real or imagined (Hall, 2006, Bilszta, 2010). These difficulties might be explained by mothers' beliefs that nobody could understand them (Hall, 2006) or by the fact that they did not want to be perceived as failures, but to preserve instead an image of capable women that successfully manage maternity challenges (Bilszta et al., 2010). A revolving theme in qualitative studies on postnatal depression refers to expectations regarding various aspects of postnatal life; for example, mothers expected to be able to cope better with maternal duties or with the baby, they expected maternity to be an easier phase compared to how it was in reality (Beck, 2002; Buultjens & Liamputtong, 2007; Hall, 2006).

Another important theme in the research devoted to postnatal depression is social support. Regarding this, Bilszta et al. (2010), for example, showed that resistant attitudes towards PND displayed by family members altered women's help-seeking behavior and the acceptance of their emotional experience. Regarding mothers' perceptions of social support, this is often seen by mothers as being inadequate, either emotionally or instrumentally (Buultjens & Liamputtong, 2007). Moreover, the perceived lack of social support

is reported by mothers to be a contributing factor to their postnatal sadness (Oates, 2004). Mothers interviewed by Bultjens & Liamputtong (2007) described disagreements with husbands or their own mothers, along with infants' negative reactivity (e.g. cry or agitation) and contradictory advice from others, as main psycho-social factors related to their disturbed state.

Also, interesting to note is one result of Oates et al.'s (2004) transnational study, referring to "the term postnatal depression". In most of the countries included in this study (i.e. France, Italy, Sweden, Austria, Japan, United States of America), mothers freely named their state of morbid unhappiness after childbirth using the phrase 'postnatal depression'. On the other hand, this phenomenon was denied by Australian mothers in Bilszta et al.'s study (2010) (i.e. mothers reported that they cannot experience PND, this state cannot happen to them). This pattern of results could indicate some cultural differences that mark the recognition and use of the concept 'postnatal depression.'

Beck (2002) synthesized the phenomenon of postnatal depression, after analyzing several qualitative studies, in the following themes: internal conflicts between expectations and the experience of motherhood; feeling overwhelmed, anger, anxiety, guilt, loneliness, pervasive loss, which follow a pattern of "spiraling downward"; cognitive patterns of obsessive thinking, impairment in cognitive capacities, thoughts of harming oneself. Postnatal depression can also affect women's experiences with their infants, in the sense that, later in their children's development, mothers can feel they missed out on the first period of their children's life (Beck, 1999, Beck, 2002).

The present study

Despite its effects and implications at the individual, micro- and macro-social levels, postnatal depression remains largely "underdiagnosed" and "undertreated" (Stewart, Robertson, Dennis, Grace, & Wallington, 2003). As such, research should examine postnatal depression and its consequences in diverse ethnic and socioeconomic groups (Stewart et al., 2003, pp.4). In order to address postnatal depression, authors posit that it is necessary to become familiar with mothers' experiences, specifically to understand the perception and significance they assign to this condition (Dennis & Chung-Lee, 2006, Ugarizza, 2002). Denis & Chung-Lee (2006), proposed the idea that, to be addressed, childbirth and maternal depression should be understood in relation to a specific cultural background, reflected in the ways mothers conceptualize and explain their symptoms. In line with this, our research question focused on the experience of postnatal depression. Thus, we wanted to make a contextualized analysis of this phenomenon, exploring the experiences of postnatal depression in a sample of Romanian mothers.

METHOD

Participants

Out of 46 participants recruited for PND screening in the preliminary phase of the study, five mothers met the criteria for inclusion. Only three of them accepted to be interviewed (See Table 1, for participant information). The study took place in a couple of urban and rural settings from Cluj and Alba counties. The inclusion criteria were: 1) the age of the infant – which was in the 1 to 12 months age range; 2) the scores for the two screening questionnaires (i.e. BDI-II and EPDS). For the Beck Depression Inventory –II (BDI-II) the cut-off score recommended and considered suitable for primiparae mothers in an early postnatal period is 10, while for primiparae mothers in a late postnatal period is 12. A BDI-II cut-off score of 15 is recommended in case of multiparae mothers, both for early and late postpartum periods. For the Edinburg Postnatal Depression Scale, a minimum score of 11 is recommended for primiparae mothers in the early periods and for multiparae mothers both for early and late postnatal periods, while for primiparae mothers in a late postnatal period 13 is the optimal cut-point (Ji, Long, Newport, Na, Knight, Zach, Morris, Kunter, & Stowe, 2011). The reasons for choosing the infant age criterion of 1 to 12 months are the following: 1) literature recommends taking into account the interval 1 to 12 months postnatally for the onset of postnatal depression (Robertson et al., 2003); 2) inclusive age limits are needed, in order to provide an accurate and detailed investigation of the phenomenon.

Table 1. Participant information

Participant	Maternal age	Infant age	Number of children	Marital status	Educational level
P1	33 years	10 months	2	Married	Vocational school
P2	33 years	8 ½ months	2	Married	Vocational school
P3	21 years	2 months	1	Married	High school

Instruments

Beck Depression Inventory – II (BDI-II, Beck, Steer & Brown, 1996) is a scale designed for measuring the severity of depression in general and clinical populations. It comprises 21 items, each evaluating a specific symptom or

attitude of depression. The inventory has good psychometric properties in the clinical and non-clinical samples from Romania: Cronbach $\alpha = .90$ for the clinical, respectively Cronbach $\alpha = .89$ for the non-clinical sample; a validity coefficient $r=.72$ with Hamilton Rating Scale for Depression (adapted by David & Dobrean, 2012).

Edinburgh Postnatal Depression Scale (EPDS, Cox, Holden, Sagovsky, 1987, Wisner, Parry, Pointek, 2002) is the most used instrument for measuring postnatal depression. It is highly correlated with clinical evaluations (Cox et al., 1987). Cox et al. (1987) report a fidelity coefficient Cronbach $\alpha = .87$. The good psychometric properties of the scale have also been shown by other studies: Gaynes et al. (2005), Matijasevich et al. (2014). We conducted a process of translation and retroversion for this scale. In the process of translation, three psychologists took part. The retroversion was done by two other psychologists. All of them are native Romanian speakers and independent English speakers. The fidelity of the instrument in our sample (N=46) is good: Cronbach $\alpha = .79$.

A semi-structured interview was used for investigating the experience of mothers with postnatal depression symptomatology. The interview was designed following the guidelines of Baban (2002), Smith & Osborn (2003), Patton & Cochran (2002). This method is considered an adequate one in doing interpretative phenomenological analysis (Chapman & Smith, 2002). The interviews consisted of general questions, on topics like the current experience, difficulties encountered in the postnatal period, the significance of the current experience/postnatal depression for the mother, the experience of maternity.

Procedure

Participants were recruited via general practitioners (GP) and their nurses. First, the announcement of the study was disseminated. GPs, nurses, and mothers were informed that the study regarded maternal wellbeing and maternal adjustment after birth; GPs, nurses or the researcher obtained the verbal agreement of mothers for participation. In the preliminary phase, participants were screened for the presence of postnatal depression symptomatology. All participants received an informed consent, previously to answering the questionnaire. The screening session took place in various settings: the GP's office, mothers' homes, at Babeş-Bolyai University. The screening sessions were organized as a group or individual sessions, depending on mothers' availability. In either case, only the mother(s) and the researcher were present in the room. The GPs and the nurses did not attend any of these sessions. For the next phase, the researcher called the mothers and invited them to a discussion based on the questionnaire they filled in. Mothers received a

consent form again, with explicit information about the procedure of audio recording the interview. All mothers agreed. The interviews were organized as individual sessions. The length of the interviews was about 40 minutes. We conducted interviews from the interpretative-phenomenological perspective (IPA), with general questions followed by in-depth inquiries (Smith, 2004). In other words, the data collection was guided but flexible, to bring to light participants' answers and experiences (Smith & Osborn, 2003). At the end of this phase, we explicitly discussed with mothers the objective of the study and also the results obtained from the questionnaire.

Data Analysis

The interviews were recorded and transcribed entirely afterward. The data were analyzed from an interpretative-phenomenological perspective (Smith & Osborne, 2003, Baban, 2002). The process of reading, re-reading and commenting, identifying initial themes, connecting themes and developing thematic clusters was repeated for each interview independently (Smith & Osborn, 2003). In the end, we searched for the common themes through an iterative process. The common themes or the superordinate themes were established relative to their relevance for the research question and to their informational richness. We identified specific themes, based on differences in the cases explored. The process of coding and identifying themes was inductive and deductive. It was inductive because it was highly based on participants' data. It was also deductive, as we were guided by the theoretical issues emerging from literature.

RESULTS

First theme: postnatal depression: experience, significance, contextualization

Three major common themes emerged from the interviews: 1) postnatal depression: experience, significance, contextualization; 2) ambivalence; 3) social support. The first theme referred to postnatal depression: the experience of depression, the significance of depression in the postnatal period and the integration of this experience in the social context. Mothers' descriptions of their emotional state revealed sadness, nervousness, irritability, fear, fatigue, emotional discomfort. The common emotion for all three participants was sadness. For example, the first participant describing her experience said:

“Well, after I gave birth, I had a period when I was very sad. I was, how can I tell you? I was crying about everything. Even if, I don’t know, (for) nothing I felt like crying...” (P1).

Moreover, the first and second participants spoke about their inability to relax. They (P1 and P2) confessed that even when other members of the family took care of the child (e.g., the husband or the grandmother), they could not rest, as they were continuously worried about the infant and the carer’s ability to manage him/her. They even confessed that they were having doubts their family members could care for the baby as good as themselves.

We observed in all three cases that participants had difficulties in describing their states. They acknowledged they were not feeling well, but in-depth interviewing was needed in each case, to describe the quality of the depressive experience explicitly. Crying was the most reported behavioral expression. The behavior was more accessible to a verbal explanation than the emotion per se. Furthermore, fatigue was repeatedly mentioned by mothers. As it could be expected, this psychosomatic state was exacerbated by the prolonged maternal duties.

Two of the mothers provided antagonistic descriptions when we asked about their perceptions regarding own states and emotions from the prenatal period. In the first and third cases, the descriptions of the prenatal period referred to being active (P1), energetic (P3), “in a very good mood” (P1) and “always smiling” (P3), while the ones of the postnatal period specified states like “very sad” (P1), “not in the mood” (P3) and tired (P3). The second participant, on the other hand, presented her states and emotions as being continuous in the prenatal and postnatal periods. Specifically, she mentioned a tendency towards worrying, fears and “thoughts.” She also confessed that her ongoing state was amplified: “I mean there are additional fears (now), but otherwise, I was the same as (I am) now...” (P2).

All mothers were familiar with the term “postnatal depression.” Participants did not use the term freely to designate their state. Only when they were asked about knowing the phenomenon of postnatal depression, they answered affirmatively. The question was introduced subsequently to mothers’ descriptions of their experience, and it was addressed approximately at the end of the interview, in order not to influence mothers’ talk about their experience. An interesting finding about the concept of postnatal depression was the significance mothers assigned to it. We highlight the fact that, when talking about the meaning of this condition, mothers identified their emotional experience with it and gave personal examples. Thus, the meanings for this pathological state were:

- Depression as a disorder or a tendency to harm the baby: "This depression, I don't know if it is a disorder or what it is, but it's... I was afraid not to, as I told you, not to do something more.../ Like, I don't know, to do something with the baby, to kill him or I don't know what, I don't know... To hit the baby if he cries..." (P1)

- Depression as sadness and apathy: "Maybe this – that you cry very much and you get exhausted and... you don't even feel like taking care of yourself." (P2)

- Depression as sadness and dissatisfaction with body image: "To always be sad after giving birth, or something in your body changes or the way you look after giving birth disturbs you? I think so." (P3)

In other words, postnatal depression is a disorder, with prominent sadness, apathy, and reactions like crying. As we noticed, for P1 the significance revolves around the idea of harming the baby, which may occur in severe cases as the mother herself said. Mothers' conceptualization of this phenomenon included all range of symptoms, even possible severe reactions. The sources reported by mothers as providing information about postnatal depression were: the husband, the Internet, and the television. It was surprising and significant to find out that husbands of all three mothers identified their spouses' condition as postnatal depression. With no exception, mothers said that they had discussed this subject with their partners:

"...He(the husband, even though he was mainly gone to work) stood beside me because he saw that there was something wrong with me./ I am telling you (things) that I haven't told even to my mother. So only my husband has known, insofar. /...with the husband (I had discussed about postnatal depression), because (I think) everybody talks with the husband first." (P1)

"Yes, my husband told me (that there was something wrong). I discussed with him and he told me that I might be like this after giving birth... the fact that I don't have that much patience and...I don't like to go out, I mean...I rather stay at home." (P2)

"My husband told me why I have this state that I do not like how I look, I always say that I (must) lose weight, or that I cry at night, and that I am sadder than usually... He said: 'Well love, this means postnatal depression.'" (P3)

It appears that, for a daily observer– in our cases the husbands, who regularly saw their partners' manifestations, the symptomatology could not remain hidden. Thus, placing the phenomenon of postnatal depression in the social context, we conclude that in the case of a couple, it is an overt condition. As for the extended family or the micro-social context of the mothers, only the third participant reported talking with her parents about her experience. Moreover, at the level of the community, postnatal depression was a covert

condition. Mothers did not show their state and did not discuss their experience with other persons (e.g., other mothers from the village). At the macro-level of analysis, the main source of information and influence for the conceptualization of the phenomenon was mass-media: internet and television. Mothers said they read information about postnatal depression on the internet or heard news about severe PND cases. Mothers acknowledged the benefits of informational input, but recognized a reduced impact at the personal level: "Well, it is one thing to read, to be informed, but it is only you who know how it feels." (P3).

Second theme: ambivalence

The second theme refers to mothers' ambivalence: i.e. acceptance and denial of their experience. This tendency was most evident in the first case. P1 had repeatedly swung between contradictory affirmations:

"I can say that now I kind of got well a bit, and the child has grown a bit.../ I am at home all the time. I live in the village, at home...well, it is hard. / I cannot say... No, nothing comes hard to me."

Additionally, the ambivalence or hesitation in identifying postnatal depression can be depicted by the following lines:

"Q: And what do you mean by postnatal depression?"

A: This depression, I don't know if it's a disorder or what it is, but it's... I was afraid not to, I've told you, not to do something more (harmful)...

Q: I understand that you are familiar with this term or that you have heard about it. What do you exactly mean by it?

A: Yes, I have heard, of course, that I have heard. And not only have I been, or maybe I have been...or haven't been depressed like this, others may be more (affected)..." (P1)

The other two participants also ambivalently described symptoms of postnatal depression from their experience. They questioned or hesitated to admit the presence of the condition in their cases.

Third theme: social support

Social support is another major theme revealed by the analysis of the interviews. In our opinion, this is an essential theme, as it leads to similarities to, but also differences from other research results. Social support refers to the help mothers receive. The extended family is the major source of support (e.g.: own mother/parents, mother in law, sister) in our study. The first participant even regards the family as the unique source of support. The effective support

from family members consists of: taking the baby from home and caring for him and housekeeping. Emotional support from parents or parents-in-law is less mentioned. It may be due to mothers not expressing or communicating their experience.

“... (My mother) took the baby for me to rest. With her, I don't talk too much, to tell her that I am sad... I cannot say that I have told her everything, that it is hard with the baby.”(P1)

Fathers are seen as an important source of support. The three mothers said they received instrumental support from their husbands'. They help with walking the baby, feeding and putting the baby to sleep (P1, 2, 3), cooking (P3) or doing homework with the older children (P1, P2). Instrumental support can also mean the time the father spends at home. The motif of time comes up without being questioned. Except for the third participant, for the first and second participants, the time their husbands were spending home was tacitly unsatisfactory.

The father was perceived by our participants as having a vital role in offering instrumental and also emotional support. Our third participant expressed clearly her belief about the husband's role:

“Q: And what kind of help do you think mothers should get after giving birth, maybe at an ideal level?

P3: “To be understood by their husbands. I believe there is not greater help. ...Because they did not conceive the baby alone, they (the fathers) should get involved also.”

The desired emotional support appeared from the interviews as understanding (of mothers' experiences). For our participants this understanding represented husbands' cognizance of their (mothers') emotional states and difficulties encountered in caring for the baby, respectively in homemaking. As described earlier in the results section, the fathers were aware of the phenomenon of postnatal depression experienced by their wives: “he (the husband) knew there was something wrong with me” (P1).

Specific themes

As we mentioned before, the specific themes that could be delineated from the interviews were: worries and dysfunctional thinking, intergenerational conflicts, dissatisfaction with self. These themes, are relevant since they add distinctiveness to each participant's experience.

First specific theme: Worries and dysfunctional cognition

The second participant's discourse leads to this specific theme. She described herself as always worrying about her health and her children's states:

P2: "Just that I have these thoughts that if anything should happen, at least it should not happen to the children because I think that I would... I mean I don't usually think 'All is well,' I think 'What if something happens?', 'If all the time.'" (P2)

We could also see a negative attributional thinking applied to her life condition:

"... I am under the impression that everything is going wrong... It's like everybody around me has joy, (but) it seems that I don't have (it)..." (P2)

Second specific theme: intergenerational conflicts

A major subject for the third mother was the conflict with her parents-in-law and her husband's grandmother. P3 thought that the onset of the conflict was the birth of her child. These conflicts were around divergences regarding religious values, parental practices, and beliefs about the maternal role:

"My mother-in-law taught her (the baby) to stay only, but only in one's arms... she comes visiting, holds the baby in her arms, carries her, plays with her and you can imagine that if I let her down, she screams from the top of her lungs (and I cannot do anything because of the baby)...And from there came the conflicts because his (the husband's) grandmother says that I am not a woman, that I don't iron clothes, I don't do (household chores)..." (P3)

Third specific theme: dissatisfaction with self

The dissatisfaction was expressed by the third participant. She was dissatisfied with her body and her maternal abilities.

"I am not satisfied at all with my body. I feel like going insane when I see myself like this in the mirror..." (P3)

Regarding her maternal abilities, this participant said she was expecting to manage more things, because, before giving birth, she was doing many home duties, but at that moment she was not able to do anything more than to care for the child.

DISCUSSION

We started our research by questioning “What is the experience of postnatal depression in a sample of Romanian mothers?” We interviewed three mothers, with infants ranging from 1 to 12 months old, who were screened for PND in the preliminary phase of the study. From the initial group of participants involved in screening for PND, which consisted of 46 women, only five mothers met the conditions described in literature as being necessary for the assumption of postnatal depression. In other words, depressive symptomatology of varying intensity was present in 10.86% of the screened cases. This rate is similar to those found in other studies; for example, Stewart et al. (2003) concluded that this condition affects approximately 13% of women in the first year after birth. One important aspect regarding participation in our study is that two out of the five identified mothers refused to participate in the interview. Moreover, we don’t know the real number of persons informed by the medical personnel about our study. The phenomenon of postnatal depression could be a prevalent yet unaccepted condition. It could be the case of minimization or resistance in acknowledging this condition.

