BABEŞ-BOLYAI UNIVERSITY
FACULTY OF PSYCHOLOGY AND EDUCATIONAL SCIENCES
DEPARTMENT OF PSYCHOLOGY

CHALLENGING BEHAVIOUR IN CHILDREN WITH INTELLECTUAL DISABILITIES AND BURNOUT IN ROMANIAN SPECIAL EDUCATION TEACHERS

PhD Thesis Abstract

Scientific supervisor
Professor Adrian Opre, Ph.D.

PhD student:
ANAMARIA ANDREEA NISTOR

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TABLE OF CONTENTS

Key-words: challenging behavior, special education, intellectual disability, burnout

CHAPTER 1. Introduction and objectives

This paper aims to shed some light on particular aspects of Romanian special education system and add to the international studies in this field. More precisely, I focused on studying challenging behaviors of mentally disabled students, and the manner in which these behaviors can have an impact on burnout among special education teachers working with these children.

Challenging behaviors refer to those culturally abnormal behaviors of such an intensity, frequency or duration that the physical safety of the person or others is likely to be placed in serious jeopardy, or behavior which is likely to seriously limit use of, or result in the person being denied access to, ordinary community facilities (Emerson, 2001). They are most often classified based on their type: aggressive, self-harming and stereotypical (Rojahn et al., 2001). Although to some extent different aspects of these behaviors can be found in the general population, they are more common, they manifest with greater intensity and are much more difficult to control in people with intellectual disabilities (Emerson, 2001; Holden & Gitlesen, 2006).

Those who care for or work with these individuals are frequently exposed to such behaviors. The literature indicates that exposure to challenging behaviors can significantly contribute to a high level of distress and burnout (Hastings, 2002; Mills, 2010).

Challenging behaviors are manifested in various forms since the early childhood and tend to increase in number and intensity with age (Holden & Gitlesen, 2006). Early behavioral interventions help eliminate or decrease these behaviors, and reduce the risk of new ones emerging (Dunlap et al., 2006). In Romania the main type of intervention, other than medication, and most accessible at a larger scale for children with intellectual disabilities, remains special education carried in special education schools. For this form of education to be effective, it is necessary that teachers in special schools have sufficient knowledge, experience and involvement in the education of children with intellectual disabilities.

Among special education teachers, burnout has often been associated with attrition, and in the case of those remaining in the profession stands there are strong doubts regarding the quality of teaching (for review see Billingsley, 2004). It is therefore crucial to understand the factors that contribute to burnout among special education teachers, and particularly in the Romanian special education, where there are not, as far as

we know, studies in this regard. Because one of the important aspects of teaching in special education is exposure to challenging behaviors manifested by children with disabilities, the relationship between exposure to these behaviors and teacher burnout has been the focus of this paper.

The paper is divided into five chapters. Chapter 1 contains a brief introduction to the theme and structure of the paper. This chapter presents the general as well as specific objectives of the thesis. The second chapter presents in detail the theoretical framework underpinning the thesis. I defined and explained the concepts of burnout (Section 2.1), challenging behavior (section 2.2) and attribution (Section 2.4). Given that for studying the relationship between exposure to challenging behaviors and teacher burnout in special education, teachers` behavioral knowledge has been considered as a possible mediating factor, Section 2.3 presents the general characteristics of behavioral approach, proven effective interventions and the reasons which led to the consideration of behavioral knowledge as possible mediator of the relationship mentioned above.

In Chapter 3 I conducted a systematic review of the literature on the relationship between challenging behaviors of children with intellectual disabilities and burnout among those working with them. Thus I presented a critical synthesis of the results showed in studies published in the international literature over the past 10 years on the same topic as this paper. Chapter 4 presents the original research and includes 3 studies. The first is a study of the prevalence of challenging behaviors in a sample of students in special schools in Cluj County. The second study examines the differences between teachers in special schools experiencing high levels of burnout compared to those who feel little to no burnout. I have focused on differences in the frequency, severity and type of behaviors that teachers are exposed to, as well as differences in terms of experience, behavioral knowledge and number of students in class. In the third study I tried to establish the mediating role of experience, number of students, behavioral knowledge and attribution in the relationship between students' challenging behaviors and teacher burnout in special schools in Cluj County. In Chapter 5 general conclusions are formulated and results are discussed, as well as implications for research and practice and paper limitations.

Next, the schematic general objective and specific theoretical and investigative objectives are presented. These objectives translated into the research presented in Chapter 3 and in the three studies presented in Chapter 4.

General Objective

- analyzing the relationship between exposure to challenging behaviors and teacher burnout in Romanian special education system

Specific Objectives

Theoretical objectives:

- analyzing the results of previous studies on the relationship between challenging behaviors of children with intellectual disabilities and burnout among those working with them;

Investigative objectives:

- an analysis of challenging behaviors exhibited by students in Romanian special education schools;
- an analysis of how the type, frequency and severity of challenging behaviors are related to burnout among teachers in Romanian special education schools;
- an analysis of demographic and cognitive factors that have a significant role in the relationship between exposure to challenging behaviors and burnout among teachers from Romanian special education schools.

CHAPTER 2. Theoretical framework

2.1 Stress and Burnout

Several theoretical models regarding stress have been developed over time. Many studies have directed their focus on the negative aspects of stress, namely burnout (Freudenberger , 1974; Maslach & Jackson , 1981; Borritz & Kristensen , 1999). The scientific interest regarding burnout was fueled mainly by the consequences that burnout has in the labor field: low work satisfaction, invoking several days off due to sickness, absenteeism and intention to leave the workplace (Borritz & Kristensen , 1999b ; Maslach et al. , 2001; Kristensen et al. , 2005; Yeh et al. , 2007; Milfont et al. , 2008). Also, burnout has been repeatedly associated with a wide range of negative emotions, such as irritability, anxiety, guilt, feelings of helplessness and anger, and what is remarkable is that burnout symptoms largely overlap those of chronic depression (MASLACH et al. 2001). Studies regarding burnout among teachers have shown that this is one of the main factors associated with the current acute lack of specialized staff in schools (Gersten et al., 2001 Billingsley, 2004; Milfont et al., 2008).

The most commonly used model in the conceptualization and operationalization of burnout is the one advanced by Maslach and Jackson (1981), however recently this model has been criticized because of the circularity of its definition, its ambiguity regarding the nature of burnout as a state, coping strategy or effect, and because of the inability to adapt certain items of the measuring instrument to other cultures. Given the many criticisms of the Maslach model, the proposed alternative conceptualized by Borritz and Kristensen (1999a, 1999b) has been preferred in this paper. According to this model, burnout is defined as an individual state of exhaustion that may be general - personal burnout - or specific - burnout due to work or burnout due to clients or patients.

Personal burnout refers to a state of prolonged physical and psychological exhaustion, work burnout is defined as a state of prolonged physical and mental exhaustion, perceived by the individual as work-related; client burnout is a state of prolonged physical and mental exhaustion, perceived as related to clients or patients that the person must work with (Borritz & Kristensen, 1999).

2.2 Challenging Behaviors

Challenging behavior is relatively recent term adopted to describe aberrant, disruptive, dysfunctional or maladaptive behaviors. The generally accepted definition is

that challenging behaviors are those "culturally abnormal behaviors of such an intensity, frequency or duration that the physical safety of the person or others is likely to be placed in serious jeopardy, or behavior which is likely to seriously limit use of, or result in the person being denied access to, ordinary community facilities (Emerson, 2001). The most common types of challenging behaviors can be summarized in three categories: self-harming behavior - threatening immediate or long-term health/life of the person, aggressive behavior - which endangers others, stereotyped behaviors - repetitive behaviors with no identifiable end (Rojahn et al. 2010 Rojahn et al., 1989).

Apart from various injuries or trauma that challenging behaviors can cause to family members, staff working with them or others exposed, they have been repeatedly associated with stress, burnout and negative emotional reactions for those involved (Hastings, 2002; Lambrechts, 2008, Mills, 2010). Several studies show that the challenging behaviors of children are directly related to stress, precarious wellness and feelings of depression and anxiety among parents (Kring et al., 2008 Baker, Blacher & Olsson, 2005; Pottie & Ingram, 2008; Abbeduto et al. 2004, Cummins, 2001; Lainhart, 1999). Results of research undertaken among staff working with individuals with intellectual disabilities and challenging behaviors do not differ much from results shown by studies involving parents. Studies have found that exposure to challenging behaviors in general is a major distress factor for the staff (Howard, Rose & Levenson, 2009; Lundstorm et al., 2007; Rose et al., 2004; Donaldson, 2002; Mitchell & Hastings, 2001). Research shows that variables such as knowledge, training, use of effective interventions, but also personality traits, self-efficacy, coping strategies, attributions they make about behavior, and organizational characteristics are all related to how problematic behaviors affect employee stress. However, studies are still needed to establish how these variable are related to each other in order to determine how and where to intervene when we aim to protect staff from experiencing burnout on one hand and to reduce challenging behaviors in clients on the other.

