
TEACHER RATIONALITY, SOCIAL-EMOTIONAL COMPETENCIES AND BASIC NEEDS SATISFACTION: DIRECT AND INDIRECT EFFECTS ON TEACHER BURNOUT

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Abstract

Identifying the underlying mechanisms in teacher burnout reduction and prevention is of crucial importance for today's educators' wellbeing. Emphasizing the role of protective factors, the present study investigates the relationships between teacher burnout factors and specific cognitive, social-emotional and motivational variables. Eighty-one high school teachers ($M_{\text{age}} = 42.48$, $SD = 7.97$) completed questionnaires measuring their burnout levels, rational beliefs, social-emotional competencies, and basic psychological need satisfaction. Results show significant negative correlations between emotional exhaustion and basic needs satisfaction, and social-emotional competencies, and significant positive associations between need satisfaction, social-emotional competencies and personal accomplishment. Depersonalization shows the similar pattern of associations with basic needs satisfaction and social-emotional competencies, but is the only burnout factor significantly related to rational beliefs. Furthermore, rational beliefs mediate the relationship between basic needs satisfaction and depersonalization. Results also show that basic needs satisfaction is a significant mediator in the relationship between social-emotional competencies and all three burnout factors. Implications of these results in the development and implementation of teacher burnout prevention and intervention programs are discussed.

Keywords: teacher burnout, emotional exhaustion, depersonalization, personal accomplishment, rational beliefs, basic needs satisfaction, social-emotional competencies, mediators

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Introduction

Mental health and well-being promotion in schools have gained a major interest in recent years (Chan, 2006; Leschied, Flett, & Saklofske, 2013).

Burnout, as described by Maslach (2003, p. 189), is “a prolonged response to chronic emotional and interpersonal stressors on the job and is defined (...) by the three dimensions of exhaustion, cynicism, and a sense of inefficacy”. Emotional exhaustion implies stress, a sense of being overwhelmed by one’s work, and a lack of energy. Cynicism or depersonalization is a defensive coping strategy, a cynical, detached attitude towards work and colleagues, while inefficacy or reduced personal accomplishments refer to a lack of efficiency felt in the work context (Maslach, 2003). Recent research data (Leiter & Maslach, 2016) shows, contrary to the well-known assumption that emotional exhaustion is the most important factor of burnout that cynicism/depersonalization is the most negative aspect and the one most similar to the typical burnout profile. Burnout is more than emotional exhaustion, it is more than chronic tiredness and fatigue, it is discouragement, alienation, a crisis of meaning and values, a fundamental crisis in the connections with one's work-life (Cherniss, 2014; Leiter & Maslach, 2016; Light, 2015). Several study results confirmed the relationships between burnout and individual and organizational outcomes, such as depression, anxiety, physical health symptoms, turnover, absenteeism, organizational commitment and engagement, motivation (Hakanen & Schaufeli, 2012; Han & Weiss, 2005; Jackson, Schwab & Schuler, 1986; Maior, Szamosközi, & János, 2015; Rovero, 2004; van Diest & Appels, 1991). Organizational factors more commonly leading to burnout are work overload, value conflicts, lack of control, insufficient rewards, emotional demands, lack of support and a sense of community and inequity within the organization, role conflict and ambiguity (Bakker & Demerouti, 2008; Bria, Băban, & Dumitrașcu, 2012; Leiter & Maslach, 1988; Maslach, Schaufeli & Leiter, 2001).

Individual factors, like lack of autonomy and competence, low levels of needs satisfaction (Bartholomew, Ntoumanis, Cuevas, & Lonsdale, 2014; van den Broeck, Vansteenkiste, De Witte, & Lens, 2008), irrational beliefs (Bermejo, Hernandez-Franco, & Prieto-Ursua, 2013), reactive coping and deficits in social-emotional skills (Brackett, Palomera, Mojsa, Reyes, & Salovey, 2010; Jennings & Greenberg, 2009; Palomera, Fernandez-Berrocal, & Brackett, 2008), role conflicts, low self-efficacy beliefs are risk factors in teacher burnout (Pillay, Goddard & Wilss, 2005; Skaalvik & Skaalvik, 2007; Spiegler & Guevremont, 2003). Our study investigates the relationships between teacher burnout factors and positive individual factors, like social-emotional competencies, rational beliefs, and basic needs satisfaction, respectively.