Maternal experience of postnatal depression

We have presented in the previous section the manifestations of postnatal depression, as discussed by our participants. These are sadness, crying, fatigue, nervousness, irritability, emotional discomfort, fear, apathy. Our results are in agreement with other findings in the literature; for example, Beck (2002) also mentioned experiences of anxiety, anger, and feeling overwhelmed. We observed that mother’s descriptions of their condition were similar to DSM criteria and also to the explanatory model of Ugarizza’s (2002) participants. Our participants’ symptomatology was similar with DSM-V criteria, as they described sadness, cry, psychomotor agitation, fatigue, lack of pleasure or interest. All participants mentioned states of sadness, nervousness, fatigue. The lack of pleasure or interest was explicitly described only by the second participant. She described herself as having a very low interest for the recreational activities suggested by her husband. For the third mother, activities like watching movies or walking with her husband were present, but they had coping value (e.g., distraction). The first participant, on the other hand, described her daily activities as a routine which consisted of intense and sometimes insurmountable maternal duties. It may be that positive emotions or pleasure/interest for activities are present in moderate or subclinical cases of PND, even though depressive symptomatology may also be present. As the

analysis of interviews showed, mothers mentioned very few pleasant activities, but what they described in fact, were cyclical states. Thus, symptoms of sadness, cry, and apathy alternated with pleasant emotions (e.g. enjoyment of activities with the baby).

Regarding their descriptions of the postnatal experience in comparison with the prenatal period, we saw that participants reported distinctions, but also similarities between the two periods. On the one hand, the description provided by P2 is in line with the risk factors for postnatal depression, as she reported a tendency towards neuroticism (Robertson et al., 2003, Robertson et al., 2004, O'Hara & McCabe, 2013). On the other hand, in the case of P1 and P3, we did not find psychological precursors for depression, when comparing prenatal and postnatal phases. This could be explained by the multiple factors involved in this condition, namely: the stressing experience of motherhood, discrepancies between expectations and reality, difficulties at the level of social support and familial conflicts (Beck, 2002; Buultjens & Liamputtong, 2007; Robertson et al., 2003). The information mothers provided and their experience of being interviewed were in accordance with the husserlian perspective that for a deeper understanding of individuals' experience a scientific approach is needed (Lopez & Willis, 2004).

The meaning of postnatal depression

An important finding of our study is the significance mothers assigned to the phenomenon under investigation. As the analysis showed, mothers were familiar with the term postnatal depression from various sources: the internet, the television. An interesting finding was that partners were the ones conceptualizing mothers' experiences as being postnatal depression. Beck (2002) describes a different phenomenon in her metasynthesis, in that mothers could not talk about their experience, sometimes not even with their partners. In our case, on the other hand, we observed the participation of husbands in recognizing mothers' emotional experience, instead of ignorance or rejection, as revealed by Beck (2002).

The experience of postnatal depression in social contexts

The phenomenon of postnatal depression is shaped in the social context, at various levels. At the couple level, the perception of this phenomenon and its experience are constructed, depending on what is accepted or not. We could thus see the wife who does not cry because her husband does not like to see her doing it. In the extended family, we could find the woman, now a mother, but

also a daughter, who does not discuss her problems with parents. At the community level, we saw that the phenomenon of postnatal depression is largely unspoken. Thus, acceptable and unacceptable topics are socially constructed and shared. At the macro-level, we observed the influence of mass-media (i.e. the television and the internet). These means of information have an influence on mothers' perception or mental construction of the phenomenon. Explicitly, postnatal depression was presented as an illness, a condition which predisposes to acts of harming the baby or of infanticide. The latter is a socially created myth, a similar phenomenon with the myth of motherhood as joyful and gratifying, as Beck (2002) described.

Ambivalence

Further in our analysis, we identified ambivalence as another distinctive theme. This ambivalence refers to swinging between admitting and denying the emotional experience and the difficulties encountered. Listening to mothers' voices, we observed that they were ambivalent regarding their own states and regarding the presence of postnatal depression in oneself. This theme highlights participants' tendency to deny their experience of postnatal depression. If in the beginning, they talked about accommodating to maternal experience and about emotional regulation, further in the interview they acknowledged their negative emotions and difficulties in caring for the baby, yet alternating this acknowledgment with moments of denial or minimization. All three mothers offered contradictory descriptions, but the content of ambivalence differed, as we showed in the results section. The ambivalence could be indicative of a dissonance between the lived experience of postnatal depression and the expectations for easiness and well-being that mothers held prenatally. Mauthner (1998) also identified conflicts and incongruences in mothers' discourses. One type of conflict, evidenced by Mauthner (1998), consisted in this discrepancy between the antenatal expectations for happiness and the postnatal experience of depression. As depicted above, the ambivalence mothers experience could also be generated by the attitudes towards motherhood and PND. Thus, mothers may perceive their experiences are at variance with the expectations or attitudes from the social context or may not fully admit their experiences for fear of social stigma.

Social support

Social support was present and was provided by different sources. It is not only the structure of support that is important, but also the functional dimension of support, which is most relevant for postnatal depression (Leahy-

Warren, McCarthy, & Corcoran, 2011). The support received from the extended family was mainly instrumental. Spatial proximity facilitated the help provided by family members. In two out of the three cases, the young parents lived together with the wife's or husband's family of origin; the other young family lived nearby both the husband's and the wife's parents. Husbands also received credit for offering instrumental support to their wives. The instrumental support was the most evident type of support in mothers' discourses.

Emotional support is described in the literature as care and comfort (Curtona, 1990, pp. 7). Emotional support appeared for our participants in the form of understanding. Understanding can be defined as fathers' acknowledgment of the mothers' experience of postnatal depression. Understanding is more of a cold cognitive process for our participants. It is different from other conceptualizations of emotional support which imply empathetic, caring attitudes and comforting behaviors. The consequence of this type of emotional support is instrumental support from husbands.

In our study perceived social support was not altered. We consider it could be that the intensity of the symptomatology may be a differentiating factor for the way mothers perceived social support. Another explanation could be through the themes delineated by Bilszta et al. (2010): "not being able to cope/fear of failure" and "stigma and denial." In other words, mothers could have been protecting the positive image of social support they have (theoretically) received and showed satisfaction with it, in order not to prompt negative evaluations or social stigma. How could these mothers admit their own hardships, or the unsatisfactory provision of social support, as long as (with the words of one participant) other mothers experience much more difficulty? In the light of such comparison, they could be discredited as mothers, for being in need for more support or for having the postnatal depression experience. Thus, one direction for future research could be that of studying objectively the social support in the context of maternity, considering the different forms of social support, as well as postnatal depression intensity.

Specific themes

We also identified specific themes regarding postnatal depression experience. These themes are components of participants' individual experience and are important for our research, to create a thorough perspective on the phenomenon. They are also factors described in the literature about postnatal depression.

Intergenerational conflicts represent one of the causes of postnatal depression, according to the mothers participating in the transcultural study of Oates et al. (2004). In the Chinese culture, intergenerational conflicts are part of the etiology of this disorder's (Lee et al. 2004), the conflict between daughter-in-law and mother-in-law being the third important stressor as magnitude (Zheng & Lin, 1994). In our study, the conflicts with the extended family did not generate additional conflicts. On the contrary, the relationship with the husband remained a resilient factor for the mother. Future research should investigate the perceptions couples have regarding intergenerational conflicts and also investigate the specificity of conflicts in diverse cultural backgrounds.

The importance of cognitions for the etiopathogenesis of depression is well-known from literature. Irrational thoughts and obsessive thinking have been described before, in the cases of mothers with postnatal depression. These cognitions refer to women's perceived failure as mothers, to doubts about own normality and worries regarding the babies (Beck, 2002). Moreover, obsessive thinking regarding harming oneself or the baby have also been reported (Robertson et al., 2003). In our cases, the dysfunctional thinking consisted of worries regarding infants' health and wellbeing; own health; the possibility of harming the baby; mother's body image; and maternal abilities.

Practical recommendations

The screening of mothers after childbirth should receive special attention. As we have mentioned before, mothers in our sample had a covert experience in front of persons from their social context, including the medical personnel. The behavior we have observed in these mothers could be a compensatory strategy, aimed to cover the symptomatology for an outside observer. Additionally to screening via questionnaires, clinical interviewing and psychoeducation should be two solutions to be taken into consideration and further applied. We suggest this, since it is possible that mothers minimize their symptoms when completing the questionnaires, thus misleading the identification of PND by the clinician. It is also important to take into consideration ambivalence when approaching mothers with postnatal depression.

Theoretical implications

We suggest that other's understanding of maternal distressing experiences functions as a form of perceived emotional support and has to be further considered in the theoretical perspectives on postnatal depression, in

relationship to cultural norms of expressing and regulating emotions. On the other hand, our results regarding postnatal depression experience, dysfunctional cognitions, and instrumental social support sustain the operationalization of the phenomenon, as already described in the existing literature.

CONCLUSIONS

Through our phenomenological approach, we identified common, but also distinctive features of postnatal depression, relative to previous research. In summary, we saw that postnatal depression was a condition present both in urban (P3) and rural settings (P1 and P2). Mothers' experience was characterized by ambivalence in acknowledging the symptomatology, although they were familiar with the concept of postnatal depression. The daily routine of maternity offers structure, but it can become burdening due to the monotonous cyclicality of the activities. Moreover, maternal solicitations disconfirm the expectations for a facile phase after childbirth. Also, like in a downward spiral, there are to be added to this picture the worries, fears, dysfunctional thoughts and perceptions about social support. We can thus conclude that postnatal depression is a phenomenon characterized by common and also specific experiences across groups or contexts under study.

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PROACTIVE COPING, ENGAGEMENT IN LEARNING AND DEEP PROCESSING AS MEDIATORS BETWEEN AUTONOMOUS MOTIVATION AND ADJUSTMENT AT SCHOOL

VIOREL MIH^{1*}, CODRUȚA MIH², VIOREL DRAGOȘ³

ABSTRACT. The study explores the role of autonomous motivation in predicting proactive coping, motivational study strategies and tested strategies as mediators of the relationship between coping strategy and adjustment at school. A sample of 183 high school students completed a series of questionnaires assessing motivation, coping, study strategies, and perceptions of adjustment at school. Findings revealed one model for consequences of autonomous motivation. Analyses that used structural equation modeling showed that the students' self-determined motivation predicted proactive coping strategy autonomous goal setting with self-regulatory goal attainment cognitions and behaviour. Further, these resilience resources predicted deep processing, students' intentions to persist in school task, effort, and implicit academic adjustment like education aspiration, homework and students' intentions to persist in high school. The findings underscore the importance of autonomous motivation and proactive coping strategy in adjustment at school and suggest that interventions could usefully target the consequences of these processes. The theoretical and practical implications as well as the controversy over the relation between motivation, coping and school adjustment are discussed.

Keywords: *self-determination theory, autonomous motivation, proactive coping, engagement in learning, deep processing, adjustment at school*

ZUSAMMENFASSUNG. Proaktives Coping, Engagement In Lernen Und Tiefverarbeitung Als Mediatoren Zwischen Autonomen Motivation Und Schulanpassung. Die Studie untersucht die Rolle der autonomen Motivation bei der Vorhersage proaktives Coping, Lernmotivation Strategien, und getesteten Strategien als Vermittler der Beziehung zwischen Bewältigungsstrategie und Anpassung an der Schule. Eine Probe von 183 Gymnasiasten füllte eine Reihe von

¹ Department of Psychology, Babeș-Bolyai University Cluj-Napoca, Romania

² Department of Humanities Didactics, Babeș-Bolyai University Cluj-Napoca, Romania

³ Department of Educational Sciences, Babeș-Bolyai University Cluj-Napoca, Romania

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

Fragebögen aus, die Motivation, Coping, Studienstrategien und Wahrnehmungen der Anpassung an der Schule beurteilen. Die Ergebnisse zeigten ein Modell für die Konsequenzen der autonomen Motivation. Analysen, die strukturelle Gleichungsmodellierung verwendeten, zeigten, dass die selbstbestimmte Motivation proaktive Bewältigungsstrategie autonome Zielsetzung mit Selbstregulierung Ziel Erreichung Kognitionen und Verhalten vorhersagt. Darüber hinaus prognostizierten diese Resilienzressourcen eine tiefe Verarbeitung, die Absichten der Studierenden, in der Schulaufgabe, Anstrengung und implizite akademische Anpassung wie Bildungsaspiration, Hausaufgaben und die Absichten der Studenten, im Gymnasium zu bestehen. Die Ergebnisse unterstreichen die Bedeutung der autonomen Motivation und proaktiver Bewältigungsstrategie in der Anpassung an der Schule und suggerieren, dass Interventionen die Konsequenzen dieser Prozesse sinnvoll ansprechen könnten. Die theoretischen und praktischen Konsequenzen sowie die Kontroverse über die Beziehung zwischen Motivation, Coping und Schulanpassung werden diskutiert.

Schlüsselwörter: *Selbstbestimmungstheorie, autonome Motivation, proaktives Coping, Engagement im Lernen, tiefe Verarbeitung, Schulanpassung*

Considerable research reveals that motivation can lead to important outcomes, such as proactive coping, engagement in learning and adjusting at school. Although most studies have focused on the effects of intrinsic motivation (Deci & Ryan, 1985, 1987), more recent research based on the tenets of self-determination theory (SDT; Deci & Ryan, 2000, Ryan & Deci, 2002; 2008; Soenens & Vansteenkiste, 2010) has dealt with the whole spectrum of motivations. The various forms of motivation are posited to differ in their inherent levels of self-determination. SDT (Deci & Ryan, 2000) theorizes that behaviors vary with respect to how autonomous, or self-motivated, they are (Ryan & Deci, 2008) and focuses on the presence of autonomy embedded in motives such as those outlined by the functional approach (Vansteenkiste, Simons, Lens, Soenens & Matos, 2005; Zhou, Ma & Deci, 2009). From SDT research *autonomous motivation* concerns actions that are experienced as emanating from or congruent with one's self, or in attributional terms, have an internal perceived locus of causality of an action (Ryan & Connell, 1989). Autonomous behaviors reflect one's values or interests, and one feels like an "origin" rather than a "pawn" in enacting them (deCharms, 1968).

Because self-determination has been hypothesized to be associated with enhanced psychological functioning, we expect self-determined forms of motivation to lead to positive outcomes, such as proactive coping, effort and persistence, in

domains such as work, sport and school (Ryan & Deci, 2000; Vansteenkiste, Niemiec & Soenens, 2010). SDT's may be particularly relevant to adjustment at school (i.e., satisfaction with one's academic life, intentions of continuing one's schooling, educational aspirations, etc.), which can stem either from personal values and initiatives or from external pressures, and thus might be expected to vary in their autonomous motives.

Autonomous motivation

According to SDT, motivation is not just based on quantity (i.e., how much motivation a person experiences), but also on the quality of one's motivation to perform tasks (Sheldon, 2004; Sheldon Arndt & Houser-Marko, 2003). According to Sheldon et al. (2003) and Benedetti, Diefendorff, Gabriel & Chandler (2015), the quality of one's motivation ranges from autonomous to controlled with the former being higher in quality. Autonomous motivation occurs when individuals identify with goal pursuits that are integrated for identified or intrinsic reasons (Sheldon et al., 2003). Identified reasons for goal pursuit involve pursuing goals that are set extrinsically (e.g., by the academic setting), but are aligned with one's goals or values. This is an autonomous form of extrinsic motivation, as individuals engage in a behavior because they personally find it important, and he/she can regulate the behavior more willingly or volitionally (e.g., planning to attend school because of its personal relevance). Intrinsic motivation involves goals that are pursued because they are inherently enjoyable and self-set (Deci & Ryan, 2000; Gagné & Deci, 2005). In remaining consistent with SDT and prior work, we operationalized autonomous motivation as a combination of *identified* and *intrinsic* motivations (Bono & Judge, 2003; Judge, Bono, Erez & Locke, 2005; da Motta Veiga & Gabriel, 2016; Sheldon & Elliot, 1998; Sheldon et al., 2003). Both intrinsically motivated and well-internalized activities are regulated by autonomous motivation (Soenens & Vansteenkiste, 2010).

The degree to which student motivation is self-determined predicted different educational adjustment. Self-determined reasons for engaging in a particular behavior are associated with successful adaptation and educational outcomes (Reeve, 2009). In contrast, less self-determined forms of motivation (represented by external regulation, introjected regulation) have been associated with dropout from school (Sénécal, Koestner & Vallerand, 1995). Thus, self-determined forms of motivation lead to the use of adaptive of coping strategies and have been proposed to promote a more active engagement (effort, task persistence) (Skinner & Edge, 2002). Studies have shown that people high in

the relatively stable autonomy orientation tend to be autonomously motivated and high in proactive coping (Williams, Grow, Freedman, Ryan & Deci, 1996). Autonomous motivation and implicit proactive coping has been consistently associated with more positive outcomes, including greater long-term persistence (e.g., Pelletier, Fortier, Vallerand & Briere, 2001) and more self-regulated learning (e.g., Vansteenkiste, Zhou, Lens & Soenens, 2005).

In the present study, we examined the association between autonomous, proactive coping, engagement in learning (effort, persistence) and adjustment at school (i.e., satisfaction with one's academic life, belonged at the school, satisfaction with the school intentions of continuing one's schooling and educational aspirations). We expected that autonomous motivation would contribute positively to proactive coping, engagement and adjustment at school. In addition, we explored whether proactive coping and engagement in learning could account for the hypothesized relation between autonomous motivation and academic adjustment.

Proactive coping

Proactive coping (e.g., planning, information-seeking positive reinterpretation, self-encouragement) consists of efforts undertaken in advance of a potentially stressful event to prevent it or to modify its form before it occurs. It involves the accumulation of resources and the acquisition of skills that are not designed to address any particular stressor but to prepare in general, given the recognition that stressors do occur and that to be forearmed is to be well prepared (Greenglass & Fiksenbaum, 2009). Thus, proactive people tend to be resilient to the challenges they face and they find resources to help them overcome an uncomfortable situation (Chiaburu, Baker & Pitariu, 2006). By using these interactive tools, people with high levels of proactive coping may reserve considerable resources to deal with stressors, which leads to improved emotional stability when facing stressful events (Liu et al., 2007). They see risks, demands, and opportunities in the future, but they do not appraise them as a threat, harm, or loss. Rather, they perceive demanding situations as personal challenges (Schwarzer & Taubert, 2002). Individuals are not reactive, but proactive in the sense that they initiate a constructive path of action and create opportunities for growth and builds up resources that assure quality of functioning, such engagement in activity and self-regulation strategy.

The link between proactive coping responses and behavior engagement is deeply rooted in the self-regulation theory proposed by Carver and Scheier (1998). Specifically, these proactive coping strategies (such as problem solving, information seeking, and self-encouragement) aim to actively manage the academic

stress, so students who adopt both of these coping responses keep on be committed to and strive for their goals and are more likely to report higher rates of behavioral engagement in learning (Struthers, Perry & Menec, 2000).