2.3 Effective interventions in controlling challenging behaviors

Behavioral approach has shown that manipulating environmental factors can significantly alter the behavior of people with severe intellectual disabilities and changed the idea that these people have less potential for learning (Kelly et al., 2007, Dunlap et al., 2006, Thompson et al., 1998 Durand & Carr, 1991, Vollmer et al., 1999 O'Brien, Azrin, & Henson, 1969; Lovaas et al., 1965 Azrin & Foxx, 1971, Foxx & Azrin, 1973). The

increasingly greater influence of behavioral approach has brought to light the role of the external environment in behavior manifestations, especially in terms of the negative effects that the context provided by some institutions may have on patients (Emerson & Stewart, 2011). In order create an educational environment as efficient as possible, special schools and institutions dedicated to education for people with intellectual disabilities should provide adequate incentives and the opportunity to manipulate external stimuli. This is essential if we want to develop and increase adaptive behaviors and reduce the challenging ones in students/patients. In order to make possible services such as behavioral interventions, special education schools and institutions should have not only material resources at their disposal - for example teaching materials, potentially rewarding stimuli, rooms for specific activities, etc. - but also experienced staff with knowledge in the field, able to develop and implement such interventions.

According to previously mentioned data, challenging behaviors of people with disabilities are often associated with burnout among employees, and employees who experience burnout are more likely to leave their job or be less efficient. Special education is likely to be conducted by inexperienced staff or employees too exhausted to maintain interest, lowering the chances of changing behaviors of people with intellectual disabilities, thus creating a vicious circle. A better understanding of the causes and effects of burnout among employees can lead to the implementation of effective strategies to reduce it and increase retention of qualified staff as well as service quality in special education schools.

2.4 Attributions

The way we react when we are exposed to, for example, challenging behaviors, largely depends on the perceptions we have about the causes of this behavior, or in other words, the attributions we do (Kelley & Michela, 1980). Weiner (1980) argues that the way we make attributions about the causes of another person's behavior can influence emotional reactions we have towards that behavior and expectation for change in the behavior. In turn, emotional reactions and expectations can influence our decision to offer help. The author classifies attributions according to three dimensions: locus - refers to the belief that the cause of individual behavior is internal or external - controllability - perception regarding the degree of control that a person has over their own behavior - and stability - if the cause of the behavior is perceived as temporary or persistent.

Weiner (1980) advanced the hypothesis that attributions regarding controllability and internality of behaviors are associated with negative emotional reactions and reduce willingness to provide help. Results supporting this hypothesis are mixed, particularly in the field of intellectual disability. Dangan et al (1998), for example, found that attributions about controllability of problem behaviors were in fact predictors for willingness to help in staff involved, but only indirectly, through negative emotions and expectations about the possibility to change those challenging behaviors; there are also data that do not support the association between staff attributions and negative emotional reactions or desire to help (Jones & Hastings, 2003). Thus, including attributions in the relationship between challenging behaviors of clients/students and burnout among staff working in the intellectual disability field, remains a plausible aspect, yet it requires further clarification.

CHAPTER 3. Special education teachers` burnout and challenging behaviors in children with intellectual disability: a systematic review of the literature

Objective

The main goal of this study is to present data regarding the relationship between challenging behaviors of children with intellectual disabilities and stress experienced by those working with them. In particular, it sought to identify the results published in the last decade on the possible effects that exposure to challenging behaviors can have over stress/burnout among those working with children with intellectual disabilities and the quality of mutual relations with children.

Method

To retrieve relevant studies that pertain to the purposes of this review, I conducted a systematic search in PsychINFO and PubMed databases. All possible combinations of the following key-words: "challenging behavior", "problem behavior", "aggressive behavior", "self-injury", "stereotyped behavior" and "intellectual disability", "developmental disability" "learning disability "," mental retardation "and" burnout "," stress "and" staff "," teacher "," educator " and their variations were systematically included in the search. I also consulted the bibliography of papers relevant to the topic in order to identify possible research that could have slipped the database search mentioned above. The search was restricted to articles published between 2000 and 2012.

Inclusion criteria for the studies were:

- The article should provide data on the relationship between children's challenging behaviors and stress, caregivers burnout, or any other variable potentially involved in this relationship;
- Article must be written in English;
- Article must be published in a peer-reviewed journal;

Exclusion criteria were the following:

- unpaid caregivers (e.g. parents, volunteers);
- staff who generally do not have direct contact with children (e.g. principals or administrators of special education schools).

Results

The initial search generated 422 articles. After duplicates were removed and the remaining research abstracts were consulted, only seven studies met the inclusion criteria in the review. One of them presented a qualitative research, and the remaining six are quantitative papers, two of which used an experimental design. Table 1 presents the main characteristics and findings for each study.

Table 1. Main characteristics and findings of studies included in the review.

Study	Type	Participants				
		Number	Age (years)	Gender	Experience (months)	Occupation
Howard & Hegarty 2003	qualitative	6	m=26 years (20 to 34)	1 male 5 females		one-on-one teaching within a behavioral program.
Hastings & Brown, 2002a	quantitative	55		14 males 41 female	m=88.02 SD=67.96	27 special education teachers 28 support staff
Hastings & Brown 2002b	quantitative	70	m=38.61 (SD=10.18)	17 males 53 females	m= 85.58 (SD=70.96)	30 qualified special education teachers 40 unqualified support staff
Nelson et al. 2001	quantitative	415	m=40.66 (SD=9.14)	51 males 358 females 6 unknown	m= 12.51 (SD=7.52)	teachers of children with emotional behavioral disorders
Westling 2010	quantitative	70			m=12.7 (SD=8.8) m=16.2 (SD=11.7)	38 special education teachers 32 general education teachers
Hastings et al 2003	experimental	120	m=31.47 (SD=8.81) m=20.92 (SD=1.11)	20 males; 40 females 31 males; 29 females	almost no experience	60 private residential service for children and adolescents with challenging behavior and/or autism 60 students
Mossman et al 2002	experimental	60	m=38.8 (SD=11.18)	18 males 42 females	m=9.41 (SD=6.16)	20 qualified teachers 40 teacher assistants with no qualification

Qualitative studies. The only qualitative study that examined staff experience and their emotional reactions related to violent behavior of children with disabilities, and the effects these behaviors have on the effectiveness of teaching and the teacher - student relation (Howard & Hegarty, 2003) generally found that educators are more concerned

with physical violence and that when they are exposed to such behavior they experience emotions of anger, sadness, helplessness, fear and apathy. Most employees stated that the opportunity to take breaks or days off after an incident, receive regular supervision or peer collaboration help with coping and getting over violent incidents. The experience was one of the frequently invoked themes by participants in this study: they identified these new employees and inexperienced teachers as being more of a burden than a help when dealing with a need to control the violent behaviors of children.

Table 1 – (*Continued*)

Study	Clients				Challenging Behavior (CB)
	Number	Age	Gender	Intellectual Disability (ID)	
Howard & Hegarty 2003	14	7 to 16 years old		learning disabilities and seriously challenging behavior	violence
Hastings & Brown, 2002a	190	4 to 19 years old		40 autism 150 moderate mental retardation	aggression (verbal, physical), property destruction and self-injury (SIB)
Hastings & Brown 2002b	197	4 to 19 years old		autism and/or intellectual disability	aggression (verbal, physical), property destruction and SIB
Nelson et al. 2001		children		emotional and behavioral disorders	internalizing and externalizing behaviors
Westling 2010	858 1319	children		multiple physical and intellectual disabilities	defiance and noncompliance; destruction; disruption of class activities; illegal behavior; physical aggression; SIB; social withdrawal; socially inappropriate behavior; stereotypy; verbal aggression
Hastings et al 2003		children no clients		CB and/or autism	severity and function of SIB
Mossman et al 2002		children		mental retardation	exposure to and function of SIB

Quantitative studies. Hastings and Brown (2002b) showed that mere exposure to severe aggression and self-harm behaviors predict high levels of emotional exhaustion and depersonalization. Also, the authors have found that those educators who used predominantly maladaptive coping strategies when faced with students' problematic behaviors reported higher levels of emotional exhaustion.