Social-emotional competencies, as conceptualized by the Collaborative for Academic, Social, and Emotional Learning framework (CASEL, 2008a, 2008b, 2008c), include five core competencies, shortly presented below. Self-awareness

competencies include identification, labeling of emotions, thoughts, own strengths, and weaknesses, also a sense of realistic self-confidence. Social awareness refers to being empathetic, understanding diversity and social-cultural norms, but also identifying and approaching support opportunities and resources within the community one lives in. Self-management refers mainly to self-regulation, including emotions, behavior, and impulse control, thought processes, to feel and perform better. Relationship skills comprise the ability to form and sustain positive, healthy relationships with others, including effective communication, assertiveness, offering and accepting help, efficient conflict management. Responsible decision making is the ability to make responsible decisions, based on consequence evaluation, norm- and ethics consideration, self, and other needs and responsibilities, and well-being consideration (Collaborative for Academic, Social, and Emotional Learning, 2008b).

Teachers' social-emotional competencies are important for their well-being (Brackett et al., 2010), motivation and performance, and have a major influence on student outcomes. Teachers with developed social-emotional skills can create a positive, supportive climate in the classrooms, can serve as positive role models for students in handling stressful situations in more adequate ways, support autonomy, choice and creativity, and are successful at creating high-quality student-teacher relationships (Bakker, 2005; Becker, Goetz, Morger, & Ranellucci, 2014; Hamre & Pianta, 2004; Mashburn et al., 2008). They can identify and regulate their emotions, understand the ways their emotions and emotion management influences classroom behavior, are more empathetic, and can make responsible decisions and solve problems efficiently and report higher levels of well-being (Brackett & Katulak, 2006; Cornelius-White, 2007; Jennings & Greenberg, 2009; Roorda, Koomen, Spilt, & Oort, 2011; Stough, Saklofske, & Parker, 2009; Zeidner, Matthews, & Roberts, 2009). In turn, teachers with less developed social – emotional competencies report lower levels of job satisfaction, higher levels of stress, negative emotions and burnout (Brackett et al., 2010; Colomeischi, 2015; Jennings & Greenberg, 2009; Sutton & Wheatley, 2003; Tsouloupas, Carson, Matthews, Grawitch, & Barber, 2010).

Nevertheless, the intensity and duration of negative emotions can be aggravated by negative, dysfunctional and irrational beliefs, which influence the evaluation and interpretation of external stimuli and the ability to cope with it (Ellis, 1962, 1979b). Within the Rational Emotive Behavior Therapy (Ellis, 1962, 1979b) framework, the ABC model describes the way thoughts and beliefs (B) influence individuals' interpretation of possibly stressful activating events (A) in their lives, and indirectly, through this interpretation, the cognitive, emotional and behavioral responses (C) one manifests in specific situations. Beliefs are categorized into rational beliefs (which are logical and consistent with reality) and irrational beliefs (illogical, inconsistent with reality). Rational beliefs include preferential statements, like "I would prefer things to be in a certain way, but they don't have to.", "I would like to have every child's attention in class, but if I don't,

it is not a disaster” and lead to constructive coping. Irrational beliefs include evaluations and demands, including “should”-s “must”-s, “I can’t stand it”-s, awfulizing and lead to exaggerated emotional reactions and ineffective coping. Irrational beliefs are related to stress, burnout, mental health problems (Bermejo-Toro & Pioto-Ursua, 2006; Bernard, 2016; Popov & Popov, 2015; Robertson & Dunsmuir, 2013; Zingle & Anderson, 1990). However, Rational Emotive Behavior Therapy is a helpful approach for teachers in decreasing the intensity of negative emotions and behaviors and increasing self-efficacy and well-being by reducing irrational beliefs and developing rational beliefs (Bernard & DiGiuseppe, 1994; Jesus & Conboy, 2001; Nucci, 2002; Ugwoke et al., 2017; Warren, 2010b; Zingle & Anderson, 1990).

Besides beliefs and social-emotional competencies, the satisfaction of the basic psychological needs within the organization is a crucial element in teacher well-being. The Basic Psychological Needs Theory (Ryan & Deci, 2002), within the self-determination motivation theory developed by Deci & Ryan (Deci & Ryan, 1985b; 2000), assumes that humans have an innate need to function in a self-determined and autonomous way, and have innate, universal psychological needs. The need for autonomy is the need to feel autonomous in one's behavior, to feel that one has a choice, and acts with a sense of volition (Deci & Ryan, 2000). The need for competence is the innate need to feel competent and effective when interacting with the environment (Deci & Ryan, 2000; White, 1959). The need for relatedness is the need to form and sustain meaningful relationships with significant others, to experience a sense of communion with others (Deci & Ryan, 2000). Studies conducted on teachers show a positive association between teachers' satisfaction of basic psychological needs, intrinsic motivation, job satisfaction, commitment, positive emotions at work and performance, and negative associations with burnout (Caprara, Barbaranelli, Steca, & Malone, 2006; Greguras & Diefendorff, 2009; Klassen, Perry, & Frenzel, 2012; van den Broeck, De Cuyper, De Witte, & Vansteenkiste, 2010).