Engagement in learning

The concept of behavioral engagement allows also exploration of what students are doing in classrooms, and whether the strategy they use contributes to their learning (Dunleavy & Milton, 2009). Students who are engaged show sustained behavioral involvement in learning activities accompanied by a positive emotional tone. They select tasks at the border of their competencies, initiate action when given the opportunity, and exert intense effort and perseverance in the implementation of learning tasks; they show generally deep strategy during ongoing learning activities (Claxton, 2007).

Within the engagement domain, in this study we focused on two constructs – *effort* and *persistence*. Review of previous research reveals that persistence / effort is a proper indicator of achievement outcome (Elliot, McGregor & Gable, 1999; Xiang & Lee, 2002). Effort is the amount of energy expended in a learning process. Persistence refers to the continuous effort in learning especially when the student is faced with some barriers or obstacles (Pintrich, Smith, Garcia & McKeachie, 1993; Zimmerman & Risemberg, 1997). Persistence / efforts not only reflect motivation but serve as important indices for achievement behavior and implicit for academic adjustment (Goa & Newton, 2009).

A number of researchers have, in the context of achievement goals explored the contribution of persistence and effort in students' academic adjustment. Research evidence shows that effort and persistence make a positive contribution to the prediction of academic outcome (Miller, Greene, Montalvo, Ravindran & Nichols, 1996; Wentzel, 1996). In this analysis, both effort and persistence are found to relate positively to academic adjustment (Simons, Dewitte & Lens, 2004). Data drawn from other studies have shown the interrelations between efforts and persistence and other motivational variables; for example, study processing strategies (Fenollar et al., 2007), competence beliefs and utility (Chouinard, Karsenti & Roy, 2007). For example, Chouinard et al. (2007) found that competence beliefs act as a determinant of effort, whereas Simons et al. (2004) reported that task orientation contributes to the prediction of persistence. In contrast, we predict that effort and persistence makes a direct contribution to the prediction of deep processing strategies.

The reasons underlying students' adjustment to the academic adjustment are likely to be antecedents of the kind of strategies they use to face the

academic task. The self-determination framework has been considered relevant in the academic setting to explain academic involvement and outcomes (Deci & Ryan, 2000; Vallerand, 1997).

Deep processing

Researchers in education have found a significant relationship between engagement in learning and strategy use (Goa & Newton, 2009; McWhaw & Abrami, 2002; Mih & Mih, 2013). In this view, student engagement is viewed as motivated behavior that can be indexed by the kinds of cognitive strategies students choose to use (e.g., simple or “surface” processing strategies such as rehearsal versus “deeper” processing strategies such as elaboration) and by their willingness to persist with difficult tasks (Mih, 2013; Skinner & Belmont (1993). The consequence of engagement in learning is the fact that students will use of deep, rather than superficial and shallow, learning strategies to create complex knowledge structures (Mih & Mih, 2016), and we expect this

Taking into account the above mentioned findings, the purpose of the present study was to investigate the extent to which autonomous motivation predicts subsequent proactive coping, and how proactive coping influences adjustment at school. Additionally, we sought to investigate the mediating role of persistence and effort, in the relation between students’ proactive coping and their deep processing. Hence, the two research main research questions of the current study were: (a) Does autonomous motivation predicts increased proactive coping in the academic domain? and (b) Do persistence and effort mediate the relationship between proactive coping and deep processing? If persistence and effort mediates the path between proactive coping and deep processing, this would highlight the functional centrality of engagement forms in determining deep processing and implicit adjustment at school. **Figure 1** presents the hypothesized paths diagram of the relationships between the variables mentioned in the preceding discussion and the hypothesized mediation. On the basis of the arguments presented, the following specific hypotheses were advanced.

METHODS

Aims and Hypothesis

The study explored the predictors of adjustment at school within a model including coping strategy, motivation, and engagement in learning and SRL among adolescent students. The purpose of the present study is to explore

how these two dimensions relate to and predict: (a) adolescents' coping strategy, (b) their engagement in learning, (c) strategy for learning which they use in study and implicit (d) adjustment at school.

Figure 1 presents a path diagram of the relationships between the variables mentioned previous.

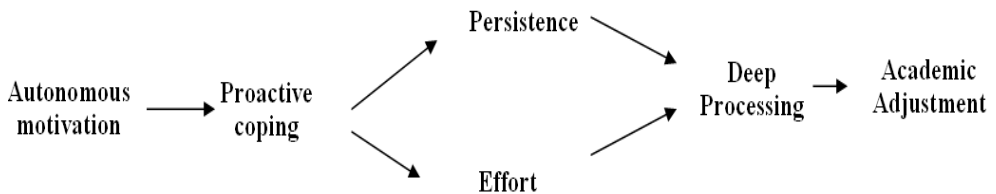


Figure 1. Integrated theoretical models

The following specific hypotheses were advanced:

Hypothesis 1: Autonomous motivation will produce stronger proactive coping strategy.

Hypothesis 2: Proactive coping will exert a positive effect on effort and persistence, whereas effort and persistence will exert positive effects on deep learning and adjustment at school.

Hypothesis 3: Effort, persistence will operate as mediators between the proactive coping and strategy for learning

Hypothesis 5: Strategy for learning (deep processing) will operate as mediators between engagement in learning and adjustment at school.

Participants

The sample included 154 adolescents, attending nine classes in four schools from Cluj-Napoca. The mean chronological ages were 16.7 (SD = .74) and 79 was female. All participants were in the 10th grade. There were no substantial differences across schools with respect to previous grades.

Measures

Multidimensional academic motivation. *Academic Motivation Scale (AMS; Vallerand, Pelletier, Blais, Brière, Sénécal & Vallières, 1992).* The scale is composed of 20 items grouped in five subscales corresponding to the motivational types proposed by SDT (Deci & Ryan, 1985, 2000): *Intrinsic Motivation to Know,*

Identified Regulation, Introjected Regulation, External Regulation, and Amotivation. The subscales can be combined to form an autonomous motivation composite (intrinsic motivation + identified regulation) ($\alpha = .65$) and a controlled motivation composite (introjection + external regulation) ($\alpha = .77$) (Sheldon, Ryan, Deci & Kasser (2004).

Coping. The Proactive Coping Inventory (PCI): The PCI (Greenglass, Schwarzer & Taubert, 1999) is a multi-dimensional instrument that contains 44 items and seven subscales: The Proactive Coping Scale, Reflective Coping Scale, Instrumental Support, Preventive Coping, Strategic Planning, Emotional Support Seeking and Avoidance Coping (Greenglass, 2002). In our study we used only subscale one, because it is an exclusive measure of proactive coping. It assesses an individual's general coping style, rather than assessing reactions to a particular stressor. *The Proactive Coping Scale* consists of 14 items and combines autonomous goal setting with self-regulatory goal attainment cognitions and behaviors ($\alpha = .85$). Respondents were asked to answer how well each statement described the reactions they had to various situations, with responses made on a 4-point scale, ranging from (1) "Not at all true" to (4) "Completely true". Sample items include "I am a 'take charge' person", and "When I experience a problem, I take the initiative in resolving it". The subscale had high internal consistency, with a Cronbach alpha of .82.

Effort and Persistence. Effort was measured using three items from Elliot McGregor & Gable (1999) and two items from the MSLQ (Pintrich & Groot, 1990). Four items from Elliot et al.'s (1999) scales were used for the persistence variable. Reliability estimates (Cronbach's alpha) were .76 for the effort scale and .89 for the persistence.

Strategy use. *Deep processing* was assessed with a measure devised by Elliot, et al. (1999). Four cognitive scales on the MSLQ (Pintrich, Smith, Garcia & McKeachie, 1991) should be related to *deeper approaches* to learning or more transformative, critical thinking, or regulative styles (Vermunt, 1996).

Adjustment at school. To assess adjustment at school, we selected a range of outcome measures to reduce the influence of potential item overlap between any single measures of adjustment. The first measure, the Index of Well-Being (Campbell, Converse & Rogers, 1976), asks respondents to rate "how you feel about your present life school" on 11 seven-point semantic differential items (e.g., *boring-interesting* and *full-empty*). The second measure, self-reported adjustment at school, was assessed with six items developed by

Aspinwall & Taylor (1992). Three items asked students to compare their happiness with that of the average colleagues at the school and to compare their overall adjustment at school with the average colleagues on 5-point scales (e.g., “Compared to the average colleague, how happy do you think you are?” 1 = *much less happy* to 5 = *much happier*). Next, students were asked to rate their academic adjustment and overall adjustment (eg., “Overall, how well do you think you’ve adjusted to school?”), the extent to which they felt they belonged at the school (two items), and their satisfaction with the school on 7-point scales. The third measure is educational aspirations. A single statement was designed to measure students’ future intentions regarding their studies. Participants were asked “Until when do you intend to go to school?” and they had to choose between two answers: (a) Until I have a secondary school diploma, (b) Until I have a university diploma.

An a priori measurement model for three latent variables was estimated by allowing each indicator to load on only one latent construct. The Index of Well Being, the satisfaction with the school measure and educational aspirations was used to indicate a latent *adjustment at school* factor. Thus, we combined the three previous measures for obtain a global measure of adjustment at school. The Cronbach’s alpha coefficient for this measure was .58. A higher score on academic adjustment indicates indicated more successful adjustment at school and implicit, that students had higher well-being and adjustment index, and that they wanted to continue their studying past the high school diploma.

Procedure

Participants were evaluated at their school. Each participant was given an information booklet which contained all above-mentioned scales evaluating variables of the study. Participants were instructed to provide honest answers on each scale.

Results

Means, standard deviations, and intercorrelations of all variables used in study are presented in **Table 1**. Scale and indicator reliabilities (alphas) are included on the diagonal of Table 1. The reliability indices for the complete scales are shown in brackets. Bivariate correlations were computed employed in order to depict the interrelations among all study variables. The correlation matrix shown in Table 1 reveals the relations among the predictors, mediator, and criterion variables.

Table 1. Descriptive statistics and intercorrelations among Autonomous Motivation, Proactive Coping, Engagement in learning, processing and Adjustment at school

	M(SD)	1	2	3	4	5	6
1. Autonomous Motivation	3.41(.65)	-					
2. Proactive Coping	40.1(6.71)	.44**	-				
3. Persistence	5.07(1.72)	.09	.12*	-			
4. Effort	4.21(1.37)	.13*	.09	.40**	-		
5. Deep Processing	3.88(.89)	.12*	.04	.08		-	
6. Adjustment at School	2.63(.85)	.06	-.07	.12*	.07	.36**	-

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

The path analyses employed in the present investigation rely on assumptions including linearity, causal closure, and unitary variables. In this respect, the assumption of linearity was verified by conducting the correlation analysis. In order to perform a path analysis Wright (1968) suggested the assumption of causal closure, referring to the fact that all direct influences of one variable on another must be included in the path diagram. Finally, the assumption of unitary variables was tested by verifying that variables did not comprise components that behave in different ways with different variables.

Linear regression analyses revealed that autonomous motivation was a positive predictor of proactive coping, $\beta = .27$, 95% CI [.11, .47]. $F(1, 149) = 5.28$, $p < .05$, whereas proactive coping positively predicted persistence, $\beta = .21$, 95% CI [.18, .36], $F(1, 149) = 11.97$, $p < .01$, and effort, $\beta = .34$, 95% CI [.16, .44], $F(1, 149) = 19.81$, $p < .01$. In accord with the posited structural model, results indicate that deep processing was positively predicted by persistence $\beta = .24$, 95% CI [.13, .40]. $F(1, 149) = 4.37$, $p < .05$ and effort $\beta = .21$, 95% CI [.16, .39]. $F(1, 149) = 5.28$, $p < .05$. Furthermore, the regression procedure revealed that adjustment at school was positively predicted by deep processing, $\beta = .18$, 55% CI [.09, .37], $F(1, 149) = 4.84$, $p < .05$.

Finally, this model suggests that the effect of positive coping on academic adjusting is mediated by persistence, effort, and deep processing, with a remaining direct effect on academic adjusting.

The relationships among the variables also served to test for multicollinearity. The results showed that none of the partial coefficients exceeded .50, suggesting that the multicollinearity among the study variables was relatively low (Tabachnick & Fidel, 2001). The variance inflation factor (1.00–1.24) and tolerance (0.80–1.00) statistics also resided within acceptable ranges.

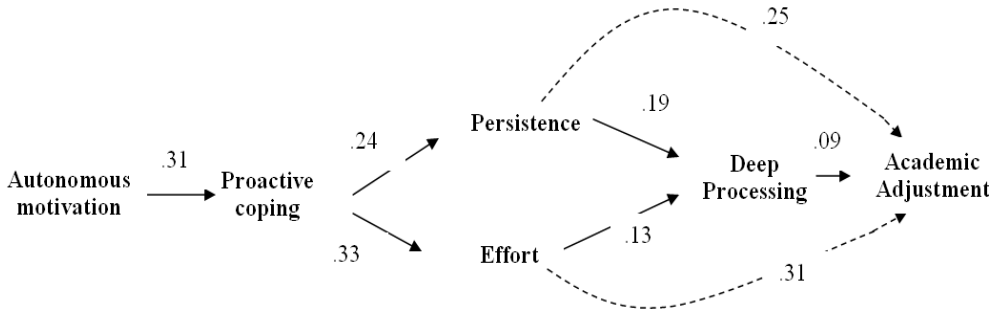


Figure 2. The final model depicting the relationships among variables. Solid path coefficients represent standardized regression coefficients, while dotted paths represent significant path which not-figure in first model. All paths represent significant effects ($p < .05$ at minimum).

Theoretical relationships. In order to examine theoretical relationships among dependent, independent, and mediating variables proposed in the hypotheses, we used the AMOS Version 19.0. The hypothesized model (Figure 1) was initially tested for the data. This analysis was conducted to determine the goodness of the model fit to the data. The fit statistics obtained from the last path analysis showed that the value of χ^2 (5, $N = 154$) was 7.68, $p > .05$ which indicated a good fit. Besides the χ^2 value, its ratio to degrees of freedom was also calculated. The value of this ratio was $\chi^2 / df = 7.68 / 5 = 1.53$ which implied a good fit given that, generally, values of less than 2 are accepted as a good fit (Tabachnick & Fidell, 2007). The other important goodness of fit statistics that were calculated for the present study was RMSEA, GFI, AGFI, and NFI. The results of the present analysis showed that RMSEA value was .02, GFI values was .98, AGFI was .99 and NFI was found to be .98. These multiple indices also confirmed the adequacy of the model fit. The final model we obtained using the tests of the nested models, including the standardized path loadings, is shown in Figure 2.

Discussion

Results from the present study provide insight into the relationships between motivational components, coping strategy, engagement in learning (effort, persistence,) deep processing and adjustment at school. Using SDT approach, a mediation model was tested in which autonomous motivation was proposed to predict active coping strategy, effort and persistence, deep processing and adjusted at school. Students with the high autonomous motivation engaged in more active coping strategy.

Autonomous motivation (i.e., intrinsic regulation and identified regulation) strongly predicted active coping strategy. Although this finding is not new, the use of path analysis provides convergent support for the importance of autonomous motivation as a precursor of active coping strategy. Research has shown this form of motivation to be accompanied by the experience of choice rather than by pressure and by proactive coping and well-being (Grolnick & Ryan, 1989; Ryan, Rigby & King, 1993). According to SDT, autonomous motivation for learning should be positively associated with feelings of personal accomplishment. In fact, the link between autonomous motivation and personal accomplishment is a basic tenet of SDT (e.g., Ryan & Deci, 2000). SDT and research based on it suggest that autonomous motivation is accompanied by feelings of vitality and energy that are the opposite of feeling drained and exhausted (Niemić et al., 2006). Consistent with these findings, we posited that because autonomously motivated students perceive their engagement in various tasks as interesting and meaningful, they will experience less exhaustion. Thus, students' sense of autonomy at school may allow them to tolerate occasional frustrations and setbacks and to prevent those negative experiences from leading to feelings of exhaustion and loss of vitality and this is a good prerequisite for experiencing proactive coping. If students believe that their schoolwork is important and meaningful, these commitments may serve as energetic anchors, especially if other aspects of their motivational systems are fragile. Because of the energy and organization that purposefulness provides to the whole motivational system, researchers recognize it as key to students' academic resilience (Morrison & Allen, 2007).

In line with our expectations, proactive coping positively predicted behavior engagement. Adaptive coping strategies (such as problem solving, information seeking, and self-encouragement) seem to provide both guidance and a boost of energy towards those ends (Boekarts & Niemivirta, 2000). When students run into difficulties, they can cope in ways that allow them to keep going despite worry or frustration (such as through help-seeking or self-encouragement), or that allow them to regain their enthusiasm for challenging tasks (such as through problem solving). Hence, constructive coping may be keys to engagement in learning. Constructive coping (including self-encouragement and determination) allows students to persist in the face of difficult school tasks. So, students whose coping repertoires comprised adaptive strategies were increasingly likely to persist in the face of problems and implicit use of metacognitive strategies (deep processing). Student engagement is a motivationally enriched classroom quality that has clear implications for student's adjustment at school (Skinner, Kindermann, Connell & Wellborn, 2009). By engaging themselves actively and enthusiastically in academic activities, students learn, develop skills, and

generally make academic progress. Consequently, both the extent and quality of students' classroom engagement have been shown to predict various aspects of adjustment at school, including satisfaction with one's academic life (Ladd & Dinella, 2009; Mih, 2013).

As expected effort and persistence was a significant individual predictor of deep processing. It appears that students who make effort in solve school task were more cognitively and metacognitively engaged in trying to learn the material. These findings parallel the work of Pintrich & De Groot (1990), who found that effort, was strongly related to students' use of cognitive strategies and metacognitive self-regulation. There are both surface and deep approaches to learning (Savin-Baden & Major 2004). Surface approaches to learning concentrate on memorization. In surface learning, the learner's goal is often to complete required learning tasks by memorizing information needed for assessments. Surface learners mostly focus on facts without integration, they are generally unreflective, and they see learning tasks as external impositions. In contrast, students with *deep approaches to learning* have an intention to understand. They generally engage in interaction with content, relate new ideas to old ones, relate concepts to everyday experience, relate evidence to conclusions, and examine the logic of arguments. While doing this, they construct their own knowledge, understand and comprehend information in a more analytical manner. Interest and learn subject contents in a deep may facilitate learners to engage more in their own conscious beliefs, and this lead to satisfaction with one's academic life and implicit intentions of continuing one's schooling, satisfaction with one's academic life and satisfaction with the school.

Results from the present study suggest some preliminary implications for educational practice. Using this simple, proactive approach, teachers could gain important insights and know ahead of time which students are likely to need more help regulating their learning experience. Nonetheless, educators can design their courses in a way that enhances both effort and persistence to complete school tasks. For example, students' effort can be promoted in several ways, including guiding and encouraging students to set challenging, proximal goals and scaffolding students' metacognitive self-regulation by providing them with timely, honest, and explicit feedback (Pintrich & Schunk, 2002). Although none of these suggestions are unique to learning, they are considered by many to be "best practices" for all educators.