Table 1 – (*Continued*)

Study	Effect of CB	Other variables	Findings
Howard & Hegarty 2003	emotional reactions teaching and care relationship with the children	other factors that influence emotional reaction to violence	Violent incidents were described by the physical effects (injuries). Most staff described their emotional reaction as "shock", with negative effects on their relationship with the children; anger, frustration, apathy, fear, upset, tension and sadness were mentioned. In general, intense violent episodes and prolonged unpredictable violence were considered to have the most negative effects. Most staff considered violence as a part of the job that had to be accepted. Effective support from supervision, counseling, time-out, perception of control and confidence were considered helpful when dealing with violent episodes.
Hastings & Brown, 2002a	Burnout (Maslach burnout inventory)	adaptive and maladaptive coping (brief COPE inventory; Carver, 1997)	Exposure to more intense CB alone was positively related to emotional exhaustion and depersonalization. Using maladaptive coping strategies when dealing with CB was related to more emotional exhaustion in staff, whereas those that had adaptive coping strategies did not experience burnout.
Hastings & Brown 2002b	emotional reactions	behavioral knowledge; causal beliefs and self-efficacy	Formal qualifications, high behavioral knowledge and the belief in the efficacy of their interventions were related to less feelings of depression and anger in teachers. Perceived efficacy in managing CB was also related to fewer feelings of fear and anxiety. Fear and anxiety were more common in teachers who believed CB was caused by positive and negative reinforcement processes.
Nelson et al. 2001	occupational stress	perceived ability to work with CB working conditions: teacher-principal relationship; capacity to make decisions; relationship with colleagues	Altogether, better working conditions predicted less stress in teachers. Also, more experience and the perception that they could work with children with challenging externalizing behaviors were related to less stress in teachers.
Westling 2010	perception effects on teachers and students	views regarding causality and improvement of CB; views on and strategies used; confidence of efficacy in working with CB; support and collaboration available.	Most teachers believed that behavior is learned and could be improved. More than half said that they had not received adequate training for dealing with CB, but most felt they had sufficient knowledge and ability to co manage CB due to teaching experience. More than 70% of the teachers thought that CB increases their stress level and that it prevents both the student with CB and the others from learning. Compared to general education teachers, very few special education teachers said they are thinking about quitting because of students' CB.
Hastings et al 2003	emotional reactions	behavioral causal beliefs	Students had more negative feelings after witnessing SIB, especially if SIB was maintained by social attention. Also higher severity of SIB was related to more negative feelings both in students and staff members. Staff members were more likely to attribute behavioral causes to SIB.
Mossman et al 2002	emotional reactions	knowledge (days of training and the short form of Knowledge of Behavioral Principles as Applied to Children, Furtkamp, Giffort, and Schiers, 1982)	In general, older participants felt more depression and anger. The presence of SIB was related to more negative emotional reactions. SIB maintained by escape was more likely to trigger negative emotional reactions, when compared to random episodes of the behavior, and more depression and anger when compared to the attention maintained SIB.

Hastings and Brown (2002c) was the only study in special education that directly measured behavioral skills of teachers and examined their role in the relationship between exposure to challenging behaviors and burnout. Regression analysis revealed that those teachers who had higher levels of behavioral knowledge also reported fewer emotional reactions of depression/ anger.

Belief that challenging behaviors are learned, caused by environmental factors and can be altered was associated with less vulnerability to feelings of fear/anxiety. Along with behavioral knowledge, the authors found that high self-efficacy of teachers decreases their risk of experiencing negative emotional reactions from students' problematic behaviors. The study did not analyze the relationship between knowledge and behavior self-efficacy, although it is logical to assume that those teachers who have more behavioral knowledge also exhibit increased self-efficacy.

The role of exposure to challenging behaviors, specifically aggressive behaviors in burnout among special education teachers has also been highlighted by the remaining studies (Nelson et al., 2001; Westling, 2010). Knowledge, self-efficacy, teaching experience were all sustained as factors that are involved in this relationship, meaning that teachers with more experience or those who have more knowledge and therefore use more effective strategies to reduce challenging behaviors are considered more able to cope with these behaviors and are less vulnerable to experiencing burnout (Nelson et al., 2001; Westling, 2010).

Experimental studies. Mossman at al (2002) and Hastings et al (2003) used an experimental design to study the way in which self-harming behavior determines certain emotional reactions among those involved. Overall, the two studies showed that when witnessing self-harming behaviors, both those who have experience in the field of intellectual disability, but also the lesser experienced staff report negative emotional reactions. In addition, it appears that negative emotional reactions are stronger if children with disabilities exhibit these behaviors to attract the attention of others or to elude the tasks required of them.

Discussion

This study attempted to review and analyze current data regarding the implications that the challenging behaviors of children with intellectual disabilities have on those working in special education. Similarly to what studies on staff working with adults with mental disabilitieshave shown, challenging behaviors of children are also a

stressor for employees. Attributions, coping style, self-efficacy, emotional reactions and organizational factors play an important role in mediating the relationship between challenging behaviors and burnout among staff working with children with intellectual disabilities.

Most studies found that aggression, as a particular form of challenging behavior, is considered by employees as the most difficult to control and is also a major stressor. However, only the studies conducted by Nelson et al (2001) and Westling (2010) made comparisons between more than two topographies of challenging behaviors, with regard to the implications on work burnout. More data is needed to clarify the implications of each type of challenging behavior on burnout among employees working with intellectually disabled children.

It is worth mentioning that a few studies show that there are variables mediating the relationship between challenging behaviors and burnout that have not yet been considered in the research regarding staff working with adults with intellectual disabilities. These variables relate to behavioral knowledge and specialized training, and there are data supporting a potentially protective effect of high levels of knowledge and preparedness. It is therefore logical to assume that employees receiving adequate training generally have more knowledge in the field and use more effective strategies when exposed to challenging behaviors. When successfully dealing with challenging behaviors, individuals may experience high levels of satisfaction and lower levels of negative emotions and burnout. Further studies are needed to clarify this relationship.

Mere exposure to self-harming behaviors seems to ignite negative emotional reactions in staff (Mossman et al., 2002, Hastings et al., 2003), and the function of these behaviors plays an important role. However, studies supporting this relationship are scarce and results regarding implications that behavior function may have are contradictory.

Studies focusing on the role of work experience have also presented conflicting results, thus needing further clarification. This is also true in the case of staff working with adults with intellectual disabilities, it is therefore difficult to draw a clear hypothesis regarding the role of work experience in relation to challenging behaviors and employee burnout.

Just as Hastings emphasized (2002) ten years ago, research should develop more stable and accurate methods to measure challenging behaviors and their effects on those exposed. This comment has to this day maintained its validity, given that the studies

published during the past ten years have not reached a consensus on the instruments used to measure these variables. Future research should focus on finding a common conceptualization, and use more homogeneous measurements in order to provide conclusive results.

Regarding practical implications, there are sufficient data to assert that challenging behaviors have an effect on employee burnout. Teachers in mainstream schools or those generally working with people with intellectual disabilities should be well informed about this aspect of their work and be prepared to cope with successfully. Special schools or educational centers should provide more resources and training for employees, regular specialist supervision within the school or calling external experts, in order to gain better knowledge of challenging behaviors and be able to intervene effectively in reducing those behaviors in students.

CHAPTER 4. Original research

STUDY 1. The prevalence of challenging behaviors in students of special education schools in Cluj County

Objective

The present study aims to determine the most common types of challenging behavior among Romanian students in special education schools and to analyze risk factors associated with challenging behaviors among Romanian students in special schools.

Method

Participants. Students in grades 1-8 in four special schools in Cluj County participated in the study. Three of these are schools for children with intellectual disabilities and autism, and one is a school for children with hearing disabilities, but it also includes children with associated intellectual disabilities and autism. From this school were selected to participate in the study only those students who had a diagnosis involving an intellectual disability (e.g. Down syndrome, autism) or who had an IQ below 70. In total there were 116 students, 39 girls, 75 boys and 2 unreported. Age mean for participants was M = 11.8 SD = 2.61.

Instruments. Data was collected regarding the students' age, sex, diagnosis, any treatments or interventions that they are under and degree of intellectual disability.

Problem Behaviors Inventory -01 (PBI-01; Rojahn et al., 2001) is a 52 items questionnaire administered to caregivers or care staff, developed to assess self-injurious behaviors, aggressive -destructive and stereotyped behaviors among individuals with intellectual disabilities. It is divided into three sub-scales: self-injurious behavior (SIB; 15 items), stereotyped behavior (24 items) and aggressive-destructive behavior (12 items). Each item is measured in terms of its frequency (five point Likert scale where 0 - ever and 5 - hourly) and severity (three point Likert scale, where 1 - moderate and 3 - severe). The tool has been validated on the Romanian population by Mircea et al. (2010). Cronbach α coefficients for the present sample were .74 for the self-injurious behavior subscale, .94 for stereotyped behavior subscale, and .86 for aggressive behavior subscale. Mircea et al (2010) argue that behavior frequency is strongly correlated with severity, and therefore in this study only the first aspect was considered. The questionnaire was completed by classroom teachers.

Results

Table 1 presents descriptive statistics of the sample of students. In addition to the data presented in the table, it is notable that the most commonly used test to assess students' IQ levels were Raven Progressive Matrices (26.7%), next WISC (6%), Stanford Binet (3.4%), and Portage scale (0.9%). For 62.9% of the cases the test used to measure the child's IQ is unknown.

Table 1. Descriptive statistics

Participant characteristics		Number	Percent (%)
Gender	Male	75	64.6
	Female	39	33.6
	Unspecified	2	1.7
Intellectual disability	Mild	43	37.1
	Moderate	20	17.2
	Severe	14	12.1
	Profound	9	7.8
	Unknown	29	25
Associated diagnostic	ADHD	19	16.3
	Autism	14	12.1
	Down Syndrome	1	0.8
	West Syndrome	1	0.8
	Pierre-Robin Syndrome	1	0.8
	Others	27	23.2
	Without associated diagnostic	10	7.7
	Unknown	54	46.6
Treatment	Medication	12	10.3
	Speech therapy	43	37.1
	Behavior therapy	11	9.5
	Cognitive behavioral therapy	9	7.8
	Animal assisted therapy	7	6
	Others	15	12.9
	Without treatment	35	30.1

The category "other" was the most commonly chosen as diagnosis associated with intellectual disability (23.2%) - this generally refers to medical diagnoses or disabilities such as hearing loss and delay in motor development. Autism, ADHD diagnosis are also common in this sample (16.3% and 12.1%). Only these three diagnoses were included in the subsequent analysis of risk factors for problematic behaviors. Even if there were students who had other diagnostic categories they were too few for the diagnosis to be considered in this analysis.

Table 2. Frequency of challenging behavior forms

Behavior	**n**	***M***	***SD***
Self-injury	116	2.19	3.87
Stereotypical	116	13.5	17.8
Aggressive	116	5.51	6.40

The frequency of problematic behaviors in this sample was generally lower than what Mircea et al. (2010) found, particularly for self-injurious behavior (M = 2.19, SD = 3.87) and stereotyped behavior (M = 13.5 SD = 17.8) (Table 2). Similar to what Mircea et al (2010) found, stereotyped behaviors in this sample were the most common type of problematic behavior manifested by the participating students.

Table 3. Number of self-injurious behavior of one student

Number of self-injurious behavior	**N**	**Percent (%)**
0	69	59.5
1	17	14.7
2	12	10,3
3	6	5.2
4	3	2,6
5	4	3.4
6	2	1.7
7	2	1.7
9	1	0.9

Tables 3, 4, 5, 6, 7 and 8 show data on the number of problematic behaviors exhibited per individual, respectively the relative frequency of each specific type of problem behavior for each category - self-injurious, stereotypical and aggressive.

Table 9 shows the Spearman correlation coefficients between the variables: sex, age, level of mental deficiency, associated diagnosis (ADHD, autism, other or no associated diagnosis), and frequency of self-injurious behaviors, stereotypical and aggressive behaviors. Age correlated positively and significantly with frequency of self-injurious type behaviors ($r\rho = .396$, $p < .001$) and stereotyped behaviors ($r\rho = .240$, $p < .005$). Another demographic variable correlated with the frequency of problem behaviors was sex, but only in the case of stereotyped behaviors: In this sample, boys showed significantly more often stereotyped behaviors than girls ($r\rho = -.223$, $p < .005$).

Table 4. Relative frequency of self-injurious behavior forms

	Behavior	Percent (%)
1	Self-biting (so hard that a tooth print can be seen for some time; bloodshot or breaking of the skin may occur)	11.2
2	Hitting head with hand or other body part (e.g., face slapping, knee against forehead) or against objects (e.g., hitting head against the wall, hitting head with a toy)	24.1
3	Hitting body (except for the head) with own hand or with any other body part (e.g., kicking self, hitting arms, thigh slapping) or against objects (e.g., hitting legs with a stick, boxing the wall)	17.2
4	Self-scratching (so hard that reddening of the skin becomes visible; breaking of the skin may also occur)	7.8
5	Vomiting and rumination (deliberate regurgitation of swallowed food with rumination)	2.6
6	Self-pinching (so hard that reddening of the skin becomes visible; breaking of the skin may also occur)	6.9
7	Pica: Mouthing or swallowing of objects which should not be mouthed or swallowed for health or hygiene reasons (nonfood items such as feces, grass, paper, garbage, hair)	5.2
8	Stuffing objects in body openings (in nose, ears, or anus, etc.)	0
9	Tearing out finger and toe nails	2.6
10	Stuffing fingers in body openings (e.g., eye poking, finger in anus)	9.5
11	Air swallowing resulting in extended abdomen	0.9
12	Hair pulling (tearing out patches of hair)	1.7
13	Extreme drinking (e.g., more than 3 liters per day)	7.8
14	Teeth grinding (evidence of ground-off teeth)	2.6
15	Others	0

As expected, the level of intellectual deficiency significantly correlated with the frequency of self-injurious behaviors ($r\rho = .426$, $p < .001$) and stereotyped behaviors ($r\rho = .411$, $p < .001$) in the sense that the frequency of self-injurious and stereotyped behaviors increases with the level of intellectual deficiency. Also, children with intellectual disability but no other associated diagnostic displayed fewer self-injurious behaviors compared to those who had associated diagnoses with intellectual disability ($r\rho = - .306$, $p < .005$).

Regarding the associated diagnosis of intellectual disability, autism significantly correlated with the frequency of stereotyped behaviors ($r\rho = .325$, $p < .005$), which was expected given that the presence of repetitive behaviors is a key feature of this category of diagnosis. Curiously, however, students who had an autism diagnosis showed significantly fewer aggressive behaviors ($r\rho = - .41$, $p < .005$). The diagnostic category significantly associated with higher frequencies of aggressive behavior was, for this sample, ADHD ($r\rho = .319$, $p < .005$).

Table 5. Number of stereotypical behavior of one student

Number of stereotypical behavior	n	Percent (%)
0	35	30.2
1	18	15.5
2	2	1.7
3	6	5.2
4	11	9.5
5	3	2.6
6	3	2.6
7	4	3.4
8	2	1.7
9	7	6.0
10	5	4.3
11	2	1.7
12	1	0.9
14	3	2.6
15	1	0.9
16	1	0.9
18	1	0.9
20	2	1.7
21	1	0.9
22	2	1.7
23	2	1.7
24	4	3.4

Tabel 6. Relative frequency of stereotypical behavior forms

	Comportament	Procent (%)
1	Rocks back and forth	23.3
2	Sniffs objects	16.4
3	Body twisting	17.2
4	Waves hands and shakes arms	33.6
5	Rotates head	23.3
6	Spins	22.4
7	Repetitive body movements	25.9

8	Walks from one point to another	38.8
9	Rotates objects	24.1
10	Repetitively hand movement	25
11	Screams and shouts	28.4
12	Sniffs his own body	14.7
13	Jumps from one place to another	12.9
14	Spins objects	25
15	Runs around	25
16	Complex fingers and hands movements	16.4
17	Repetitively manipulates objects	29.3
18	Moves fingers non-stop	18.1
19	Rubs himself	16.4
20	Staring at hands or objects	24.1
21	Bizarre body posture	19
22	Claps	17.2
23	Makes unusual gestures	29.3
24	Waves his hands	22.4
25	Others	8.6

Table 7. Number of aggressive behavior of one student

Number of aggressive behavior	n	Percent (%)
0	41	35.3
1	10	8.6
2	12	10.3
3	7	6
4	13	11.2
5	9	7.8

6	5	4.3
7	8	6.9
8	6	5.2
9	1	0.9
10	3	2.6
11	1	0.9

Table 8. Relative frequency of stereotypical behavior forms

	Behavior	**Percent (%)**
1	Hitting others	48.3
2	Kicking others	31
3	Pushing others	40.5
4	Biting others	9.5
5	Pulling and pushing others	41.8
6	Scratching others	8.6
7	Pinching others	18.1
8	Spitting others	16.4
9	Verbally abusing others	36.2
10	Destroys objects (e.g., destroys clothes, throws chairs, slams tables)	15.5
11	Is mean or cruel (e.g., takes others food or toys, terrorize others)	20.7
12	Others	3.4

Discussion

This study aimed to investigate the prevalence of challenging behaviors among students with intellectual disabilities in Romanian special education schools. From the author's knowledge there is only one published study that provides data to this effect regarding children and adolescents with intellectual disabilities in Romania (Mircea et al., 2010). This means that prior to investigating the effects of problem behaviors on teachers in particular, a better knowledge was required in respect to how many and what types of problematic behaviors students in special education school exhibited, as well as risk

factors for these behaviors. Initially, five investigative hypotheses were advanced, and the results will be discussed below.