Future research should continue to explore the relationships between students' engagement characteristics, their use of cognitive and metacognitive learning strategies, and, ultimately, their academic adjustment. The use alternative research methods, such as experimental study, might be especially useful in exploring the relations between students' reported level of self-regulation and the extent to which deep processing and knowledge construction. These findings suggest that future research should investigate whether interventions designed

to enhance motivation (effort and persistence) and scaffold self-regulation can also improve adjustment at school (satisfaction with one's academic life, belonged at the school, satisfaction with the school intentions of continuing one's schooling and educational aspirations).

Limits

Several limitations of the present investigation should be noted. First, the present sample consisted primarily of adolescent high-school students. It would be important to further analyze whether the current findings can be generalized to younger student populations, who are perhaps less able to grasp the future consequences of their current behavior. Second, the correlational and cross-sectional nature of this study does not allow us to draw any causal inferences. The variables were concurrently measured and a more accurate test of the mediating processes would imply presumed antecedents and consequents to be assessed within a sufficient temporal interval. Future longitudinal studies may help to further examine the direction of the effects. Thus, we cannot infer causality from cross-sectional data, but, viewed in light of prior theory and research, the present study suggests that the proactive coping strategy helps adolescents to academic adjustment. Future longitudinal research may also assess the causal effect of the adoption of specific coping responses on subsequent engagement in learning and adaptation at school and other variables. Lastly, the present study did not evaluate the role of other relevant aspects, such as socioeconomic status, dispositional coping style, causal attributions, and the controllability of stressors, on the adoption of coping responses when facing academic adjustment. Future research may evaluate their role in predicting the choice of proactive coping strategy.

Conclusion

In sum, consistent with social cognitive models of SRL (Pintrich, 2000; Zimmerman, 2000), findings support the view that students' use of learning strategies in learning can be explained, in part, by autonomous motivation, by proactive coping and by engagement in learning (effort and persistence). Findings from the present study support prior research indicating that students' engagement in learning is related to their use of self-regulated learning strategies in academic settings (Pintrich, 2000). Specifically, students' effort and persistence were significant positive predictors of their reported use of deep processing (elaboration, critical thinking, and metacognitive strategies).

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METACOGNITIVE TRAINING EFFECTS ON MATHEMATICAL PERFORMANCE OF LEARNING DISABILITY STUDENTS FROM INCLUSIVE CLASSROOMS

ANCA MAIER¹

ABSTRACT. In the current study we investigate the effects of a metacognitive training on LD students math performance. It's known as metacognitive training may influence the school math performance, but there is not enough research on the metacognitive training of learning disability students. The participants were 7th grade students from two different inclusion schools who were randomly into one of the three groups. First group received an individual metacognitive training, the second one a metacognitive training combined with the cooperative learning and the third one was the control group.

Keywords: *metacognition, training, learning disability, math performance*

ZUSAMMENFASSUNG. Metacognitive Ausbildungswirkungen Auf Die Mathematische Leistung Den Lernbehinderte Studenten Aus Inklusiven Klassenzimmern. In der aktuellen Studie untersuchen wir die Auswirkungen einer metakognitiven Ausbildung auf der Mathe Leistung von lernbehinderten Studenten. Es ist bekannt, dass metakognitive Ausbildung die schulische Mathe Leistung beeinflussen kann, aber es gibt nicht genug Forschung über die metakognitive Ausbildung von Lernbehinderten Studenten. Die Teilnehmer waren Schüler der 7. Klasse aus zwei verschiedenen Inklusionsschulen, die zufällig in einer der drei Gruppen waren. Die erste Gruppe erhielt eine individuelle metakognitive Ausbildung, die zweite eine metakognitive Ausbildung, kombiniert mit dem kooperativen Lernen, und die dritte war die Kontrollgruppe.

Schlüsselwörter: *Metakognition, Ausbildung, Lernbehinderung, Matheleistung*

¹ *Special Education Department, Babeş-Bolyai University, Cluj-Napoca, Romania
E-mail: maier.anca@yahoo.com*

INTRODUCTION

Learning mathematics is becoming a necessity in a modern society; the societal expectancies, as appears on school curriculums, are higher, and the learning difficulties are more obvious. The interest in designing and investigating efficiency of remedial interventions has increased. However, the number of studies investigating the effectiveness of different intervention programs to improve math performance is quite low (David & Maier, 2011, Desoete, 2001, 2004, 2009, Kramarski & Mevarech 2003, Maier 2009, 2011, 2016, Mevarech 1999, Mevarech, Kramarski 2003, Mevarech, Fridkin 2006, Montague & Bos 1990, Montague 1992).

Based on published literature and the results obtained in the previous study (Maier, 2011), we wanted to go further, by applying the same research model on a different population - seventh grade students with learning disabilities from inclusive classrooms, classmates of the students participating in the previous study.

Thus, based on the available data in the literature, emphasizing the importance of multi-method metacognitive assessment and the effect of the metacognitive training on improving students' math performance, but also the results from the previous study, we came with the following *hypotheses*:

1. For the learning disability seventh grade students from inclusive classrooms, metacognitive evaluation by a multidimensional model is important, as a result of supplementing the information from multiple sources and at different times of evaluation.
2. The learning disabilities students from the inclusive classrooms, who received an individual metacognitive training will have a better metacognitive performance than those who received metacognitive training in small groups.
3. The learning disabilities students from the inclusive classrooms, who received an individual metacognitive training will have a better math performance than those who received metacognitive training in small groups.
4. Prediction and evaluation metacognitive skills change differently for the math learning disabilities student, than for students without learning difficulties, as a result of the metacognitive intervention.
5. Math learning disabilities students show a different metacognitive profile, as compared to those without learning disabilities (differences in the development of the metacognitive skills, assessed by the student questionnaire).

METHOD

Participants

Subjects were 7th grade, learning disability students attending two schools in Cluj-Napoca, from 5 different inclusion classrooms. The pretest was administered to a number of 26 students. After that, they were randomly assigned to one of a three groups, of which two were administered the training conditions. One was the control group. Each group includes students with learning difficulties from each of the five classes in the study.

Table 1. – Participants groups

	Students with learning difficulties
Group 1 - individual intervention	8
Group 2 - small group intervention	8
Group 3 - control group	10
Total	26

Procedure is the same used in previous studies, pre-test, metacognitive training period and post-test.

Measures are those of the previous study: *mathematical knowledge assessment test*, *metacognitive measurements* (apud Desoete, 2007) *metacognitive prospective Questionnaire* - The Prospective Assessment of Children (PAC), *retrospective metacognitive questionnaire* - The Retrospective Assessment of Children (RAC), *metacognitive assessment made by the teacher* - Teacher Rating, *prediction and evaluation Test* - The Evaluation and Prediction Assessment - EPA.

The mathematics knowledge test is an informal instrument developed together with one of the math teachers, based on a sixth and seventh grade curriculum and long range plans. It contains several mathematical problems, such as equations, percentages, fractions, order of operations.

Metacognition was assessed with off-line (prospective and retrospective), and combined techniques. The Prospective Assessment of Children (PAC) and the Retrospective Assessment of Children (RAC) were used as off-line ratings for children, and Teacher Ratings were used as off-line rating for teachers. The Evaluation and Prediction Assessments were used as combined (prospective and retrospective) assessment.

Off-line techniques

The Prospective Assessment of Children (PAC) is a child questionnaire, adapted from Desoete (2007). It is a 25 item rating scale questionnaire for children on metacognitive predictions, planning, monitoring and evaluation skills. Children have to indicate before solving any mathematical problem on a 4 point Likert-type of scale what statement is representative of their behavior during mathematical problem solving (1- never, 2 - sometimes, 3 – frequent , 4 – always). The PAC scale, as well as the subscales have an adequate internal reliability. Cronbach's alpha for the PAC scale was .81 (25 items). For the PAC subscales Cronbach's alpha were .60 (9 items – prediction), .64 (4 items, planning), .76 (8 items, monitoring) and .52 (4 items, evaluation).

The Retrospective Assessment of Children (RAC) is the same 25 item rating scale questionnaire for children on metacognitive prediction, planning, and monitoring and evaluation skills. Children have to indicate on a 4 point Likert-type of scale to what statement was representative of their mathematical behavior, the last 6 months during mathematics. The PAC scale, as well as the subscales have an adequate internal reliability. Cronbach's alpha for the total score was .79 (25 items). For the RAC subscales Cronbach's alpha were .44 (9 items, prediction), .59 (4 items, planning), .73 (8 items, monitoring), .56 (4 items, evaluation).

The Teacher Rating Assessment (adapted from Desoete, 2007) is a 20 item rating scale teacher-questionnaire on metacognition prediction, planning, monitoring and evaluation skills. The PAC scale, as well as the subscales have an adequate internal reliability. Cronbach's alpha of .91 was found for the test score (20 items). For the teacher rating subscores Cronbach's alpha were .81 (7 items, prediction), .59 (4 items, planning), .62 (6 items, monitoring), .71 (3 items, evaluating).

Combined technique

The Evaluation and Prediction Assessment is a procedure for assessing prediction and evaluation. In the measurement of prediction skillfulness, children were asked to look at the math problems without solving them and to predict on a 0-10 point scale, how they can solve it. After they solve the math problems from the knowledge math test, they are asked to evaluate their answers on the same 0-10 point scale. It was used the same 0-10 point scale, in analogy with the Romanian Evaluation System. We did a calibration score for each item, which means a difference between the math performance they had and the predictions/evaluations they did.

DESCRIPTION OF METACOGNITIVE TRAINING PROGRAM

The same training, as in the previous study, was used, after the IMPROVE method (Mevarech and Kramarski, 1997), designed to improve knowledge and metacognitive skills of students from inclusive classrooms - learning disabilities students and their classmates. First group received individual metacognitive training, and the second one, metacognitive training in small groups, was associated with cooperative learning. The third group is the control group. After training, there was a post-test using the same measures as in pre-test phase.

Duration: both trainings were conducted over a six months period with once a week sessions of 50 minutes each. Sessions were conducted individually for the first group and in small groups of 4-5 students for the second one. All sessions were conducted in school, in the Resource room, apart from their classrooms.

The first session was an introductory one, students found out some information about metacognition, cognition, metacognitive knowledge and metacognitive skills, metacognitive trainings. We talked about the acronym IMPROVE, and the seven steps that are involved in this method. The students have to think about these seven steps, and to find an acronym in the Romanian language.

In the second session we reviewed the steps involved by IMPROVE, and we tried to define them. Each definition in Romanian language, needs to start with the correspondence letter from the English acronym:

I - Introducerea noului material (introducing the new material)

M - metacognitie (metacognition)

P - profesorul ajuta elevii in rezolvarea problemei (the teacher helps the students to solve the problem)

O - o rezolvare pe cont propriu (resolving by himself)

V - verificarea problemei (verification)

E- elaborarea alternativelor de rezolvare (finding different ways to solve the problem).

We also tried to find a good acronym in Romanian language:

C - citirea problemei (reading the problem)

I - intrebari metacognitive (metacognitive questions)

R - rezolvarea problemei cu ajutor (solving the problem with help)

P - planul de rezolvare al problemei (the solving plan)

R - rezolvarea problemei fara ajutor (solving the problem without help)

V - verificarea problemei (verification)

A - alternative de rezolvare a problemei (finding good solving alternatives)

The third session consisted of review of the steps illustrated by the acronym IMPROVE. As was discussed in the second step; the metacognitive questions. The students are asked to come up with as many questions as they can think of when they have to solve a math problem.

In the fourth session we discussed the metacognitive questions pointed out by the students, and we identified the four types of metacognitive questions:

- Comprehension questions: questions about the problem task (What is this problem about?)
- Connection questions: questions about similarities and differences between the problems they work (How is this problem different/ similar from the previous one?)
- Strategic questions: questions about the appropriate strategies for solving the problem (Why is this strategy appropriate to solve the problem?)
- Reflection questions: questions to reflect on their understanding the solution process (Can you solve it in a different way?)

The fifth session consisted of reviewing all of the metacognitive questions found by the students, and writing them on colored posting cards. When the cards are done, students read them and divide them into 4 groups, one for each metacognitive question type.

The next sessions are designed for practicing the method on different problems, from different math book chapters.

The last session is for reviewing the method, and to underline its importance during the math solving process.

RESULTS, ANALYSIS AND INTREPRETATION OF RESULTS

Based on existing literature that emphasized the importance of metacognitive evaluation with a multi-method design assessment for third grade students (Desoete, 2007), we formulated a specific hypothesis to preserve this form of assessment for seventh grade learning disabilities students from inclusive classrooms, especially because it is considered that learning disabled students' self-assessment is higher than their teacher's, although usually their self-assessment is lower than their colleagues ones (Garrett, Mazzocco, and Baker, 2006). A correlational analysis was conducted for each of the three groups in the study, data allowing us to observe that there are highly significant correlations between the two forms, prospective and retrospective, of the student questionnaire for all four metacognitive skills assessed.

In this study we sought a continuation of existing research, and the previous study, choosing the same IMPROVE method as metacognitive training, aiming to investigate whether students with learning disabilities from inclusive classrooms, who received individual metacognitive training will improve their metacognitive and math performance more significantly than those who received metacognitive training in small groups.

A Mann-Whitney test for independent samples was used to compare the groups in the pretest.

Table 2. Comparing PRE-TEST student *questionnaire* prospective form (a)– Mann-Whitney

	Group 1- Group 2		Group 1- Group 3		Group 2 - Group 3	
	Z	p	Z	p	Z	p
Pre-test student questionnaire, form a						
PCEa_prediction	-.38	.70	-.91	.36	-.55	.58
PCEa_planning	.00	1.00	-1.03	.30	-1.17	.24
PCEa_monitoring	-.27	.79	-.76	.44	-.36	.72
PCEa_evaluation	-.16	.87	-.63	.52	-1.12	.26

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

Table 3. Comparing PRE-TEST student *questionnaire* prospective form (b)– Mann-Whitney

	Group 1- Group 2		Group 1- Group 3		Group 2 - Group 3	
	Z	p	Z	p	Z	p
Pre-test student questionnaire, forma b						
PCEb_prediction	-.90	.36	-.36	.71	-1.49	.13
PCEb_planning	-.49	.62	-1.68	.09	-1.71	.08
PCEb_monitoring	-.54	.59	-.45	.65	-.90	.36
PCEb_evaluation	-.54	.59	-.96	.33	-.23	.81

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

There were no significant differences between groups in pre-test for student questionnaire, both prospective and retrospective forms, or for the prediction and evaluation tests.

Table 3. Comparing PRE-TEST metacognitive measurement mixte– Mann-Whitney

	Group 1- Group 2		Group 1- Group 3		Group 2 – Group 3	
	Z	p	Z	p	Z	p
Pre-test PREDICTION	-.90	.37	-1.75	.08	-1.74	.08
Pre-test EVALUATING	-.84	.40	-.89	.37	-1.47	.14
Pre-test SOLVING	-1.22	.22	-1.69	.09	-2.62	.01

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

However, significant differences emerged in pre-test for mathematical knowledge test between the small group intervention and control group, which compels us to consider them as heterogeneous groups.

A Wilcoxon test for paired samples was used for comparisons pre and post-intervention.

Table 4. Comparing PRE-TEST student *questionnaire* prospective form (a) – pre-test – post-test ld students (Wilcoxon)

LD students	Group 1- indiv. intervention		Group 2- group intervention		Grupul 3- control	
	Z	p	Z	p	Z	p
Pre-test student questionnaire form a	-2.04*	.04	-1.53	.12	-1.07	.28
Post-test student questionnaire forma a						

Note: *, $p < .05$

Significant differences emerged for the individual intervention group on the student questionnaire, the global score, and also for the prediction and planning metacognitive skills for both experimental groups.

For the metacognitive mixed measurements (predictive test and the evaluation one) pre-test - post-test comparison significant differences appeared only in the individual intervention group. For small group intervention and control group the differences were not significant.

Table 5. Metacognitive mixed measurements (predictive test and the evaluation one) pre-test - post-test comparison LD students (Wilcoxon)

LD students	Group 1- indiv. intervention		Group 2- group intervention		Grupul 3- control	
	Z	p	Z	p	Z	p
Pre-test PREDICTION	-2.24*	.02	-1.82	.06	-.92	.35
Post-test PREDICTION						
Pre-test EVALUATION	-2.21*	.02	-1.83	.06	-1.74	.08
Post-test EVALUATION						

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

An ANCOVA procedure was used to compare the groups in post-test, ANCOVA being the only option to consider for heterogeneous groups although ANCOVA is a parametric test, and normally not used for small groups of participants.

Table 6. ANCOVA, post-test, student *questionnaire* prospective form

	F	p
Post-test student <i>questionnaire</i> prospective form	22.49**	.00
PPCEa, prediction	.15	.70
PPCEa, planning	1.44	.24
PPCEa, monitoring	16.75**	.00
PPCEa, evaluation	21.35**	.00

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

Results showed significant differences between the three groups of students on the overall score for the student's questionnaire, the monitoring and evaluation skills. Since differences occurred between the two experimental groups in post-test, we wanted to continue our investigation, calculating the effect size for student questionnaire, and the four subscales, to determine intervention's effect on each experimental group.

Table 7. Effect size for student questionnaire, prospective form

Effect size for student questionnaire – LD students	Group 1	Group 2
	(indiv. interv.)	(small groups interv.)
	d Cohen	d Cohen
Post-test student questionnaire, prospective form	1.81	1.50
PPCE_prediction	1.18	2.04
PPCE_planning	1.83	0.89
PPCE_monitoring	1.02	0.51
PPCE_evaluation	1.47	0.63

For individual intervention group, there has been a very strong effect size (Cohen $d > .80$) both to the student questionnaire overall score and the four subscales. For the small groups intervention, we obtained a strong effect size to the questionnaire overall score, and for the prediction and planning metacognitive skills. For monitoring and evaluation skills, we obtained only a medium effect size ($.50 < \text{Cohen } d < .80$). The data obtained allows us to say that individual metacognitive training proved more effective in improving metacognitive performance measured by overall score on student questionnaire and monitoring and evaluation metacognitive skills. For the other two metacognitive skills, namely the prediction and planning, although there were differences between groups, they were not statistically significant, thus not allowing us to establish which one is more effective.

As for the metacognitive mixed assessments, namely prediction and evaluation tests, post-test comparisons made with ANCOVA show significant differences between groups only for the evaluation test.

Table 8. ANCOVA- metacognitive mixed assessments in post-test

POST-test	F	p
PREDICTION test	.32	.57
EVALUATION test	9.29	.00

Thus, very significant differences ($p < .01$) were found on the evaluation test between individual intervention group and small groups intervention, and significant differences, ($p < .05$) on evaluation test, between individual intervention group and control group.

The third hypothesis of this study was aimed at investigating the effects of metacognitive training on mathematical performance. A Mann-Whitney test was used to compare the groups in pre-test.

Table 9. Comparing PRE-TEST math performance – Mann-Whitney

	Group 1- Group 2		Group 1- Group 3		Group 2 – Group 3	
	Z	p	Z	p	Z	p
Pre-test – Math knowledge test	-1.22	.22	-1.69	.09	-2.62*	.01

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

Results indicate significant differences between small group intervention and control group on math performance in pre-test. Therefore, we used an ANCOVA test for the post-test comparisons between groups. A pre-test - post-test comparison, using Wilcoxon test, shows us significant differences between the pre-test and post-test at each of the three groups of students.