Tabel 9. Sprearman correlation coefficients between demographic variables, diagnostics and *BPI-01* subscales

	Self-injurious frequency		**Stereotypical frequency**		**Aggressive frequency**	
	n	r_ρ	*n*	r_ρ	*n*	r_ρ
Age	102	.396**	102	.240*	102	-.072
Gender	114	-.083	114	-.223*	114	-.043
Intellectual intelligence degree	85	.426**	85	.411**	87	-.069
ADHD	52	-.127	52	.025	52	.307*
Autism	52	.149	52	.325*	52	-.416**
Others	52	.005	52	-.159	52	.032
Without diagnostic	62	-.306*	62	-.066	62	-.160

Similar to the findings obtained by Mircea et al (2010) on the Suceava sample, in the Cluj County sample stereotyped behaviors were the most frequent type of problematic behavior exhibited by students with intellectual disabilities in special education schools. However, overall frequency of problem behaviors was lower than that reported by the above mentioned study, but this is likely due to the sample: Suceava participants were mostly persons severely or profoundly mentally retarded, while students in special education schools in Cluj generally had moderate to mild mental retardation. These data send a warning signal in terms of access to education for children with severe intellectual disability.

Regarding students with intellectual disabilities in Romanian special education, about 70% of them display at least one type of problem behavior. This percentage is very high given that foreign studies report that approximately 10-15% of people with intellectual disabilities exhibit problematic behaviors (Emerson et al. , 2001 Holden &

Gitlesen, 2006, Lowe et al., 2007). The difference in the results can be explained on one hand by differences in participants and measurements used on the other hand. The international prevalence studies reported data on problem behaviors for all age groups. All their data show that these behaviors tend to decrease after adolescence. Future studies should examine the prevalence of problem behaviors among Romanian population with intellectual disability for all age groups, in order to make a meaningful comparison with international data.

Regarding risk factors for problematic behaviors, age, gender, level of intellectual disability and the presence of an associated diagnosis were all predictors of the frequency of certain types of problem behavior, which partially supports the hypothesis originally released and is in accordance to data found in the literature (Oliver et al., 1987 McClintock, Hall, & Oliver, 2003; Holden & Gitlesen, 2006 Mircea et al., 2010, Taylor, Oliver & Murphy, 2011).

Limits. This study was based on a small and unrepresentative sample of the population of students with intellectual disabilities in Romania, so that data regarding the frequency of challenging behavior cannot be generalized. The fact that the prevalence study was limited to those children with intellectual disability attending special education schools raises some doubts regarding the results on the analysis of risk factors for challenging behaviors. Firstly, an over-representation of children with mild and moderate intellectual disabilities was observed in this sample. Secondly, very few cases of associated diagnoses such as Down's syndrome were found in the sample, which excluded the possibility of a thorough analysis for each separate diagnostic. Moreover, many of the teachers evaluating student behaviors were not aware of any known diagnosis or children's level of intellectual disability, which resulted in the exclusion from the analysis of multiple cases. However, this is one of the first studies providing such data in Romania and must be interpreted as rather a starting point for future research.

STUDY 2. Burnout, behavioral knowledge, and exposure to challenging behavior: differences between Romanian special education teachers

Objective

This study aims to examine the way in which the frequency and severity of students` challenging behaviors, work experience and behavioral knowledge are related to the different dimensions of burnout in Romanian special education teachers.

Method

Participants. Head-masters from 4 special schools were invited to participate in this study. Three of these schools were special schools for children with various intellectual disabilities and autism, and one school was a special school for children with hearing impairments but which taught also children with associated intellectual disabilities. From this last school, only those teachers who taught at least one child with an intellectual disability were selected to participate in the study. In total 33 teachers agreed to participate. They were all female, aged between 22 and 47 years old (M= 32.5, SD=6.91). Also all were qualified teachers who held an university degree, and had been working in special education on average M=7.41 years (SD=6.38). The average number of students taught by one teacher was M=5.67 (SD=2.26) and each teacher spends 4 hours each day with them.

Instruments. Demographic data were collected regarding teachers` age, gender, level of education, qualifications and work experience. Also participants were asked for each students` age, gender, diagnostic, treatment, and level of intellectual disability.

The Problem Behavior Inventory (PBI-01; Rojahn et al., 2001) was used to measure exposure to challenging behaviors. This inventory is described in Study 1. For the present study both frequency and severity of challenging behaviors were recorded. A total score for the frequency and severity of behaviors was calculated for all the children in the class.

The Knowledge of Behavioral Principles As Applied to Children (KBPAC; O`Dell et al., 1979) is a 50 item multiple choice questionnaire designed to assess the understanding of behavioral principals as applied to children. This instrument was translated in Romanian by the author of the study and the reliability analysis was done for the present sample. Kuder-Richardson coefficient of reliability was .80.

The Copenhagen Burnout Inventory (CBI; Kristensen et al., 2005) is a 19 item self-report questionnaire designed to measure burnout on three dimensions: personal, work and client related. This instrument had a good Cronbach α for this sample: personal burnout .89, work burnout .82 and client burnout .84.

Procedure. After data was collected, teachers were divided into 2 groups, considering their level of burnout. Those teachers who scored below average-10 were included into the low burnout group, and those who scored above the average+10 were included into the high burnout group. This division of grouping was arbitrary decided by the authors. In the data analysis section groups were compared on demographics, behavioral knowledge and exposure to challenging behavior. Altogether there were three comparisons made, one for each dimension of burnout: personal, work and client related.

Results

Table 1 presents descriptive statistics for all variables. Participants were mostly young teachers (*M*=32.5, *SD*=6.92) with low teaching experience (*M*=7.41, *SD*=6.38) and low behavioral knowledge (*M*=20.1, *SD*=7.40). All were exposed in different degrees to challenging behaviors.

Table 1. Descriptive statistics for all variables

	n	M	SD
Age	32	32.6	6.91
Work experience	29	7.41	6.38
Number of students	33	5.66	2.25
Behavioral knowledge	32	20.1	7.40
Frequency of self-injury	33	10.2	13.6
Severity of self-injury	33	8.54	12.9
Frequency of stereotypy	33	58.5	57.2
Severity of stereotypy	33	37.9	44.3
Frequency of aggression	33	29.1	32.3
Severity of aggression	33	21.4	26.6
Personal burnout	33	34.4	18.8
Work burnout	33	30.1	16.8
Client burnout	33	24.7	17.6

Because the sample was small and some variables did not have a normal distribution, the non-parametric test Mann-Whitney U was used in the statistical analysis. The scores on which the groups were determined were: *M*=35.4±10 for personal burnout; *M*=30.1 ±10 for work burnout; and *M*=24.8 ±10 for client burnout.

Tables 2, 3 and 4 present Mann-Whitney U values and the levels of significance for all the three dimensions of burnout comparisons - low personal burnout and high personal burnout; low work burnout and high work burnout; low client burnout and high client burnout – for all variable included in the analysis: age, work experience, number of students, behavioral knowledge, frequency of self-injury, severity of self-injury, frequency of stereotypy, severity of stereotypy, frequency of aggression and severity of aggression.

Table 2. Differences between low personal burnout and high personal burnout groups

	U	*p*
Age	74.0	.650
Work experience	67.5	.652
Number of students	82.0	.347
Behavioral knowledge	61.0	.785
Frequency of self-injury	70.5	.785
Severity of self-injury	62.5	.832
Frequency of stereotypy	91.0	.133
Severity of stereotypy	86.5	.211
Frequency of aggression	110	.004
Severity of aggression	99.5	.037

Significant differences were observed only between low personal burnout vs. high personal burnout groups and low work burnout vs. high work burnout groups in frequency and severity of aggressive behaviors teachers were exposed to.

Even though the null hypothesis could not be rejected in the case of behavioral knowledge, the significance level was very close to rejection (*U*=71.0, *p*= .082). Therefore it is possible for future studies using larger samples to observe significant effects, in the sense that those teachers who report higher burnout also tend to be more knowledgeable on behavioral principles.

Table 3. Differences between low work burnout and high work burnout groups

	U	*p*
Age	43.5	.734
Work experience	32.0	.514
Number of students	69.0	.238
Behavioral knowledge	71.0	.082
Frequency of self-injury	66.5	.301
Severity of self-injury	60.0	.595
Frequency of stereotypy	74.0	.121
Severity of stereotypy	73.5	.121
Frequency of aggression	88.0	.007
Severity of aggression	80.0	.044

Table 4. Differences between low client burnout and high client burnout groups

	U	*p*
Age	52.0	.911
Work experience	48.5	.459
Number of students	48.5	.911
Behavioral knowledge	47.0	.904
Frequency of self-injury	68.0	.190
Severity of self-injury	56.0	.684
Frequency of stereotypy	63.0	.352
Severity of stereotypy	66.5	.217
Frequency of aggression	57.0	.630
Severity of aggression	48.5	.911

Discussion

As previous studies show (Ko et al., 2012; Hensel et al., 2012; Hastings & Brown, 2002b, 2002c) teachers more exposed to challenging behaviors tend to fell more burnout, but only in what concerns personal and work burnout. There are no known studies that analyze the effects challenging behaviors have on client burnout, therefore no clear

conclusion can be drawn in why, at least in this sample, client burnout did not differentiate between teachers on any of the variables measured. Having that this on this dimension teachers reported the lowest scores , it could be that their answers were biased by social desirability: teachers in general might be reluctant in openly reporting that students and their behaviors are stressful. Future studies should investigate this aspect.

Teachers` behavioral knowledge did not differ significantly for the two groups of burnout, thus contradicting previous studies which have shown that more knowledgeable teachers feel more confident, use more effective strategies and usually have less negative reactions to children`s challenging behaviors (Hastings & Brown, 2002c; Westling, 2010). Even though, statistically the null hypothesis could not be rejected, the significance level was very low: data showed that it might be possible that those teachers who report high work burnout are among those who have high behavioral knowledge. This finding might be explained by teachers` expectations: it might be that more knowledgeable teachers also have higher expectations from their work, expectations that because external factors (i.e. school resources, parental involvement) cannot be accomplished. Future studies using bigger samples should test this argument. Teachers who participated in this study had in general very low behavioral knowledge, therefore this sample is too homogeneous to be able to observe the differences for this variable.

In conclusion the present findings sustain previous studies which show that exposure to aggressive behavior is related to high levels of burnout in special education teachers. In addition, these data suggest that different characteristics of challenging behavior – like frequency, severity and topography – might be related differently to particular burnout dimensions, at least in regards to special education teaches. The present findings need future replication in order to be sustained.

STUDY 3. Mediators of the relationship between challenging behaviors and burnout in Romanian special education teachers

Objective

The goal of this study was to analyze the possible factors mediating the relation between challenging behaviors and burnout in special education teachers from Romania.

Method

Participants. Twenty special education teachers from two special education schools for children with intellectual disabilities participated. All the 20 voluntary participants were females with a mean age of *M*=33.8 (*SD*=6.73). They were qualified teachers with an university degree and had been working in special education for an average of *M*= 8.78 years (*SD*=6.94). The average number of students taught by each teacher was *M*=4.55 (*SD*=1.60) and they all spent 4 hours a day with the students.

Instruments. Data was collected on teachers` and students` demographics as described in Study 2. Also, instruments described in Study 2 were used to measure exposure to challenging behavior - *The Problem Behavior Inventory (PBI-01; Rojahn et al., 2001)* – teachers` behavioral knowledge - *The Knowledge of Behavioral Principles As Applied to Children (KBPAC; O`Dell et al., 1979*) – and burnout - *The Copenhagen Burnout Inventory (CBI; Kristensen et al., 2005)*. Besides this variables, some other cognitive factors were measured: fear of assault, behavioral beliefs and perceptions about challenging behaviors. Instruments measuring these variables are described below.

Fear of assault (FOA; Rose & Cleary, 2007) consists of two questions designed to measure staff fear of violence at the work place. The questions are rated on a 5 point likert scale, higher scores meaning higher levels of fear. The Romanian translation was done by the author Cronbach α was .92 for this sample.

Controllability Beliefs Scale (CBS; Dagnan, Grant & McDonnell, 2004) measures staff's beliefs concerning service users' challenging behavior. High scores on this scale indicate that the respondent perceives the child to have high degree of control over their challenging behavior. The Romanian translation was done by the author. Cronbach α was .87 for this sample.

Challenging behavior perceptions questionnaire (*CBPQ; Williams & Rose, 2007*) is scale adapted from Illness Perception Questionnaire and is based on the illness representations model (Leventhal & Nerenz, 1985). The questionnaire is composed of six subscales that measure the degree in which staff perceives challenging behavior as having negative consequences for the individual (Client Consequences) or for themselves (Carer Consequences), the degree in which staff considers themselves capable to manage the challenging behaviors of clients (Carer control), the degree in which staff perceives challenging behaviors as temporary (Chronic/ Acute) or episodic (Episodic) and the degree in which staff perceives that these behaviors tiger negative emotional reaction in others (Emotional Representation). High scores on these subscales indicate agreement with these concepts. On the present sample Cronbach α was .64 for Client Consequences, .56 for Carer Consequences, .76 for Carer control, .36 for Chronic/ Acute, .83 for Episodic and .76 for Emotional Representation. Because Carer Consequences and Chronic/ Acute subscales had low reliability they were not included further in the statistical analysis.

Procedure and statistical analysis. After all data was collected, correlational analysis were conducted for the degree of exposure to different challenging behaviors, controllability beliefs, work experience, behavioral knowledge, perceptions about challenging behaviors, fear of assault and burnout. Bootstrapping method (Bollen & Stine, 1990) was used to test the mediation effects of demographics and cognitive variables on the relation between challenging behaviors and burnout. In the mediation analysis were included only those variable which were significantly correlated.

Results

Descriptive statistics for all variables are presented in Table 1. Participants were relatively young (M=33.8, SD=6.73) and their level of knowledge was generally low (*M*=19.7; *SD*=6.40) - 80% of them had scores below 25 points, score considered an average for this test.

Correlation analysis was conducted using the Kendall tau test. This decision was taken because the sample was small, some variables did not have normal distributions and also because Kendall tau has been proven to be powerful enough to detect effects in small samples (Gibbons & Chakraborti, 2003). Kendall tau coefficients are presented in Table 2.

Those variable that correlated significantly were further included into a multiple regression analysis in order to verify the mediation model proposed by Baron and Kenny (1986). Because the sample size was small, the mediation effects were further tested for

significance using bootstrapping, method recommended for sample sizes between 20 and 80 participants (Efron & Tibshirani, 1993).

Table 1. Descriptive statistics

	n	M	SD
Age	20	33.8	6.73
Work experience	19	8.78	6.94
Number of students	20	4.55	1.60
Frequency of self-injury	20	9.00	7.28
Severity of self-injury	20	7.60	7.24
Frequency of stereotypy	20	58.5	53.2
Severity of stereotypy	20	39.1	42.1
Frequency of aggression	20	14.0	16.6
Severity of aggression	20	13.0	17.9
Behavioral knowledge	20	19.7	6.40
Controlability beliefs	12	34.2	8.82
Client Consequences	20	16.5	2.32
Carer control	20	7.65	1.22
Episodic	20	7.30	1.08
Emotional representations	20	11.73	3.5
Personal burnout	20	32.3	20.7
Work burnout	20	30.6	18.3
Client burnout	20	27.2	18.6
Fear of assault	20	5.00	1.58

Variables that were significantly correlated and were further included into the mediation analysis:

- *Fear of assault* as mediator for the relation between: frequency of aggression and work burnout; severity of aggression and work burnout; severity of stereotypy and personal burnout; frequency of aggression and personal burnout; severity of aggression and personal burnout;
- *Emotional representations* as mediator for the relation between: frequency of aggression and personal burnout; severity of aggression and personal burnout; frequency of aggression and work burnout; severity of aggression and work burnout.

Below is presented the mediation analysis for the relation stereotyped behavior – fear of assault – personal burnout.