An ANCOVA test was used to investigate the effects of metacognitive training on math performance for each experimental group. Since we obtained significant differences between the groups in post-test, we used again ANCOVA, considering pairs of groups. The results show that there are very significant differences ($p < .01$), on math performance between control group and individual intervention group, and significant differences ($p < .05$) between the control group and intervention in small groups. Between the two experimental groups no significant differences emerged on math performance for learning disabilities students.

Since we found a significant difference between the small group intervention and the control group in pre-test on math performance, we considered necessary to verify the effectiveness of intervention in the two experimental groups, calculating the effect size. Data shows that learning disabilities students who received individual metacognitive training improved their math performance at a far greater extent than those who received metacognitive training in small groups. Individual training achieved an effect size Cohen $d = 2.25$, as compared to small group intervention where an effect size Cohen $d = .90$ was calculated. However, both values are higher than .80, and so, considered strong effects.

To verify the fourth hypothesis of this study, I found it necessary to calculate the effect size.

Table 10. Effect size, PREDICTION and EVALUATION, LD students

Effect size – LD students	Group 1 (indiv. interv.)	Group2 (small groups interv.)
	d Cohen	d Cohen
PREDICTION	2.32	1.94
EVALUATING	2.00	1.23

Data shows that accuracy of prediction metacognitive skills improved for both experimental groups, with better results for individual intervention group, where Cohen d is 2.32, compared with 1.94 for the intervention in small groups. The accuracy of evaluation metacognitive skills, also improved in both experimental groups, but mostly for individual intervention group, where Cohen's d value is 2.00, compared with 1.23 for the intervention in small groups. All values indicate that metacognitive training was very effective in improving metacognitive skills measured by the prediction and evaluation tests, as shown by their powerful effects size, all values for Cohen d . being higher .80. But if we compare the improvement of the two metacognitive skills, we can mention that the training seems more effective for prediction metacognitive skill, where the value of Cohen $d = 2.32$.

The last hypothesis of this study, that math learning disabilities students have a different metacognitive profile as compared to those without learning disabilities, was invalidated. Comparison between the two categories of students in terms of standard deviation of the students questionnaire, prospective form, post-test, showed no significant differences between the profiles of learning disabilities students and those without mathematical learning disabilities in any groups of participants.

CONCLUSION

Results obtained allow us to conclude that for seventh grade math learning disabilities students from inclusive classrooms, metacognitive evaluation through a multidimensional model is still necessary in order to obtain sufficient information to outline an full array of metacognitive evaluation. And also that metacognition can be trained to secondary school students, which is in line with other results from the literature (Mevarech and Kramarski, 2003); a specific metacognitive training, having positive effects on improving metacognitive and mathematical performance. The novelty of this study consists in emphasizing that metacognitive training delivered individually is more effective than the one delivered in small groups.

However, the results should be viewed with caution. The small number of participants, and the absence of a follow-up testing for evidence of maintaining the changes resulting from intervention are just some of the limitations of this study. Starting from these preliminary results, however, further studies will attempt to overcome these limitations by including a larger number of participants to give us greater statistical power, and by inclusion of follow-up testing.

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THE ROLE PLAYED BY RESILIENCE AND THE MEANING MAKING PROCESSES IN THE PERCEPTION OF STRESS AND QUALITY OF PROFESSIONAL LIFE IN A SAMPLE OF TRANSYLVANIAN HUNGARIANS

ÉVA KÁLLAY¹

ABSTRACT. Chronic daily hassles specific to personal and occupational life have a significant negative impact on the individual's emotional and mental health, simultaneously affecting his/her subjective and psychological well-being, as well as quality of life. The worldwide massive changes occurring in the economic, social, personal realms become sources of chronic stress, which necessitate continuous adaptation. In such conditions, the person's resilience, and his/her capacity to confer meaning to life and work, play a critical role as protective shields in the development of functional reactions and thriving. Our present study is a continuation of our previous investigations on a Transylvanian Hungarian population, concentrating on the following major aims: (i) the investigation of the role played by resilience and meaning making in experiencing chronic stress and the work related quality of life;(ii) the investigation of the relationship between resilience and one's ability to confer meaning to life and work, necessary for the development of effective stress management programs. Our results may be salient in the development of prevention and intervention programs targeting the improvement of emotional health, subjective and psychological well-being of Transylvanian Hungarians.

Keywords: *stress, resilience, meaning in life, meaningful work, subjective/psychological well-being.*

ZUSAMMENFASSUNG. Die Rolle der Resilienz und der Bedeutung Prozesse in der Wahrnehmung von Stress machen und die Qualität des Berufslebens in einer Probe von Siebenbürgischen Ungarn. Chronische tägliche Probleme, die für das persönliche und berufliche Leben spezifisch sind, haben einen erheblichen negativen Einfluss auf die emotionale und geistige Gesundheit des Individuums und beeinflussen gleichzeitig sein subjektives und psychologisches Wohlbefinden sowie die Lebensqualität. Die weltweiten massiven Veränderungen in

¹ *Department of Psychology, Babes-Bolyai University, Cluj-Napoca, Romania,
E-mail: evakallay@gmail.com*

den ökonomischen, sozialen, persönlichen Bereichen werden zu chronischen Stressquellen, die eine kontinuierliche Anpassung erfordern. Unter solchen Bedingungen spielen die Resilienz der Person und ihre Fähigkeit, dem Leben und der Arbeit Sinn zu verleihen, eine wichtige Rolle als Schutzschilde bei der Entwicklung von funktionalen Reaktionen und Gedeihen. Unsere vorliegende Studie ist eine Fortsetzung unserer bisherigen Untersuchungen an einer Siebenbürger ungarischen Bevölkerung und konzentriert sich auf die folgenden Hauptziele: (I) die Untersuchung der Rolle der Resilienz und Sinn machen im Erleben des chronischen Stress und der arbeitsbezogenen Lebensqualität; (II) die Untersuchung der Beziehung zwischen Resilienz und der Fähigkeit, dem Leben und der Arbeit Sinn zu verleihen, die für die Entwicklung wirksamer Stressbewältigungsprogramme notwendig sind. Unsere Ergebnisse können ausgeprägt werden, in der Entwicklung von Präventions- und Interventionsprogrammen, die auf die Verbesserung der emotionalen Gesundheit, des subjektiven und psychologischen Wohlbefindens der Siebenbürger Ungarn abzielen.

***Schlüsselwörter:** Stress, Resilienz, Sinn im Leben, sinnvolle Arbeit, subjektives / psychisches Wohlbefinden.*

INTRODUCTION

Despite the fact that *stress* and *demand* are not new concepts (Quick, Quick, Nelson, & Hurrell, 1997), the number, frequency, and intensity of stressors and demands recent life conditions expose us to is on an ascending trend (Amundson, 2006). Even if our lives seem to be much disburdened by the facilities offered by the significant technological progress (most past activities are automated, life-conditions are to a considerable degree freed of physical labor), the stressors and challenges we have to confront with seem to be more numerous and different, compared to what humans in general were used to (Schwartz, 2004). The changes that have occurred in the past decades in the demographic, social, technological, political, economic life, family structures, force individuals to face an increasing number of challenges and deal efficiently with the corresponding demands (Amundson 2006; Feinstein, Vorhaus, & Sabates, 2010; Sparks, Faragher, & Cooper, 2001). Little wonder, that despite the enhancement of overt life-conditions, the number of individuals who are negatively impacted by these changes is also increasing: prevalence in depression, anxiety disorders, burn-out, and other manifestations of emotional dysfunctions are constantly increasing (Cunningham, Rapee, & Lyneham 2006; European Commission 2005; da Silva Lima, & de Almeida Fleck 2007).

A considerable number of studies has evinced that not only the extremely stressful, traumatic events may lead to physical and psychological disturbances, but the concomitant confrontation with less intense stressful situations may have a cumulative effect, significantly affecting the individual's physical and mental health, as well as his/her subjective and psychological well-being (Amundson, 2006; Kopp & Réthelyi, 2004; Stauder & Konkoly Thege, 2006). The efficient psychological functioning comes to get a more profound meaning when we consider that the recent work conditions require better mental health than they did in the past (Weehuizen, 2008). Mental health problems affect not only the individuals and their immediate proximity (family, friends, co-workers), but may later on have significant influences on national economies as well (Weehuizen, 2008).

Before this period of accelerated changes, people could easier refer themselves, the attributed significance of the events they had to face to a stable system of ethical, moral, and religious norms and values, which were shared and respected by the majority (Crossley, 2000). In the absence of a stable framework it is extremely difficult to find a well-delineated frame of interpretation of events, which would lead to the much desired emotional comfort following a stressful encounter, translated in the concept of well-being.

Psychology has treated **well-being** as two distinct constructs (Lent, 2004):

- (i) **subjective (hedonic) well-being**, encompassing three distinct, nevertheless associated components: life satisfaction, positive affect, and the absence of negative affect (Diener, Lucas, & Oishi, 2002).
- (ii) **psychological (eudaimonic) well-being**: considers that well-being transcends mere happiness, and that a well-lived life is represented by one's attempt to fulfill own potentials (Waterman, 1993). Psychological well-being (PWB) is usually treated as a multidimensional construct, formed of six major components (Ryff & Singer, 2008):
 - (a) *self-acceptance*: the individual's capacity for unconditional self-acceptance, devoid of any kind of judgment of value.
 - (b) *positive relations with others*: one's capacity to establish and maintain warm and functional human relationships.

- (c) *autonomy*: one's ability to function independently of others' approval, and one's capacity to regulate emotions, cognitions, and behaviors from within.
- (d) *environmental mastery*: the person's ability to 'construct' an external environment that sustains and enhances his/her functioning and adaptive processes.
- (e) *purpose in life*: one's ability to find meaning in and for his/her life, to attribute meaning to different life events, establish proximal and distal goals, bounce back more quickly and more appropriately from negative encounters and present higher levels of positive mental functioning.
- (f) *personal growth*: one's ability to perceive life as a series of constant changes and challenges, as opportunities to enhance and strive towards one's true potentials increases the chances of attaining a well-lived life.

In order to prevent the appearance of psychological malfunctioning and to promote flourishing, this newly developed psychological environment requires the development of appropriate coping mechanisms, emotion- and behavior-regulation strategies, etc. According to Baumeister (1991), one of the most important strategies that could promote mental health and flourishing is the individual's capacity to find and attribute **meaning** to his/her life and work. According to Steger (2012), "*Meaning is the web of connections, understandings, and interpretations that help us comprehend our experience and formulate plans directing our energies to the achievement of our desired future*" (pp. 166). A bulk of research (e.g., King, Hicks, Krull, & Del-Gaiso, 2006; Mascaro & Rosen, 2005; Reker, 2005; Steger & Frazier, 2005; Steger, Frazier, Oishi, & Kaler, 2006) has repeatedly proved the strong relationship between a person's ability to attribute meaning to his/her life and different life events, and the experienced level of emotional health and well-being. The person's ability to find and attribute meaning to one's life (the feeling that our lives and experiences make sense and matter, Steger, 2012) facilitates the attainment and maintenance of emotional balance, and keeps the person motivated in order to attain his/her goals.

Research treats **meaning in life** under two major aspects: the **presence**, and the individual's **search for the meaning in life** (Steger, Kashdan, Sullivan, & Lorentz, 2008). **Presence of meaning** in life is experienced when people comprehend themselves and the world around them (Steger et al., 2008). When the presence of meaning in life is weakened by some event, people start searching for it (Steger et al., 2008, p. 200). The **search for meaning in life** is associated either with positive mental/emotional functioning (e.g., Frankl, 1963; Maddi, 1970), or a symptom of

dysfunction (Baumesiter, 1991; Klinger, 1998). Within his approach, Reker (2000) distinguishes between positive, healthy search (life-affirming), and negative, unhealthy search (deficit based) (c.f., Steger et al., 2008).

On the other hand, one's capacity to attribute and/or search meaning for his/her work resides in the desire of people to confer higher values for their professional activities (Šverko & Vizek-Vidović, 1995), and transcend the need for mere financial reward. Again, research has repeatedly demonstrated that those persons who consider that their work is meaningful experience higher levels of well-being, report greater job-related satisfaction, work-group cohesion, and intra-group collaboration (Arnold, Turner, Barling, Kelloway, & McKee, 2007; Kamdron, 2005). Moreover, the ability to build a meaningful career and to confer meaning to one's work was found to be related to (i) the desire to serve a greater good, (ii) the wish to make sense of one's self, (iii) the need to better understand one's work environment, (iv) the need to find purpose in one's work (Ashforth, 2001; Sparks & Schenk, 2001; Weick, Sutcliffe, & Obstfeld, 2005; Wrzesniewski, 2003).

In Steger, Dik, and Duffy's (2012) approach, meaningful work is considered to have three major facets:

1. ***Psychological meaningfulness in work***: the degree to which people consider that their work is meaningful and matters.
2. ***Making meaning through work***: the degree to which people's meaning in life benefits from the way they attribute meaning to their work (Steger & Dik, 2010).
3. ***Greater good motivations***: the measure to which people desire to have a positive impact in the world, on other people through their work.

As we have seen this far, research indicated that there is strong relationship between attributing meaning to one's life/work, and different forms of well-being and mental-emotional health (Lent, 2004; Steger, Frazier, 2005).

Another, equally important ability that is partially related to our capacity to attribute meaning to our life and to the events we confront with is resilience, which Wagnild (2009) considers to be a system of strategies that facilitate efficient adaptation and prosperity in the aftermath of highly stressful encounters. The concept of psychological resilience encompasses the individual's psychological strength, optimism, self-esteem, sense of coherence, flexibility, mental and psychological capital (Wagnild, 2009). Research has demonstrated that resilience has a strong relationship with the individual's physical and mental health, and most importantly, that this ability can be significantly developed and enhanced in time (Black & Ford-Gilboe, 2004; Wagnild, 2007).

In the recently developed life-conditions, we consider of high importance the identification of stressful life-events (both in the personal and professional life), as well as the delineation of an optimal competence package (resilience, meaning making) (Gósi, 2007), that could function as a protective shield in front of new and frequently occurring stressful situations.

Thus, the major objectives of our study are:

(i) the investigation of the role played by resilience and meaning making in experiencing chronic stress and the work related quality of life

(ii) the investigation of the relationship between resilience and one's ability to confer meaning to life and work, necessary for the development of effective stress management programs.

RESEARCH

Method

Participants

The present study focuses on the investigation of a less studied ethnic group, namely, Transylvanian Hungarians, including 129 male and 297 female participants, with mean age of 32.64 years ($SD=13.09$, minimum age =18 years, maximum age = 68 years). Our participants reside in the central and eastern part of Transylvania (Cluj, Mures, Harghita, and Covasna counties). Education levels ranged from high-school (70.8%), university (23.3%), and post-university degrees (5.9%).

Initially, we distributed 600 sets of self-report questionnaires, out of which we received 441 completed sets. After introducing the data and adjusting the data base for missing information, we remained with 427 participants with complete data sets.

Instruments

After obtaining the written consent to participate in the study, all subjects completed a demographic questionnaire comprising variables as: gender, age, level of education, marital status, satisfaction with personal and family income. Next, all participants were assessed on the following dimensions of their functioning:

Stress was measured with the Perceived Stress Scale (PSS, Cohen, Kamarck, & Mermelstein, 1983). The PSS measures the degree to which situations in one's life are appraised as **stressful**. Items were designed to tap how unpredictable, uncontrollable, and overloaded respondents find their lives. The PSS is a 14-item self-report questionnaire, with answers being rated on a 5-point Likert scale (0- never, 4- very often). This scale was adapted for Hungarian population (Stauder & Konkoly Thege, 2006).

The **quality of professional life** was measured with the Work Related Quality of Life scale (WRQoL - Easton & Van Laar, 2012). The WRQoL is a 24-item self-report questionnaire. Answers are recorded on a 5-point Likert scale, ranging from 1= strongly disagree to 5=strongly agree. The WRQoL measures 6 sub-components of the construct; general well being (GWB), home-work interface (HWI), job career satisfaction (JCS), control at work (CAW), working conditions (WCS), stress at work (SAW), and it also has an item for measuring the overall quality of working life. The psychometric properties of the original scale are good, with Cronbach's alpha ranging from .87 to .94. This scale was translated into Hungarian by the author of this study.

Resilience was measured with the 25-item Resilience Scale (RS - Wagnild & Young, 1993). The RS is a 25-item self-report questionnaire, with answers being recorded on a 7-point Likert scale (1-disagree, 7 - agree). The RS measures two sub-components of resilience: (1) personal competence, and (2) acceptance of self and life. The psychometric properties of the RS are good, Cronbach's alpha ranging from .89 or .91. This scale was translated into Hungarian by the author of this study.

Meaning in life was assessed with the Meaning in Life Questionnaire (MLQ, Steger, Frazier, Oishi, & Kaler, 2006) a 10-item instrument measuring (i) the presence of meaning in life (how much respondents feel their lives have meaning), and (ii) the search for meaning in life (how much respondents strive to find meaning and understanding in their lives). Answers are recorded on a 7-point Likert-type scale ranging from 1 (Absolutely True) to 7 (Absolutely Untrue). For the original instrument, Cronbach's alpha was .86 for presence and .92 for search for meaning in life. Test-retest reliability was also good, .70 for presence and .73 for search for meaning in life. This scale was translated into Hungarian by the author of this study.

Meaning in work was measured with the Work and Meaning Inventory (WAMI, Steger, Dik, & Shim, in press). The WAMI is a 10-item self-report instrument, measuring three basic components of meaningful work: (i) the degree to which

people find their work to have significance and purpose, (ii) the contribution work makes to finding broader meaning in life, and (iii) the desire and means for one's work to make a positive contribution to the greater good. Items are rated from 1 (absolutely untrue) to 5 (absolutely true); The total MW scale internal consistency was high, Cronbach's alpha .93 (.89, .82, and .83). This scale was translated into Hungarian by the author of this study.

Psychological well-being was assessed with the 84-item Psychological Well-Being scale developed by Ryff (1989). The 6 subscales (14-items each) measure the basic components of psychological well-being: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. The psychometric properties of the Hungarian translation are satisfactory (Cronbach's alpha ranges within: .79-.88). This scale was translated into Hungarian by the author of this study.

Subjective well-being was assessed with the 5-item WHO well-being questionnaire (WHO Collaborating Centre in Mental Health, 1999), focusing on the assessment of positive affective states. Each of the five items is rated on a 6-point Likert scale from 0 (not present) to 5 (constantly present). Scores are summed, with raw scores ranging from 0 to 25. Then the scores are transformed to 0-100 by multiplying by 4, with higher scores meaning better well-being. This scale was adapted for Hungarian population by WHO (WHO Collaborating Centre in Mental Health, 1999).

Depression was assessed with the 21 item Beck Depression Inventory (BDI, Beck, Rush, Shaw, & Emery, 1979). The BDI is a 21-item, multiple-choice format inventory, designed to measure the presence of depression in adults and adolescents. After assessment, single scores are produced, which indicate the intensity of the depressive episode (normal levels, mild, moderate and severe symptoms of depression). Internal consistency indices of the BDI are usually above .90. This scale was adapted for Hungarian population (Rózsa, Szadóczky, & Füredi, 2001).