Tabel 2. Kendall tau correlations for all variabiles. * and ** mark significant values for p < .05 and p <. 01, respectively.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. age	1,000																		
2. work experience	**,709****	1,000																	
3. number of students	-,203	-,277	1,000																
4. frequency of self injury	,022	-,031	-,278	1,000															
5. severity of self-injury	-,006	-,012	**-,373***	**,782****	1,000														
6. frequency of stereotypy	-,080	-,096	-,233	**,674****	**,528****	1,000													
7. severity of stereotypy	-,059	-,048	-,171	**,680****	**,577****	**,835****	1,000												
8. frequency of aggression	-,208	-,259	,226	,202	,208	**,392***	**,398***	1,000											
9. severity of aggression	-,158	-,196	,288	,140	,185	**,332***	**,359***	**,919****	1,000										
10. behavioral knowledge	,292	**,354***	,062	-,211	-,111	-,113	-,049	-,133	-,083	1,000									
11. controlability beliefs	-,016	,346	-,275	,050	,017	-,142	-,079	,017	,050	**-,464***	1,000								
12. personal burnout	-,120	-,018	,000	,281	,299	,311	**,354***	**,335***	**,340***	-,088	,033	1,000							
13. work burnout	-,083	-,006	,177	,068	,250	,220	,264	**,338***	**,388***	,106	-,050	**,490****	1,000						
14. client burnout	-,147	,043	-,025	**,347***	**,348***	,272	,304	,256	,239	,017	,272	**,479****	**,365***	1,000					
15. client consequences	-,006	-,031	-,256	,258	,236	**,378***	**,345***	-,028	-,051	,135	,082	-,302	-,138	-,057	1,000				
16. carer control	,270	,188	-,008	-,329	-,329	-,276	-,276	-,007	-,036	,330	-,047	-,160	-,154	-,094	-,156	1,000			
17. episodic	-,297	-,320	,268	-,145	-,204	-,007	,014	,072	,072	,057	-,402	-,123	-,211	-,115	,170	-,066	1,000		
18. emotional representation	-,189	,014	-,260	,095	,239	,275	,250	**,406***	**,400***	-,136	,417	**,406***	**,445***	**,350***	-,025	,016	-,126	1,000	
19. fear of assault	-,119	-,074	-,055	**,416***	**,399***	**,564****	**,635****	**,481****	**,473****	-,108	,000	**,444***	**,362***	,291	,161	-,261	-,149	**,366***	1,000

The effect of exposure to stereotypical behaviors on fear of attack was tested; then the effect of fear of assault on personal burnout, and finally the effect of exposure to stereotypical behaviors on staff burnout was determined. Because path *a* and *b* were sustained and the effect of the predictor variable on the criterion was bigger than zero, even though not statistically significant (see Table 3), step 4 was further verified. Thus when both variables – fear of assault and severity of stereotypy – were included into the regression equation the effect of stereotypy on personal burnout decreased from I^2= .408 (p= .074) to I^2= 105 (p= .675), which indicates partial mediation.

Table 3. Analysis for the mediation effects of severity of fear of assault on the relation stereotypy — personal burnout

Step tested	Predictor	Dependent variables	unstandardized coefficients		Standardized coefficients	t	p
			B	SE	Beta		
step 1 (path a)	Severity of stereotypy	Fear of assault	.022	.007	.573	2.96	.008
step 2 (path b)	Fear of assault	personal burnout	7.73	2.47	.593	3.12	.006
step 3 (path c)	Severity of stereotypy	personal burnout	.829	.437	.408	1.89	.074
step 4 (path c')	Fear of assault	personal burnout	13.5	6.50	.511	2.08	.053
	Severity of stereotypy	personal burnout	.213	.499	.105	.427	.675

The procedure described above was identical for all the other relations. The summary for the regression analysis and the confidence intervals for the effect sizes, obtained after bootstrapping, are presented in Table 4. As is seen in the table, the mediation effect of fear of assault was not statistically significant as the confidence interval included the zero value.

Discussion

The main purpose of the present study was to identify potential mediators of the relationship between exposure to challenging behaviors and burnout among special education teachers. The initially launched hypotheses are partially supported by the data. Just as many studies have already shown (Dangan et al., 1998 Howard & Hegraty, 2003, Howard et al., 2009) aggressive behaviors are those that pose the most problems. Both the frequency and severity of aggressive behaviors were related to increased levels of personal and work burnout among teachers.

Tabel 12. Summary of the mediation analysis

	Variable			Mediation analysis	Confidence interval (95%)
	Predictor	**Mediator**	**Criterion**		
1	Severity of stereotypy	Fear of assault	Personal burnout	Partial mediation (β diminished but not 0)	(-.032; .460)
2	Frequency of aggression	Fear of assault	Personal burnout	Partial mediation (β diminished but not 0)	(-.149; .876)
3	Severity of aggression	Fear of assault	Personal burnout	Total mediation (β diminished to 0)	(-.097; 1.06)
4	Frequency of aggression	Fear of assault	Work burnout	Partial mediation (β diminished but not 0)	(-.038; 1.08)
5	Severity of aggression	Fear of assault	Work burnout	Total mediation (β diminished to 0)	(-.025; 1.11)
6	Frequency of aggression	Emotional representations	Personal burnout	Condition 1 not sustained	-
7	Severity of aggression	Emotional representations	Personal burnout	Condition 1 not sustained	-
8	Frequency of aggression	Emotional representations	Work burnout	Condition 1 not sustained	-
9	Severity of aggression	Emotional representations	Work burnout	Condition 1 not sustained	-

Teachers who experienced high levels of client burnout were also those who frequently witnessed self-injurious behaviors/severe self-injurious behaviors. Interestingly enough, the severity of stereotyped behaviors was also positively related to personal burnout and work burnout among teachers in special education schools. These data add to the literature by providing a more detailed analysis of the relationship between challenging behaviors and burnout among those working in the field of intellectual disability.

Contrary to expectations, I did not find any significant relationships between variables such as work experience or number of students in class and burnout experienced by teachers participating in the study. Also, neither behavioral knowledge nor controllability beliefs were predictors of teacher burnout in special education. There are previous studies that have obtain obtained similar findings. For example, Mills and Rose (2011) failed to find any effect of controllability beliefs on employee burnout in institutions for people with intellectual disabilities. Regarding the effect of behavioral knowledge, a strong limit of this study is that the majority of participants had a low level

of such type of knowledge. This makes it difficult to test variations and relationships with other variables.

Of the cognitive variables initially considered as having a role in the challenging behaviors - burnout relationship among teachers in special education, fear of assault was the only variable that met the mediation criteria advanced by Baron and Kenny (1986), but the mediation effect proved not to be statistically significant. These data contradict the data found in respect to employees working with adults with intellectual disabilities (Mills, 2011). It is possible that children's problematic behaviors are not perceived to be as threatening by teachers as adults' challenging behaviors. Future studies should investigate such differences among those working with children and adults with intellectual disabilities.

A major limit of this study is the sample size. The small number of participants made it difficult to test mediation relationships. For this reason, only variables that had a large effect on burnout could be identified.

CHAPTER 5. General conclusions and discussions

The objective of this thesis was to study the challenging behavior of students with intellectual disabilities and the way this type of behavior can be related to burnout in Romanian special education teachers. It has been taken into consideration the frequency and severity of the challenging behavior of the students form special schools as well as its type: self-injurious, stereotypy or aggression. It was observed how the differences in teacher's burnout could be explained by exposure to such challenging behavior. In addition, the factors that can potentially increase the vulnerability of special education teachers to experience burnout when exposed to the challenging behavior of the students had been analyzed.

In the paper's first and second chapter the thesis' theme was presented, more specifically, in the second chapter the theoretical models underlying the thesis were defined. A short introduction in the history of the concept of stress and burnout was done. Then, the concept of burnout as an individual`s state of physical and psychological exhaust accordingly to the model proposed by Borritz and Kristensen (1999a: 1999b) in the PUMA Study was thoroughly presented. Next, the term of challenging behavior was explained. After that, the theoretical models and methods that proved to be efficient in the reduction or elimination of the challenging behaviors were discussed – this was done because behavioral knowledge has been observed, in previous studies, to be involved in the way burnout is experienced by staff working in intellectual disability. In the end, an introduction about the theories regarding attributions was presented – attributions were another variable considered to be involved in the relation between challenging behaviors and burnout in those exposed to it. The thesis adopted the attribution theory proposed by Weiner (1980) which suggests that the attributions we have regarding the causes of person`s challenging behavior can influence the emotional responses we have towards that behavior and the expectancies for change regarding that behavior.