Results

Firstly, we present the descriptive characteristics of our data (see Table 1).

Table 1. Descriptive statistics

Scale	Min.	Max.	M	SD	Shapiro-Wilk	p
PSS	5	54	26.58	7.36	.98	.01
WRQoL - GWB	10	26	20.41	3.56	.96	.01
WRQoL - HWI	3	15	9.25	2.57	.97	.01
WRQoL - JCS	10	30	21.20	4.38	.97	.01
WRQoL - CAW	3	15	9.66	2.80	.96	.01
WRQoL - WCS	3	15	10.44	2.61	.95	.01
WRQoL - SAW	2	10	5.94	1.98	.96	.01
WRQoL- total	43	114	80.86	14.16	.97	.01
REZ- Personal competence	58	115	89.02	12.56	.98	.01
REZ - Acceptance of self and life	19	49	34.88	5.94	.99	.03
PWB positive relations	34	82	62.41	10.10	.98	.01
PWB autonomy	35	80	56.98	9.46	.98	.01
PWB environmental mastery	30	80	56.98	9.46	.99	.02
PWB personal growth	33	81	63.23	8.56	.98	.01
PWB purpose in life	34	83	61.76	9.54	.98	.01
PWB self-acceptance	31	84	58.81	10.65	.99	.05
BDI	0	32	8.01	6.70	.91	.01
WHO	0	100	54.99	19.49	.98	.01
WAMI positive meaning	6	20	14.76	3.22	.96	.01
WAMI meaning through work	4	15	10.98	2.47	.94	.01
WAMI greater good motivation	2	14	7.99	3.70	.96	.01
WAMI global	14	49	33.75	8.32	.96	.01
MLQ presence	10	35	26.83	5.79	.95	.01
MLQ search	5	35	23.27	6.65	.96	.01

Next, we investigated differences in the assessed variables depending on *gender* (results are presented in Table 2), and *age categories* (Table 3). Due to the distribution of our data (see Table 1), we conducted the non-parametric Mann-Whitney U-test.

Table 2. Differences in perceived stress, work related quality of life, resilience, psychological well-being, depression, and subjective well-being, depending on gender.

Scales	Mean	SD	Z	p	abs(r)
PSS	m=23.37	6.81	-5.56	.001	0.27
	f=28.04	6.89			
WRQoL - CAW	m=10.21	3.11	-2.44	.01	0.11
	f=9.49	2.53			
REZ- Personal competence	m=91.73	12.10	-3.00	.001	0.15
	f=87.43	12.16			
REZ - Acceptance of self and life	m=35.78	5.26	-2.50	.01	0.12
	f=34.22	6.07			
PWB autonomy	m=59.53	9.24	-3.84	.001	0.18
	f=55.94	8.72			
PWB environmental mastery	m=59.34	8.85	-3.80	.001	0.18
	f=55.40	9.50			
PWB self-acceptance	m=61.21	9.90	-2.59	.001	0.12
	f=58.08	10.45			
BDI	m=5.79	5.55	-4.82	.001	0.23
	f=8.99	6.86			
WHO	m=60.18	20.88	-3.68	.001	0.18
	f=52.59	18.20			

As presented in Tables 2, our results following the application of the Mann-Whitney test indicate that female participants experience significantly higher levels of perceived stress ($Z=-5.56, p<.001$), and symptoms of depression ($Z=-4.82, p<.001$), while male participants experience significantly higher levels of control at work (WRQoL ($Z=-2.44, p<.01$), personal competence ($Z=-3.00, p<.001$), and acceptance of self and life ($Z=-2.50, p<.01$) components of resilience, autonomy ($Z=-3.84, p<.001$), environmental mastery ($Z=-3.80, p<.001$) and self-acceptance ($Z=-2.59, p<.001$) components of psychological well being, and subjective well-being ($Z=-3.68, p<.001$).

Our results after applying the Kruskal-Wallis test regarding **age** differences (presented in Table 3) indicate that participants younger than 33 years of age experience significantly higher levels of perceived stress ($Z=-3.27, p<.001$), general well being ($Z=-2.21, p<.05$) and job career satisfaction ($Z=-3.07, p<.01$)

on the dimension of work related quality of life, on the personal relationships ($Z=-2.42$, $p<.01$) and personal growth ($Z=-3.49$, $p<.001$) components of the psychological well-being, and on the meaning through work ($Z=-2.37$, $p<.05$), and greater good motivation ($Z=-4.35$, $p<.001$) components of meaning in work.

Table 3. Differences in perceived stress, work related quality of life, resilience, psychological well-being, depression, and subjective well-being, depending on age (under 33 and above 33 years of age, categories established on mean age, age<33 N=224, age>33 N=186).

Scales		Mean	SD	Z	p	abs(r)
PSS	age<33	27.57	7.02	-3.27	.001	0.16
	age>33	25.42	7.35			
WRQoL - GWB	age<33	20.91	3.14	-2.21	.05	0.10
	age>33	19.95	3.91			
WRQoL - JCS	age<33	22.03	3.94	-3.07	.01	0.15
	age>33	20.63	4.58			
PWB - personal relationships	age<33	63.96	8.99	-2.42	.01	0.12
	age>33	61.29	10.55			
PWB - personal growth	age<33	65.05	7.25	-3.49	.001	0.17
	age>33	61.54	8.53			
WAMI meaning through work	age<33	11.41	1.99	-2.37	.05	0.11
	age>33	10.67	2.75			
WAMI greater good motivation	age<33	8.94	3.14	-4.35	.001	0.21
	age>33	7.25	3.96			

Next, we investigated whether there are differences in the assessed variables depending on the *satisfaction with family income*. After applying the Kruskal-Wallis H test, our results indicate significant differences in almost all studied dimensions. Participants who report lower levels of satisfaction with family income have significantly higher levels of perceived stress [$H(2)=24.41$, $p<.001$], significantly lower levels of general work related well-being [$H(2)=53.33$, $p<.001$], home-work interface [$H(2)=22.49$, $p<.001$], job-career satisfaction [$H(2)=41.42$, $p<.001$], control at work [$H(2)=37.96$, $p<.001$], and working conditions [$H(2)=20.43$, $p<.001$]. Furthermore, those who report lower satisfaction with family income, also present significantly lower levels of resilience, personal competence [$H(2)=15.31$, $p<.001$], acceptance of self and life [$H(2)=31.84$, $p<.001$], significantly lower levels of psychological well-being: personal relationships

[H(2)= 24.49, $p<.001$], environmental mastery [H(2)=26.13, $p<.001$], purpose in life [H(2)=11.50, $p<.001$], self acceptance [H(2)=23.37, $p<.001$], significantly higher levels of depression [H(2)=17.23, $p<.001$], significantly lower levels of subjective well-being [H(2)=26.56, $p<.001$], positive meaning derived from work [H(2)=32.52, $p<.001$], meaning through work [H(2)=26.44, $p<.001$], and greater good motivation [H(2)=12.04, $p<.001$], and significantly lower levels of the presence of meaning in life [H(2)=13.76, $p<.001$].

We finished the investigation of differences produced by the demographic variables with those given by the **level of education**. We ran the Kruskal-Wallis non-parametric test, and the results are presented in Table 4.

Table 4. Significant differences in assessed variables depending on level of education (G=high-school, G2=college, G3=master/PhD)

Scale	M	Kruskal-Wallis	p
PSS	G1=27.57	23.42	.001
	G2=24.36		
	G3=23.75		
WRQoL - HWI	G1= 9.15	6.89	.05
	G2=9.90		
	G3=9.65		
WRQoL - JCS	G1=20.81	14.32	.001
	G2=22.73		
	G3=22.91		
WRQoL - CAW	G1=9.23	37.61	.001
	G2=10.65		
	G3=11.91		
WRQoL - WCS	G1=10.35	8.26	.05
	G2=11.02		
	G3=11.73		
REZ- personal competence	G1= 86.51	29.12	.001
	G2=93.21		
	G3=95.08		
REZ - acceptance of self and life	G1= 33.84	20.82	.001
	G2=36.09		
	G3=38.37		
PWB positive relations	G1= 62.05	7.59	.05
	G2=64.34		
	G3=65.70		
PWB autonomy	G1= 56.15	8.01	.05
	G2=59.26		
	G3=57.91		

Scale	M	Kruskal-Wallis	p
PWB environmental mastery	G1= 55.19 G2=59.40 G3=60.83	20.19	.001
PWB personal growth	G1= 62.91 G2=64.90 G3=66.79	7.18	.05
PWB purpose in life	G1= 61.04 G2=64.61 G3=64.62	10.53	.01
PWB self-acceptance	G1= 57.54 G2=62.18 G3=62.33	14.98	.001
BDI	G1= 8.81 G2=6.46 G3=5.43	19.45	.001
WAMI positive meaning	G1= 14.37 G2=15.90 G3=16.95	32.08	.001
WAMI meaning through work	G1= 10.83 G2=11.72 G3=11.65	10.05	.01
MLQ presence	G1= 26.50 G2=28.41 G3=28.08	10.40	.01

As it can be seen in Table 4, those participants who have higher levels of education report significantly lower levels of perceived stress and depression, and significantly higher levels of work related quality of life (HWI - home-work interface, JCS - job career satisfaction, CAW - control at work, WCS - working conditions), resilience (personal competence and acceptance of self and life), psychological well-being (positive relations, autonomy, environmental mastery, personal growth, purpose in life, self-acceptance), meaning derived from work (positive meaning, meaning through work), and the presence of meaning of life.

We continued our investigations by conducting correlation analyses in order to investigate the association patterns between perceived stress and work related quality of life, and the other assessed variables (Table 5). Finally, we conducted two hierarchical multiple regression (HMR) analyses in order to investigate the degree to which perceived stress (as measured with the PSS scale) (Table 6) and work related quality of life (Table 7) are predicted by the variables that correlated with them.

Table 5. Pearson correlation matrix between perceived stress and work related quality of life, and the other assessed psychological variables

Scale	PSS	WRQoL Total
PSS	1	-.44**
WRQoL - total	-.44**	1
REZ- personal competence	-.45**	.45**
REZ - acceptance of self and life	-.60**	.44**
PWB positive relations	-.38**	.35**
PWB autonomy	-.36**	.24**
PWB environmental mastery	-.73**	.54**
PWB personal growth	-.27**	.40
PWB purpose in life	-.46**	.48**
PWB self-acceptance	-.59**	.47**
WAMI positive meaning	-.30**	.69**
WAMI meaning through work	-.23**	.55**
WAMI greater good motivation	-.10*	.33**
MLQ presence	-.54**	.48**
MLQ search	.15**	NS

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

Based on the correlation matrix for perceived stress in the first step of the HMR we entered age, gender, level of education, and satisfaction for family income since we intended to control for these demographic variables. In step two we introduced resilience. In the third step, we introduced the two components of meaning of life, in step four, the three components of meaning of work, and in step five, the components of psychological well-being. After running the regression analyses, we selected those variables which significantly predicted perceived stress, and rerun the HMR with them. Results are presented in Table 6.

Model one with the demographic variables proved to be statistically significant ($F_{4,365}=23.24$, $p<.001$), predicting 20.5% of the variance with perceived stress. Next we introduced the two components of resilience which also proved statistically significant ($F_{6,365}=48.28$, $p<.001$), explaining an additional 23.6% of the variance. The introduction of meaning of life also resulted in a statistically significant model ($F_{8,365}=54.39$, $p<.001$), explaining an additional 10.8% of variance. Finally, the introduction of psychological well-being was also found statistically significant ($F_{14,365}=47.70$, $p<.001$), adding another 10.6% to the variance in perceived stress.

Table 6. Hierarchical regression model for perceived stress

Perceived stress	<i>R</i>	<i>R</i> ²	<i>R</i> ² <i>Change</i>	<i>t</i>
Step 1	.45	.20**	.20**	10.00**
Age				
Gender				
Levels of education				
Satisfaction with family income				
Step 2	.66	.44**	.23**	-8.07**
Resilience				
- personal competence				
- acceptance of self and life				
Step 3	.74	.54**	.10**	-8.67**
Meaning in life				
- presence				
- search				
Step 4	.81	.65**	.10**	-8.39**
PWB positive relations				
PWB autonomy				
PWB environmental mastery				
PWB personal growth				
PWB purpose in life				
PWB self-acceptance				

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

Regarding work related quality of life, in the first model we introduced the demographic variables, which proved to be statistically significant ($F_{4,354} = 20.05$, $p < .001$), explaining 20.1% of variance in work related quality of life. Then we introduced the two components of resilience which also resulted a statistically significant model ($F_{6,354} = 30.47$, $p < .001$), adding another 14.3% of variance in WRQoL. In the third step, we introduced meaning derived from work ($F_{9,354} = 51.79$, $p < .001$), adding 23.1% of variance in WRQoL. In the final step we introduced

the components of psychological well-being, with ($F_{15,354} = 36.80, p < .001$), adding 4.5% in the variance of WRQoL. Further results of the regression analysis are presented in Table 7.

Table 7. Hierarchical regression model for Work Related Quality of Life

Depression	R	R²	R²	t
			Change	
Step 1	.44	.20	.20**	23.83**
Age				
Gender				
Levels of education				
Satisfaction with family income				
Step 2	.58	.34	.14***	7.43**
Resilience				
- personal competence				
- acceptance of self and life				
Step 3	.75	.57	.23**	4.69**
WAMI				
positive meaning				
meaning through work				
greater good motivation				
Step 4			.04**	
PWB positive relations	.78	.62		3.70**
PWB autonomy				
PWB environmental mastery				
PWB personal growth				
PWB purpose in life				
PWB self-acceptance				

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

As a final step to our research, we conducted a correlational analysis between the two components of resilience (personal competence, and acceptance of self and life) and the components of meaning of life and meaning of work. Our results are presented in Table 8.

Table 8. Correlation matrix between resilience, meaning attributed to life and meaning attributed to work

Scale	REZ Prs comp	REZ Accept	MLQ pre- sence	MLQ search	WAMI Pos mean	WAMI Mean through work	WAMI <i>Greater good</i>
REZ- personal competence	1						
REZ - acceptance of self and life	.71**	1					
MLQ presence	.48**	.47**	1				
MLQ search	NS	NS	-.13**	1			
WAMI positive meaning	.40**	.36**	.54**	NS	1		
WAMI meaning through work	.34**	.26**	.48**	.12*	.77**	1	
WAMI greater good motivation	.21**	.11*	.33**	.19**	.59**	.65**	1

As seen in Table 8, both components of resilience present a strong and significant association with all the components of meaning attributed to work, and the presence of meaning in life. However, we have not found any association between resilience and the search for meaning in life.

CONCLUSIONS AND DISCUSSIONS

The changes occurring in our environment (social, cultural, financial) significantly influence the processes involved in our adaptation, the quality of our life, and our general well-being. Despite our apparent physical comfort, the number and diversity of stressors we have to confront with is in permanent increase, and a considerable number of individuals are not adequately endowed with the most suitable coping strategies. The results of these malfunctioning processes is reflected in the constantly growing number of adults and children/adolescents affected by significant mental or emotional problems.

The major aim of our present study is to evince the importance of resilience in the perception of stress and its relationship to meaning attributed to life and work within a sample of Transylvanian Hungarians.

Our results have indicated, the assessed female participants experience significantly higher levels of stress and depression than the male population (Nolen-Hoeksema, 2001; 2012; Parker & Brotchie, 2010; Verma, Balhara, & Gupta, 2011). In the same time, the assessed female participants report significantly lower levels of: control at work, resilience, psychological and subjective well-being. These results are quite similar to those found in the literature, namely those women usually experience significantly higher levels of stress and depression, one explanation for this being that women generally assume more roles than men, which may negatively impact their capacity to efficiently confront stressful events.

Regarding age categories, the older generations reported significantly lower levels of stress. However, an aspect that is quite surprising for us is that parallel to these findings, the older generation also reported significantly lower levels of work related quality of life, resilience (both components), subjective well-being, and work related quality of life. A possible explanation for these counterintuitive results could be the fact that the older generations are not any longer very sensitive to the nuanced perception of stressful encounters, and are not very reactive to stressful events. Another explanation may be conceived if we interpret our results from the point of view of the *Socioemotional selectivity theory*, developed by Laura L. Carstensen, according to which as people age, and their temporal horizons narrow, people become more and more selective, and start investing greater resources in emotionally meaningful goals and activities (Carsten, 2006). However, the rest of our results may indicate that even if the older generations are not easily 'affected' by the hardships of life, the attitude towards, and coping mechanisms implied in adapting to new challenges may not be the ideal ones.

Our results regarding level of education sustain the conception according to which higher levels of education enriches the individual's resources of coping mechanisms, and his/her possibilities for a better adaptation to the protean conditions of life. Our participants with higher levels of education reported significantly lower levels of stress and depression, and their ability (and possibility) to attribute meaning to life and work is significantly higher. The same pattern can also be found in their resilience.

We continued our study with investigating the differences in the assessed variables depending on the participants satisfaction with family income. Our results indicate that lower levels of satisfaction with family income is associated with higher levels of stress and depression, as well as with lower levels of work related quality of life, lower levels of resilience, and meaning attributed to life and work.

The regression analysis we conducted in order to estimate the role played by different variables in predicting the level of perceived stress and work related quality of life, we found that both resilience and attribution of meaning to life, respectively to work, play a significant role. In the same time, different components of psychological (eudaimonic) well-being play a key-role in the perditions of stress and work related quality of life, especially if we consider the components of psychological well-being as subjacent strategies and not as results of a process. In both predictive models, a significant role is played by the demographic variables, which brings a supplementary benefit to the social aspect and implications of our study.

Finally, the correlation matrix involving the components of resilience and meaning attributed to life and work reveals a strong association pattern between the assessed variables. As an intriguing results we would present the fact that the presence of meaning in life is strongly associated with both components of resilience, but the search for the meaning in life is not significantly associated with either component of resilience. This result may indicate that the associative relationship between resilience and meaning attributed to life might be more stabile, and that the dynamic implied in the search of meaning in life may be associated with other variables. Since these aspects have significant implications for the development of efficient interventions, we propose that this aspect of our present research be further investigated in more detail.

The results yielded by our research may attain special significance if they are considered in the light of components involved in the constant process of adaptation, within a segment of a larger population (Transylvanian Hungarians). In the last years a plethora of research has been conducted in investigating the concept, components, effect and importance of resilience. Research indicated that resilience as an ability may significantly be developed and enhanced both in childhood/adolescence and in adulthood. From this point of view, our results are important, since we have delineated the major directions resilience may be enhanced within this specific cultural group, namely with maintaining and developing a strong meaning for work. These results may be important not only for therapists and counselors, but also for employers, in order to enhance the relationship between employer and employee. The implementation of interventions targeting the development of resilience both at work and in one's private life [e.g., cognitive-behavioral therapy (e.g., Abbott, Klein, Hamilton, & Rosenthal, 2009), acceptance and commitment therapy (e.g., Ryan, 2014), mindfulness-based therapy (e.g., Geschwind, Peeters, Drukker, Van Os, & Wichers, 2011), problem-solving therapy (e.g., Sahler, Dolgin, Phipps, Fairclough, Askins, Katz, et al., 2013), as well as stress inoculation (e.g., Farchi & Gidron, 2010)],

would significantly improve the repertoire of strategies that enables the individual to *navigate* as efficiently as possible through the increasing and diversifying difficulties of life.

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INVESTIGATING THE IMPACT OF ORGANIZATIONAL BEHAVIOUR ON SCHOOL CLIMATE

CRISTINA PIELMUȘ¹

ABSTRACT. Organizational behaviour consists in the choice members of an organization make in adopting certain attitudes or modes of action in their interaction with the organizational environment, as individuals or as members of a group. It is essential to understand organizational behaviour as a key variable of the organization, which is directly dependent on the human resource that forms the core of organizations, without whom their existence cannot be conceived. The study of organizational behaviour is relevant in order to gain a deeper understanding of the mechanisms that engage the entire organizational life. Yet, the organizational context underlies the certain type of behaviour that is created within the organization, which is why this study aims to identify those organizational dimensions acting as determinants of organizational behaviour, so that the potential impact these may have on school climate could be estimated.

Keywords: *organizational behaviour, school culture, school climate*

ZUSAMMENFASSUNG. Untersuchung Der Auswirkungen Des Organisativen Verhaltens Auf Schulklima. Das organisatorische Verhalten widerfindet sich in der Entscheidung der Mitglieder einer Organisation, in ihrer Interaktion innerhalb des organisatorischen Umfelds, als Einzelpersonen oder Gruppenmitglieder, bestimmte Einstellungen oder Handlungsweisen anzunehmen. Es ist entscheidend, das organisatorische Verhalten als eine kritische Variable der Organisation zu erfassen, auf das menschliche Kapital, den Kern der Organisationen, unmittelbar angewiesen, außerhalb dessen ihre Existenz nicht erfassbar ist. Die Untersuchung des organisatorischen Verhaltens ist in der Gewinnung einer tieferen Einsicht in Mechanismen, die das gesamte Organisationsleben antreiben. Jedoch unterliegt der organisatorische Kontext einem organisationsintern entstandenen Verhaltensmuster; aus diesem Grund zielt die Studie darauf ab, die als Determinanten agierende Organisationsdimensionen des Organisationsverhaltens zu erkennen und eine Einschätzung der potentiellen Auswirkungen auf das Schulklima zu ermöglichen.

Schlüsselwörter: *Organisationsverhalten, Schulkultur, Schulklima*

¹ *Foreign Languages Department, Police Academy, Bucharest, Romania*
E-mail: cristina.pielmus@academiadepolitie.ro

LITERATURE REVIEW

Organizational behaviour. Conceptual framework

The concept of organizational behaviour is multidisciplinary, situated at the confluence of psychology, sociology, anthropology, and economics. Perhaps that is why it is difficult to define. Organizational behaviour is a somewhat improper concept as it is unlikely that members of an organization have an identical and unified reaction or attitude to the organizational context. However, we can speak about group behaviour; participants to the organizational life can develop patterns of collective behaviour within the group they belong to. In this respect, Patrice Mann notes that one can speak of a generic concept designating the types of behaviour belonging to some individuals who, under the influence of shared beliefs, sometimes act all in the same key (Stanciu, Ş., Ionescu, M.A, 2005, p. 120).

In the literature of the field there are few attempts to define the concept, most often studies go straight into treating the area delimited by the notion of organizational behaviour. According to Dennis W. Organ and Thomas Bateman (Zlate, M., 2008, vol. I, p. 37) organizational behaviour is the behaviour facilitated and induced by the organization or the behaviour generated or emerged as a result of organizational processes. In contrast with these authors' psychosocial perspective, Mielu Zlate (2008, vol. I, p. 38) considers that organizational behaviour has psychological valences as it consists in all adaptive responses of the individual or group, the overall expression of the individuals' or the organizational groups' mental activity, which is directly observable or indirectly deduced, but also influenced or directed. Other authors view organizational behaviour as the junction of four dimensions: the individual, the group, the organization and the environment, which all influence the behaviours of the members of the organization (Wilson, 1999).

In this paper the concept takes on a particular meaning: *organizational behaviour lies in the individual or group attitudes and modes of action, generated as a response to different situations or organizational processes.*

We consider organizational behaviour is an objectification, a concrete expression of the elements that make up the culture of the organization, which cannot acquire material consistence in the absence of human resource that translates them into organizational attitudes and practices. In other words, organizational behaviour is dictated by the organizational context the individuals belong to. To support this statement we recall Mielu Zlate's remark (2008, vol. I, p. 39), which says that when organizational conditions change (e.g. rules, goals, structure, constraints, values, etc.), they trigger the process of remodelling behaviours, which can have positive or negative effects on members and the organization.

School climate and culture - variables of organizational behaviour

In the studies about organizations, culture and climate are among the most discussed aspects of organizational life. The research often dwells on the role and influence of each of the two variables in the organization, sometimes ignoring the analysis of the culture-climate rapport, organizational variables that cannot be conceived one without the other.

However, in the literature there are some attempts to clarify the relation between the culture and climate of an organization. A relatively recent model of analysis for the rapport between the two variables has been generated by the emergence of organizational management as a novel and distinct science. According to this model, culture is a comprehensive concept, which subsumes the concept of climate. In this view, organizational culture is described as consisting of several distinct levels (Hofstede, 2003; Schein, 2004; Rousseau, 1990). Essentially, these levels distinguish between *values* and *practices*. On the one hand, the values are fundamental and often subconscious modes of understanding and assessing the world. On the other hand, practices are tangible, observable behaviours manifested in the organization.

In the latter model, the climate can be equated with how the organization's members describe and evaluate organizational practices. Thus, *climate* is a subset of culture in the same way that values of the organization are considered to be subsumed to culture. Therefore, the climate is equivalent with the organizational practices or behaviours that are subsumed to culture.

We consider climate as being rather a consequence, an effect of organizational practices that participants in the organizational life screen through their own subjectivity translating them into behaviours. In addition, organizational values guide in their turn the conduct of the individuals belonging to the organization. Therefore, the climate will be the both the outcome of organizational behaviour and the values underlying these behaviours (Figure 1).

In our opinion, culture and climate are concepts that do not overlap nor should they be confused. Although distinct organizational variables, there is a determination relation between culture and climate, a relation that should not exclude organizational behaviour. According to Emil Păun (1997, pp. 9-10) culture and climate are subordinated to organizational behaviour, which also includes aspects such as goals, ethos and organization effectiveness. Therefore, culture and climate constitute variables of organizational behaviour. Thus, culture exerts an influence in the process of maintaining and developing the organizational climate as the perceptions of the members of the organization on the type of behaviour they have to adopt within the group reflect cultural features subjectively.

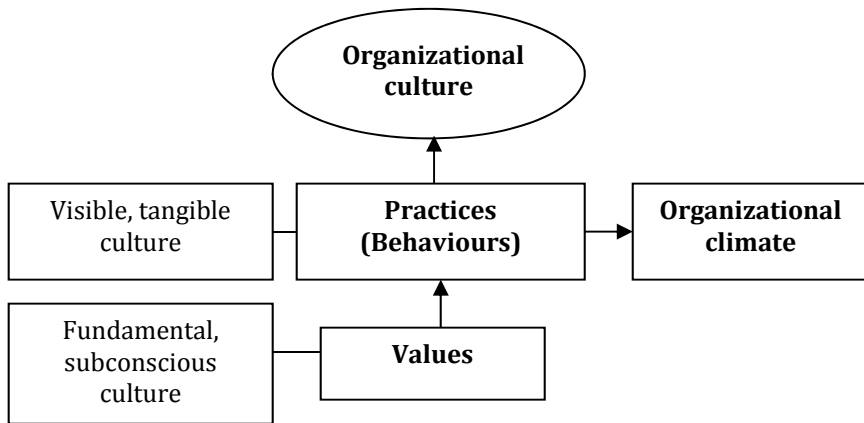


Fig. 1. The relationship between culture and climate in Hofstede (2003) and Schein (2004)

Undoubtedly, culture is distinct from climate, the two concepts do not overlap. However, as variables of organizational behaviour they enter into a relation of dependence. According to Ashforth (1985) culture consists of shared assumptions and ideologies, whereas climate is defined by the shared perceptions on the behaviour of the members of an organization (Hoy, Tarter, 1997).

Another view, which belongs to Hoy, Tarter and Kottkamp (1991), supports the analysis of organizational climate from a psychological perspective, while culture can be considered from an anthropological point of view, which allows the identification of the differences between the two organizational variables and the subordination rapport between them.

In his turn, referring to the educational context, Emil Păun (1999) highlights this difference, postulating the prevalent objective nature of culture, though the author does not ignore its subjective aspects, while climate is the subjective dimension of the organization. It is worth mentioning that both culture and climate, as objective and subjective dimensions of school, are embedded in the individuals' behaviours.

Figure 2 summarizes our view on the culture-climate rapport as variables of organizational behaviour, indicating the interdependencies between them.

Through its positive or negative valences due to multiple influence factors such as socio-cultural factors, interpersonal relationships, communication quality, managerial style features, the specific activity of the organization and working conditions, the structure and size of the organization, but also influences of the outer environment, climate affects the attitudes and behaviours of individuals taking

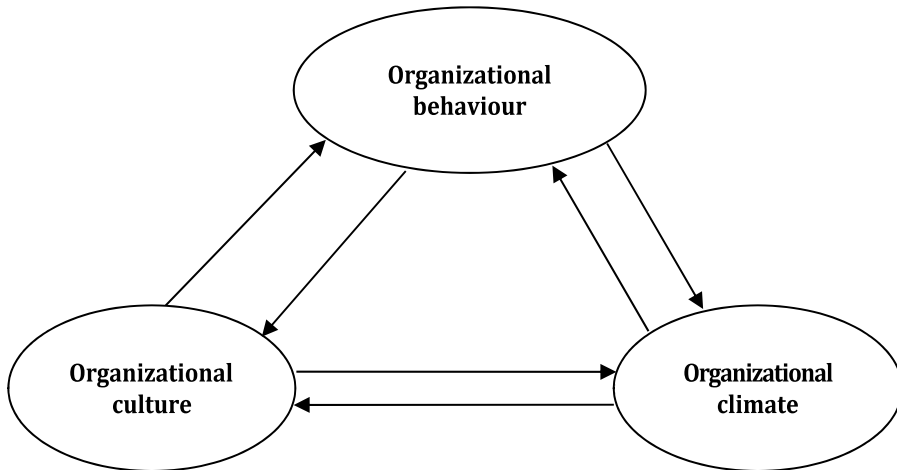


Fig. 2. The interdependencies between culture - behaviour - climate

part in the organizational life. On the other hand, culture - consisting of values, beliefs, norms, organizational practices - is translated through the human resource in behavioural patterns; in other words, it finds expression in or is objectified in the social interactions taking place in the organization.

Therefore, the climate and culture of the organization can be considered as two facets of the same coin – the organizational behaviour - because neither of these two organisational variables exists in a vacuum, but is directly dependent on the human factor in the organization, as a means through which both can be expressed.

RESEARCH PURPOSE AND SAMPLING

The research we have undertaken aims *to identify the behavioural characteristics of members belonging to the organization and it attempts to establish the extent to which the conducts of all participants to the organizational life converge* so that we could estimate the potential impact they may have on the climate.

The sample population included in our research consisted of teachers and students belonging to all faculties in charge with the initial training of prospective police officers within "A. I. Cuza" Police Academy in Bucharest. Numerically the population included in the research study totals a number of *356 respondents*, of which *274 students* enrolled in all years of study from the 1st to the 4th year,

both females and males, covering all specialties such as police, border police, gendarmerie, penitentiaries, firefighters, and 82 teachers of both genders with a different degree of seniority in the organization from beginners to teachers having an experience of over 10 years.

For the sampling of the research population we have resorted to a representative sample, which has been determined through the probabilistic sampling technique. The sample has been made up starting from a list of homogeneous groups of individuals (students and teachers) and the selection of persons included in the investigation has been conducted so as to cover several survey variables: age, gender, social and professional category, specialization, seniority in the educational organization, etc., needed for data analysis and interpretation.

METHODS AND INSTRUMENTS

We have used quantitative research methods such as *questionnaire-based survey* with closed trichotomic questions and multiple pre-coded questions, with multiple choice and Likert-scale responses, as well as open questions. We have developed two questionnaires, one for the teachers and other for the students, as representatives of the two socio-professional groups included the sample.

The teachers and students were asked questions which aimed at identifying the prevalent behavioural traits of the two socio-professional groups in relation to all categories of members of the organization each group comes into contact, thus: for teachers we have analyzed their behaviours in relation to the manager, but also to their colleagues and for students we analyzed their behaviour in relation to teachers and classmates.

The behaviours of each category of respondents have been defined in *relation to the cultural dimensions of the organization, which are six in number: task orientation/formalism, people orientation/supportiveness, interpersonal relations, decision making, performance orientation, innovation orientation*. For each of these cultural dimensions we had identified indicators, which were subsequently converted into items (statements) designating the types of behaviour that are associated with each cultural dimension of the organization. By determining the extent to which the conduct of each socio-professional group is situated to negative or the positive pole of the cultural dimension (i.e. to what extent the answers *not at all - a little or considerably - a lot* prevail), we can draw conclusions on the degree of congruence between the managers', the teachers' and students' behaviours.

The cultural dimensions are expressed by indicators that reflect patterns of behaviour that define each dimension as follows:

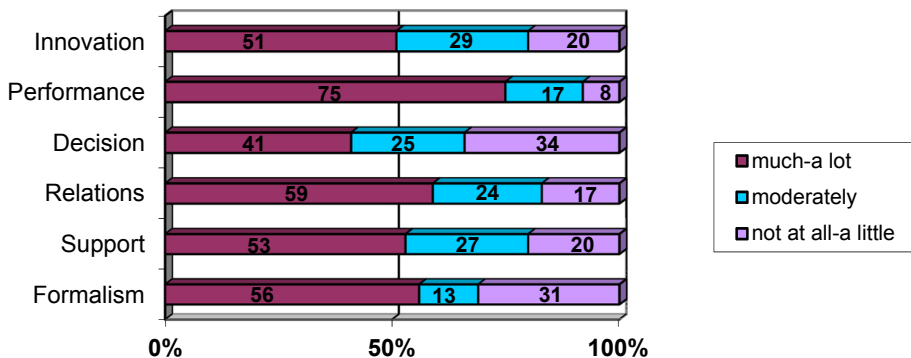
- *Task orientation/ Formalism*: focus on tasks, formal rules, conformity, control, sanctions;
- *People orientation/ Supportiveness*: assistance, fairness, equality, appreciation, rewards;
- *Interpersonal relationships*: communication, collaboration, respect, friendly relations, solidarity, cohesion;
- *Decision making*: involvement of members of the organization in decision-making;
- *Performance orientation*: high expectations, focus on results, focus on quality;
- *Innovation orientation*: positive attitude towards change, openness to novelties, exploitation of opportunities.

RESULTS AND DISCUSSION

For a systematic presentation we first resorted to the analysis and interpretation of the manager’s and teachers’ behaviours as perceived by teachers and subsequently we analysed and interpreted the teachers’ and students’ behaviours as reflected in the latter’s perception.

Starting from the statistical data collected we calculated the percentage in which teachers have characterized the manager’s behaviour on each of the six cultural dimensions so as to facilitate the interpretation of data. The results are displayed in the graph below.

Manager’s behaviour in relation with the cultural dimensions of the organizations (teachers as respondents)

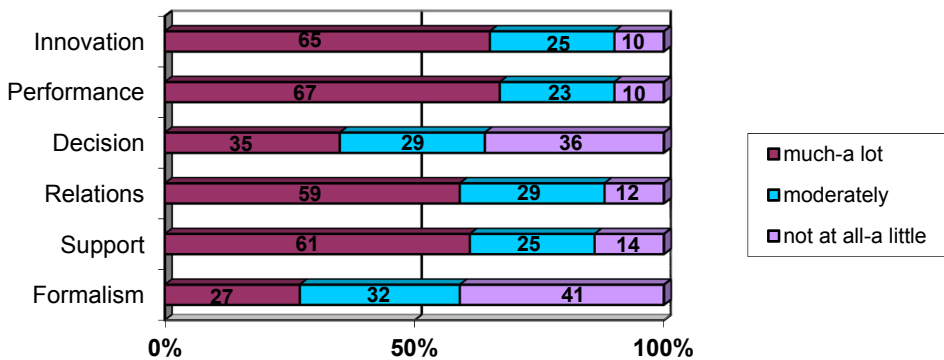


These results lead us to the following conclusions on the manager’s behaviour: there is a slight tendency towards *formalism* (56%), for which reason *supportiveness* totals a positive percentage of only 53%; *interpersonal relations* tend to be positive (59%); *decision-making* tends to be reserved mostly to the manager (59%), teachers are less involved in decision-making (41%); the manager is very much focused on achieving *performance* (75%); there is a relative orientation towards *innovation* as indicated by 51 percent.

Therefore, the teachers’ perception on the manager’s behaviour reveals that the latter is oriented in roughly equal proportions on formal rules, but also on providing support, that he acknowledges the importance of interpersonal relations and the focus of the organization on performance, but is less oriented toward the teachers’ inclusion in decision-making and tends to have a relatively innovative vision without abdicating from conservatism entirely.

We shall further analyze the teachers’ behaviours on the same cultural dimensions so as to determine to what extent these are congruent with the manager’s. Similarly with the manager’s behaviour analysis, we relied on statistical data to calculate the percentage of each cultural dimension on teachers’ behaviours so that the interpretation of data could become more accessible. The results are shown in the following graph:

Teachers’ behaviours in relation with the cultural dimensions of the organizations (teachers as respondents)



From these results we can draw the following conclusions: teachers tend to be relatively uninterested in the *formal dimension* of the organization (only 27% chose this feature in a large and very large proportion); *supportiveness* occupies an important place in the teachers’ behaviours as shown by the 61 percent who

opted “much” and “a lot” for this feature; teachers are inclined to attach importance to *interpersonal relations* (59% voted “much” and “a lot”); the proportion in which teachers are involved in *decision-making* is relatively low (35% opted for “much” and “a lot”); teachers tend to be *performance-oriented* (as proven by the 67 of the options for “much” and “a lot”); the focus on *innovation* occupies an important place in the teachers’ attention (65 percent chose “much” and “a lot”).

Therefore, the teachers’ perceptions on their own behaviours reveals that they are less receptive to adopt formal rules of behaviour, they favour supportive behaviour and friendly interpersonal relations, they are oriented towards performance and innovation, but not involved enough in decision making.