The next two chapters contain the personal research. In the third chapter, I reviewed the scientific literature regarding the effects challenging behaviors of children with intellectual disabilities have on people working with them. The inclusion criteria were: the article must present data about the relation between children's challenging behavior and stress/burnout in people who take care of them, or any other variable potentially involved in this relation; the article must had been written in English and had to be published in a peer-reviewed journal. After considering these criteria, 7 studies

remained relevant for the final analysis. All of these publications showed that the exposure to students`/clients` challenging behavior represents a distress factor for people working with them. Also, it was shown that attributions, coping style, self-efficacy, emotional reactions and organizational factors play an important role in the relation between challenging behavior and burnout in people working with children with intellectual disabilities. Furthermore, studies included in the analysis show that certain challenging behaviors, like self-injury and aggression, challenge even more than others. The general conclusion was that there are few studies which research the relation between challenging behaviors of children with intellectual disabilities and their teachers` burnout. In addition, there are mixed results regarding the role of the work experience and generally, the studies don't measure very accurate the degree of exposure to challenging behaviors. The studies included in this thesis were meant to paint a picture of the Romanian special education and also cover some of the holes in the international research.

In the first study (chapter 4) I have researched the prevalence of challenging behaviors among students with intellectual disabilities form Romanian special education schools. In this study participated 116 students from 1 to 8 grades from 4 special education schools from Cluj county. Approximately 70% of them had at least one form of challenging behavior. The percentage is very high considering that international studies have reported that approximately 10 to 15% of the people with intellectual disabilities manifest challenging behaviors (Emerson et al., 2001; Holden & Gitlesen, 2006; Lowe et al., 2007). However, the samples in this study only consisted of children younger than adolescence, age at which the challenging behavior is known to be more frequent. The stereotypic behavior was the most frequent category of challenging behavior manifested among students with intellectual disabilities who took part in the study. Most of them manifested multiple forms of challenging behavior. More than 60% of the participants had another diagnostic associated with the intellectual disability (for example ADHD, autism or physical disabilities) and this category showed self-injurious behavior more often. Another risk factor for challenging behavior was age: it correlated positively with the frequency of self-injurious and stereotypical behavior. Also, boys manifested stereotypical behavior more often than girls and a generally more severe degree of intellectual disability was associated with a higher frequency of self-injurious and stereotypical behavior. Thus, special education teachers from Cluj are often exposed to a multitude of challenging behaviors but it seems that the stereotypy is the most frequent.

The research that covers the relation between challenging behavior and the burnout of staff working with people with intellectual disabilities has often omitted from the analysis this type of challenging behavior. For a better understanding of the way that special education teachers respond to challenging behavior was necessary for the future studies to investigate all 3 categories of behavior: self-injury, stereotypy and aggression.

The second study wishes to uncover the differences between characteristics of special education teachers who experience low levels of burnout compared to those who experience high levels of burnout. In this study participated 33 special education teachers form Cluj County schools. The variables considered were: teacher's work experience, their behavioral knowledge, the number of children they were teaching and the frequency, severity and topography of the challenging behaviors. Thus, the teachers who reported low levels of personal burnout and work burnout also reported a more frequent exposure to aggressive behavior and more severe aggressive behavior. No statistical significant differences were found between the exposure to self-injurious behavior or stereotypical behavior and the level of burnout reported. The work experience, behavioral knowledge, number of students in the class or the exposure to stereotypical behavior were not significantly different between teachers who reported below and above average burnout. The new data sustains older studies that show that the exposure to aggression is associated with high levels of burnout in special education teachers. Furthermore, the data suggests that different characteristics of the challenging behavior (frequency, severity or topography) can have a different effect on different types of burnout (personal, work, client related) in special education teachers.

In the third and final study (chapter 4) the mediating variables of the relation between challenging behavior and burnout in special education teachers were examined. The participants were 20 teachers from two special education schools from Cluj County. They completed self-report questionnaires which measured demographical variables like age, experience, time spent teaching, the number of students in the class, in addition to variables like perceived burnout, the frequency and severity of students' challenging behaviors, behavioral knowledge and certain cognitive variables – attributions and emotional responses they have regarding students' challenging behaviors. All types of challenging behavior correlated significantly and positively with burnout levels reported by the participating teachers. However, certain aspects of these behaviors have been associated with special education teachers' burnout. Accordingly to previous studies, the frequency and severity of aggressive behavior have been correlated to increased levels of

personal and work burnout amongst teachers. The ones who reported high levels of client burnout were the ones who were exposed to more frequent or more severe self-injurious behavior. Something that is particularly interesting is the fact that severity of stereotypical behavior was positively correlated with personal and work burnout. From the cognitive variables that were initially considered relevant in the relation between challenging behavior and special education teachers' burnout, fear of assault was the only variable that mediated the relation between the severity of stereotypical behavior and personal burnout, severity and frequency of aggressive behavior and personal and work burnout amongst teachers. However, this effect was not statistically significant, contrary to data from literature which was gathered from staff who work with adults with intellectual disabilities.

Contributions

First of all, the thesis brings new data regarding the situation of the challenging behaviors of students in Romanian special education schools. The prevalence study is the only one of its type for the Romanian population. The future studies should determine the prevalence of challenging behavior on a national level, this being the main constrain in offering them access to education and integration in society (Emerson & Stewart, 2011).

Secondly, it was shown that for Romanian teachers, like for the ones from United States or Great Britain, the challenging behaviors of students with intellectual disabilities is a burnout factor. Furthermore, when exposed to such behavior, most of them are afraid regarding the possible negative consciences of those behaviors. Special education schools, and special education institutions in general, should prioritize the reduction of challenging behavior and offer the necessary means for their reduction or elimination – specialized training for teachers, supervision by behavior analysis specialists and protection equipment for the teachers.

Another contribution of the study regards theoretical clarifications. Thus, results from the second and third studies suggest that when we want to research the effects of challenging behavior of people with disabilities it is required to pay special attention towards the different forms or aspects as frequency or severity of these behaviors. Also, narrowing down the challenging behavior to aggression or self-injury, like almost all studies until now do, the negative effects that other forms of challenging behavior have on those who work in intellectual disabilities can be overlooked. Future studies must take

into consideration these other forms of challenging behavior when the effects on the staff need to be observed.

Limits

A major limit of all studies was the sample size and selection of participants. In the prevalence of challenging behavior study as well as the other two that investigate the relation between these behaviors and the special education teachers' burnout, the number of participants was too small to generalize the results. The small number of participants is typical to studies that investigate the effects that challenging behavior has on those who work in intellectual disabilities, their number generally being between 50 and 70 participants. However, these studies include both qualified and unqualified staff. The present research aimed for a greater homogeneity of the sample in that regard, so all the teachers that participated were qualified, with university degrees. Furthermore, to improve the accuracy of the challenging behavior's measurement, the auxiliary staff and the non-didactical experts were excluded – for example, because a physiotherapist or a physical education teacher came in contact with all the school's students, the number or evaluations they would have had to complete would have been too large.

The prevalence sample was preselected considering that the participating students were only from teachers who agreed to participate in the study. Thus it is possible that those teachers who didn't want to participate might teach students with more severe challenging behavior. In conclusion, it cannot be determined if the overrepresentation of students with mild or average intellectual disability was due to the selection method or if it is a general characteristic of special education students. The same applies to the teachers in studies 2 and 3. Given the fact that the selection only involved volunteers, it is possible that the teachers who had more difficult classes are not represented in the sample.

Another limitation of the study involves the instruments used, in particular those regarding studies 2 and 3. The only instrument used before with a Romanian sample was the one that measures children`s challenging behaviors. Neither the burnout instrument nor the one that measures the behavior knowledge or the one regarding attributions were not previously used on a Romanian sample. These instruments were translated form English by the present author and then applied to the participating teachers. The small number of participants did not allow for an analysis besides the instruments` reliability. Also, especially regarding the questioners about behavior knowledge and attributions,

because they are created for staff who work with people with intellectual disabilities or who are often exposed to challenging behavior, it was difficult to find a larger and representative sample for the Romanian population.

In general, this thesis brings contributions towards better understanding the challenging behavior of students from special education schools in Romania and its implication in teachers' burnout. The studies included in this thesis are some of the first that bring this sort of information from Romania and must be regarded as a starting point for future research. The data indicates that self-injurious, stereotypical and aggressive behaviors are frequent amongst students from Romanian special education schools. On a practical level, since the exposure to such behavior can have negative implications on the psychological state of the teachers, special education institutes should pay more attention to these behaviors, beyond the school curricula. Training in more efficient methods to reduce this type of behavior and regular supervision, as well as counseling could contribute towards the reduction of challenging behavior and the decrease in teachers' burnout.

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