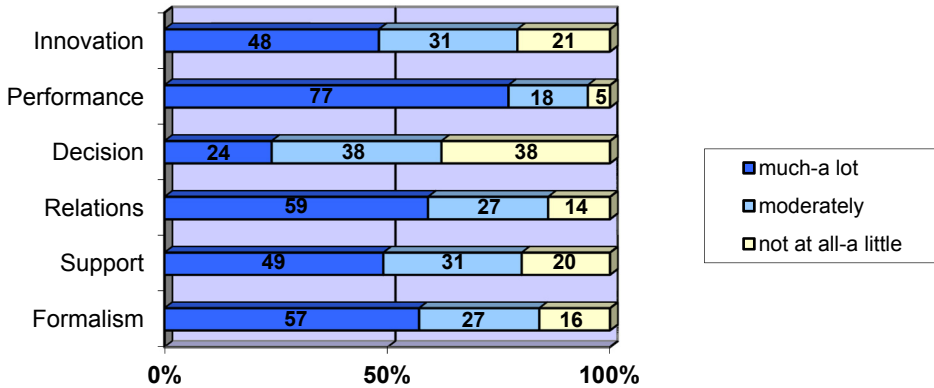
It is interesting to note that teachers’ perceptions on innovation tend to be positive in respect to managers and themselves. The option for the organizational feature of innovation must be understood in terms of the subjective perception of that category of respondents represented by the teachers’ group. If for teachers innovation generally overlaps with the adoption of innovative teaching methods and techniques, then the 65 percent of their answers in favour of innovation could be justified. But if we take into account the teachers’ perception on the managers’ preference for innovation represented by a percentage of 51, then, given the relatively low percentage that innovation scored among the values cultivated by the organization, we tend to consider this option as belonging to desirability rather than reality.

We have found out that managers and teachers have convergent behaviours except for two aspects: formalism and decision-making. If the manager has expectations of formal behaviour, teachers are less inclined to meet them. The manager has the tendency to allow relatively low involvement of teachers in decision-making, which opposes the teachers’ need to participate more. These two aspects may influence the teachers’ perception on the quality of organizational climate.

We shall further look into the teachers’ and students’ behaviours as perceived by the latter. It’s worth mentioning that teacher-student relationship should be viewed similarly to the manager-teachers relationship as a rapport of authority, for which reason the students’ perceptions on teachers’ behaviours may differ from those of the teachers. However, the students’ opinions on the teachers’ behaviours can be more objective than those of the teachers, who may be tempted to be more subjective when they have to characterize themselves. The students may have a similar behaviour being tempted to fall into subjectivism when asked to answer questions that require them to describe their behaviours.

Thus, the statistical data served as the basis for calculating the percentage of each cultural dimension so that we could discover the main features of the teachers’ behaviours as reflected in their students’ opinions. The results are shown in the graph below.

Teachers' behaviours in relation with the cultural dimensions of the organization (students as respondents)

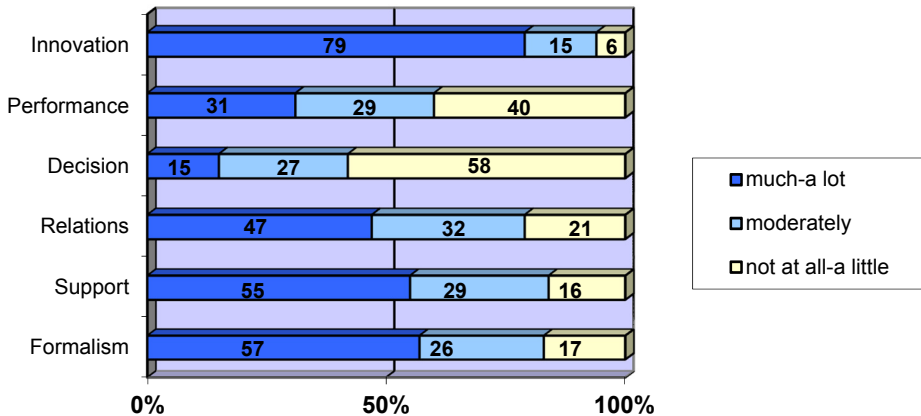


These results allow us to draw the following conclusions on the teachers' behaviours as perceived by the students: there is a slight tendency towards *formalism* (57%), for which reason *supportiveness* is represented by only 49 %; *interpersonal relations* tend to be positive (59%); *decision-making* tends to fall heavily into the remit of the decision makers (76%), students are modestly involved in decision-making (24%); teachers are very much oriented on achieving *performance* (77%); there is a relative orientation towards *innovation* as indicated by the 48 percent.

Therefore, it is easily noticeable that in their interaction with the students teachers adopt the same behaviour the manager displays in relation to teachers. This conclusion appears to be pertinent as the percentages on each of the six cultural dimensions are very similar, almost identical to those indicating the manager's prevalent behavioural traits in relation to the teachers. Thus, teachers tend to be characterized by the following features: they impose the observance of formal organizational rules, they are relatively focused on supportiveness, they tend to foster friendly interpersonal relations and they are performance-oriented, they give little opportunity to their students to take part in decision-making and are relatively oriented toward innovation while still being slightly conservative.

We shall further analyze the students' behaviours on the same cultural dimensions so as to determine to what extent these are congruent with the teachers'.

Students' behaviours in relation with the cultural dimensions of the organization (students as respondents)



We calculated the percentage of each cultural dimension relying on the statistical data collected, so as to determine the students' main behavioural traits as they emerge from their own perceptions and to facilitate the interpretation of data. The results are shown in the graph above.

Our results lead to the following conclusions about students' behaviour as reflected in their own perceptions: they are inclined to comply with the formal requirements imposed by the *formal dimension* of the organization (57%); *supportiveness* occupies a positive 55 percent; *interpersonal relations* tend to be relatively positive (47%); *decision-making* tends to fall heavily into the remit of the decision-makers (85%), students are modestly involved in decision-making (15%) and moderately *performance-oriented* (31%), but strongly oriented towards *innovation* as indicated by the 79 per cent.

Therefore, students' perception of their own behaviours reveals that they are very receptive to adopting formal rules and standards of behaviour, while they consider that it is rather important to foster supportive behaviours and balanced interpersonal relations; they are not as oriented towards performance as expected, but considerably in favour of innovation, despite the very low involvement in decision-making.

It's worth noting that both teachers and students tend to have convergent behaviours, except for two areas: decision-making and performance. When it comes to innovation the two groups have an average convergence. However, we should not overlook the prevalent subjective perceptions of each category of

respondents, which is why the proportion in which teachers and students have opted for innovation as a feature of the socio-professional group they belong to is rather related to the perception of what innovation means for each group: for teachers innovation consists in adopting modern teaching methods and techniques, while for students innovation is equivalent to their openness to novelties, information and new technologies. The students' limited involvement in decision-making can be attributed to the particular nature of teaching as the main activity carried out by teachers in the institution, which does not require a high degree of involvement of learners in decision-making, a process most often related to how the educational process and assessments are conducted, where teachers do not usually accept intrusions. Although education is meant to be learner-centred, when the student should have a say, the Romanian education in general and education for the military, in particular, are still far from this phase. Undoubtedly, students would like to have freedom of choice, which is currently relatively limited, if not downright nonexistent.

As for the performance dimension, students seem to be not so interested in achieving high results, but - as it is clear from their answers - in obtaining maximum outcomes with a minimum effort. Thus, we can infer that students are more oriented towards a fake performance, namely getting top grades, without investing too much effort. From this point of view, students may conflict with the organization's expectations as to their performance, which - as we have seen - are high. Innovation is a cultural dimension highly opted for by the students, whose expectations are not entirely met by their teachers, who - though relatively in favour of innovation - display a tendency to preserve a reminiscence of conservatism, most likely due to the peculiar characteristics of this socio-professional group, which is well-known for its rather slow accommodation to novelty.

The final conclusions resulting from the analysis of the behavioural traits characteristic for the members of the organization in charge with the initial training of prospective officers can be summed up as follows: each socio-professional group under survey adopt the organizational values in their behaviours in different ways, for which reason the degree of congruence between their behaviours also varies. The previous analysis revealed the differences between teachers and managers and students and teachers in respect to their option for each cultural dimension of the organization they belong to.

Therefore, we can conclude that the following research hypothesis has been demonstrated: *If the organizational values are adopted in different ways in the behaviours of the organization's members, then the degree of congruence between their behaviours will vary.*

We can anticipate that these differences in behaviours will bring along differences in the perceptions of the two socio-professional groups – teachers and students - on the quality of the organizational climate.

Another step of the data analysis and interpretation consisted in correlating and analyzing comparatively the previous conclusions so as to determine the impact that the behaviours adopted by the members of the organization may have on the organizational climate.

That is why the objective was to *determine the extent to which the convergence between the behaviours of the members of the organization has an influence on the organizational climate.*

Thus, for each socio-professional group we have analysed comparatively the percentages obtained, on the one hand, as a result of the analysis of the degree of congruence between the behaviours of the members of the organization and, on the other hand, from the analysis of the predominant type of climate.

The teachers’ perception on the manager’s and their own group’s behaviours is shown comparatively in the table below.

Table 1. Teachers’ perception on behaviour

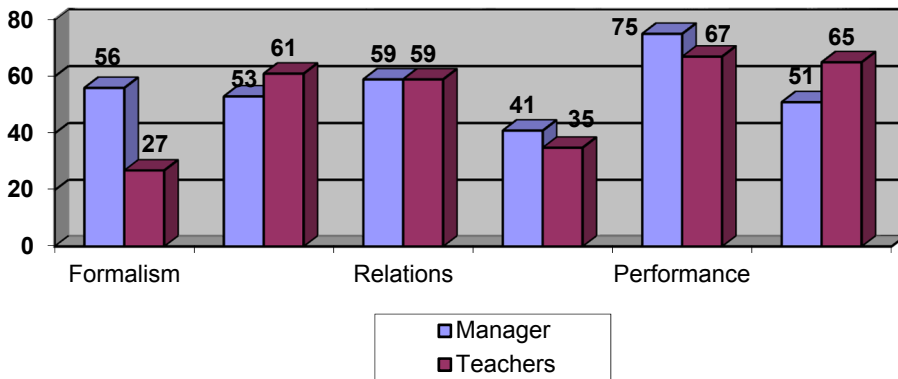
Manager’s behaviour	Teachers’ behaviour
<i>Formalism/ task orientation (56%)</i>	<i>Formalism/ task orientation (27%)</i>
<i>Supportiveness/People orientation (53%)</i>	<i>Supportiveness/People orientation (61%)</i>
<i>Interpersonal relations (59%)</i>	<i>Interpersonal relations (59%)</i>
<i>Decision making (41%)</i>	<i>Decision making (35%)</i>
<i>Performance orientation (75%)</i>	<i>Performance orientation (67%)</i>
<i>Innovation orientation (51%)</i>	<i>Innovation orientation (65%)</i>

In order to simplify the analysis we have taken into account the most relevant percentages, that is those in which teachers and students opted for each cultural dimension of the organization choosing as answers “*much*” and “*very much*”. The proportion of these answers show the tendency of the cultural dimension, which is high if the answers “*much*” and “*very much*” have been opted for in larger percentages or, contrariwise, it is low if these answers have a minimum percentage.

The graph below shows comparatively the manager's and the teachers' behaviours as reflected on the six cultural dimensions of the organizations. The results included in this graph allow us to draw the following conclusions: the degree of congruence between the manager's and the teachers' behaviours is high as both the manager and the teachers have opted for the cultural dimensions of *supportiveness*, *interpersonal relations*, *performance* and *innovation* in percentages that exceed the mean values. Moreover, these percentages have a tendency to overlap, which means that both professional groups are equally people-oriented, inclined towards balanced interpersonal relations, focused on achievement, but also open to novelty.

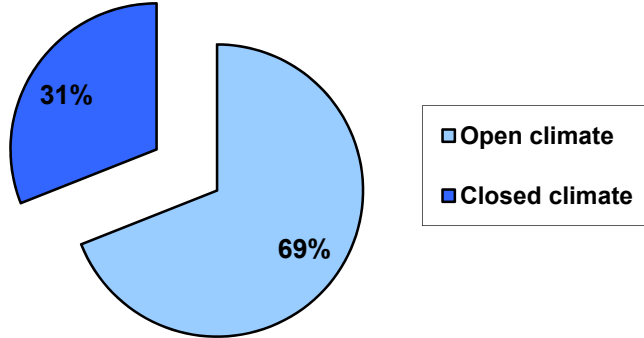
The two cultural dimensions on which managers and teachers have an average to low congruence are *decision-making* and *formalism*. As seen in the graph, the decision has scored percentages below the mean values, which suggests that the manager allows a relatively low involvement of teachers in decision-making. As to formalism, the two professional groups have distinct approaches: the managers have a tendency to foster and impose the formal rules and standards of behaviour (57%), whereas teachers are not so willing to embrace them (27%).

Graphical representation of the manager's and teachers' behaviours



On the other hand, we can recall that 69 % of the *teachers* perceive the organization they belong to as having an *open climate*, while only 31% of them consider that the *climate* is *closed*.

Teachers' perception on climate



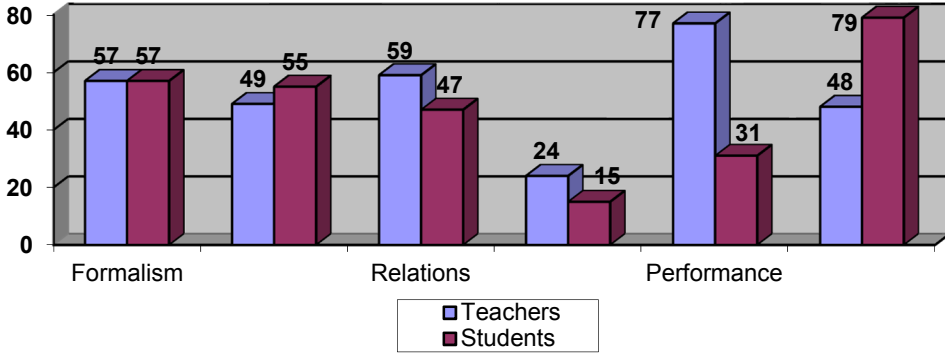
Corroborating the previous conclusions, we can ascertain that the degree of congruence between the manager's and the teachers' behaviours is high and the climate is perceived by the teachers as being predominantly positive (69%).

We shall continue the analysis taking into consideration the students' perceptions on the teachers' and their own group's behaviours.

Table 2. Students' perception on behaviour

Teachers' behaviour	Students' behaviour
<i>Formalism/ task orientation (57%)</i>	<i>Formalism/ task orientation (57%)</i>
<i>Supportiveness/ People orientation (49%)</i>	<i>Supportiveness/ People orientation (55%)</i>
<i>Interpersonal relations (59%)</i>	<i>Interpersonal relations (47%)</i>
<i>Decision making (24%)</i>	<i>Decision making (15%)</i>
<i>Performance orientation (77%)</i>	<i>Performance orientation (31%)</i>
<i>Innovation orientation (48%)</i>	<i>Innovation orientation (79%)</i>

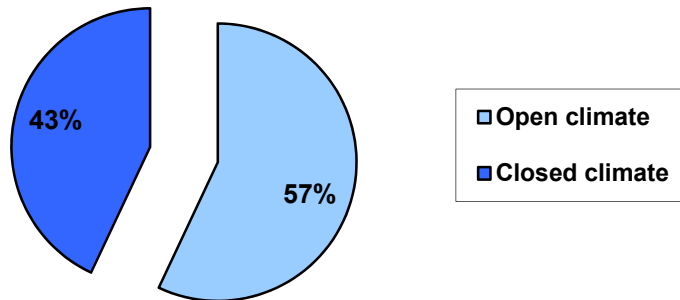
Graphical representation of the teachers' and students' behaviours



The graph above reveals the following conclusions about the degree of congruence between the teachers' and the students' behaviours: a) the general tendency is towards an average to high convergence, if we take into consideration that both professional groups – teachers and students – have opted for the four cultural dimensions of the organization in percentages close and above the mean value. We have discovered that on three of the four cultural dimensions, namely *formalism*, *supportiveness*, and *interpersonal relations*, both teachers and students have rather close percentages, which means that they are equally centred on complying with formal rules and standards, focused on the human resource and on maintaining positive relations within their organization; b) as concerns *innovation*, the two professional groups show an average congruence: teachers have scored a medium 48 percent, while the students a maximum 79 percent. These variations in percentages across the two groups of respondents reveal the young generation's keen interest for innovation and the teachers' slight inclination for conservatism, who are, nevertheless, open to change and novelty; c) yet, in two respects teachers and students are least congruent: when it comes to *decision-making* and *performance*. The limited involvement of students in decision-making both by the teachers and in respect to organization may be viewed as a characteristic of the organization which emphasizes formalism (we have seen that teachers are also allowed limited participation in decision-making within organization). Speaking of *performance*, the teachers' high expectations are justifiable, but the students are prone to be much more self-indulgent, which explains why they feel the teachers pressure them for achievements.

Moreover, the *students'* perceptions on the organizational climate reveal that 57 percent consider their organization is characterized by an *open climate*, and only 43 percent of them think it is a *closed climate*.

Students' perception on climate



Therefore, the conclusions on the degree of congruence between the teachers' and students' behaviours and their perceptions on climate allowed us to ascertain that the congruence between the teachers' and students' behaviours is medium-high and the climate is perceived as positive by both groups (57% of the students and 69% of the teachers).

The percentages in which teachers and students opted for the *closed climate* (31% of the teachers, and 43% of the students) can be correlated to those cultural dimensions where the teachers are incongruent with the manager (*formalism* and *decision-making*), and the students are not congruent with the teachers (*performance* and *decision-making*).

In the light of these conclusions, we consider that the following research hypothesis has been demonstrated: *If the behaviours of the members of the organization are convergent, then the climate is more open.*

CONCLUSIONS

The study aimed at determining the impact the behaviour of the organization's members had on school climate. At the core of the research study was the organization in charge with the initial training of prospective police officers and, testing the research hypotheses, we found that:

a) *If the organization's values are found in varying degrees in its members' conduct, than the degree of congruence between their behaviours will differ;*

b) *If the behaviours of the organization's members converge, than the climate tends to be more open.*

The behaviours of the organization's members (managers, teachers, students) tend to be the congruent on most cultural dimensions. We have found that the manager's and teachers' behaviours are congruent on the cultural dimensions of supportiveness, interpersonal relations, performance and innovation and less congruent in respect to formalism and decision-making. Teachers' and students' behaviours are convergent in terms of formalism supportiveness, and interpersonal relations, but moderately and slightly congruent in respect to innovation, decision-making and performance. Another finding of the research revealed the teachers' predisposition to adopt in their interactions with the students the same kind of behaviour the manager adopts in relation to them. In other words, when being in position of authority, both managers and teachers place a great emphasis on the formal dimension of the organization, on compliance with the formal rules and standards of conduct imposed in the organization. Therefore, in relation to the students, teachers have expectations which are similar with those the manager has in relation to them. On the other hand, we found that, in the position of subordination in relation to the manager, teachers have the propensity to adopt formalism in their conduct in a rather average to low proportion. Thus, the few differences identified in the behaviours of the organization's members are consistent with the particularities of the socio-professional group they belong to.

In conclusion, the research study revealed that both the shared organizational values and the conducts adopted by the members of each socio-professional group in their interactions within the organization impact on the quality of the organizational climate.

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