Considering previous research results, our study aims to investigate the relationships between teacher burnout factors and specific cognitive, motivational, and social-emotional individual variables. This investigation focuses on positive individual variables, such as rational beliefs, the satisfaction of basic psychological needs and social-emotional competencies, and their relationships with all three burnout factors: emotional exhaustion, depersonalization, and personal accomplishments. We consider it important to investigate each burnout factor, as previous studies have shown that the three factors are associated with different individual variables and they are different, but essential parts of the burnout phenomenon (Maslach, 2003; Leiter & Maslach, 2016). Depersonalization seems to be the most negative aspect of burnout and different from the other two factors (Leiter & Maslach, 2016). We choose positively stated characteristics because of the importance of protective factors in burnout development and evolution. Considering the significant relationships established in previous research, we aim

to investigate whether these specific positive individual variables interact with each other and have effects on teacher burnout factors not only directly, but indirectly, through the specific relationships between them. Therefore, we test mediation models involving burnout factors, basic needs satisfaction (BNS), rational beliefs (RB), and social-emotional competencies (SEC).

Objectives

Our study's first objective is to identify the relationships between emotional exhaustion, depersonalization, personal accomplishments, and basic needs satisfaction, rational beliefs, and social-emotional competencies, respectively. Our first hypothesis is:

H1. Teacher emotional exhaustion, depersonalization, and personal accomplishment are significantly related to basic needs satisfaction, rational beliefs, and social-emotional competencies.

Our second objective is to identify mediators in the relationships between teacher burnout factors and the before mentioned variables. Therefore, we propose and test two mediation models in this study. First, we test the mediating role of rational beliefs between basic needs satisfaction and burnout factors. We suggest that rational beliefs mediate the relationship between basic needs satisfaction, and depersonalization. We investigated depersonalization because it is a core and most negative factor of burnout and is more linked to the quality of the work environment than the other two dimensions (Leiter & Maslach, 2016). We assume that basic needs satisfaction affects rational beliefs, considering that healthier, autonomy, competence, and relatedness supportive environments facilitate the development or presence of rational beliefs. We argue that basic needs satisfaction affects depersonalization directly, and indirectly, through rational beliefs.

Second, we want to investigate whether basic needs satisfaction mediates the relationship between social-emotional competencies and emotional exhaustion, depersonalization, personal accomplishments. We hypothesize that teachers with highly developed social-emotional competencies are more likely to influence their environments and thus, contribute to satisfaction of their psychological needs, this leading them to experience lower levels of burnout (Jennings & Greenberg, 2009; Klassen et al., 2012).

Thus, the hypotheses related to the second objective of our study are:

H2. Rational beliefs mediate the relationship between basic needs satisfaction and individual burnout factors.

H3. Basic needs satisfaction mediates the relationship between social-emotional competencies and individual burnout factors.

Method

Participants

81 high school teachers participated voluntarily in the study, 23 males (28.4%), and 58 females (71.6%). All teachers worked in schools within one county in Romania. We selected high school teachers as research participants because they represent the most vulnerable population of teachers regarding burnout (Steinhardt, Smith Jagers, Faulk, & Gloria, 2011). The mean age was $M = 42.48$ ($SD = 7.97$), the youngest participant being 26 years old, the oldest 64 years old. Forty teachers (49.4%) worked in urban high schools, forty-one (50.6%) in rural high schools. The distribution of the sample based on high school profile was: 10 (12.3%) taught in a Science/Mathematics profile school, 6 (7.4%) in a Social Sciences and/or Arts profile school, 65 (80.2%) in a Technical/Vocational profile high school. The sample comprised 20 teachers (24.7%) teaching subjects related to Science/Mathematics, 44 (54.3%) teaching subjects related to Social Sciences and Arts, 17 (21%) teaching a Technical/Vocational field related subject. Experience in years mean was $M = 12.79$ years ($SD = 10.30$), ranging from 0 to 39 years of teaching experience. 59.3% of the sample ($N = 48$) was Romanian ethnicity (majority) and 40.7% ($N = 33$) Hungarian ethnicity (representing an ethnic minority in Romania). Thirty-nine teachers had less than 14 years of experience in teaching (48.1%), and 42 had over 14 years (51.9%) of experience, based on the median split of the sample.

Procedure

We asked high school principals from one county in Romania for permission to send the survey to the teachers working in their schools, in a formal meeting, along with a signed copy of the description of the study. Privacy in data analysis was assured. The participants provided informed consent by providing their email addresses after the online survey. Volunteer participants completed the survey in an online form at the end of 2017. The online survey included scales measuring the level of burnout factors, the satisfaction of basic psychological needs, rational beliefs, social-emotional competencies, and demographic data.

Measures

We used a Romanian scale for assessing teachers' rational beliefs, the Employee Rational and Irrational Beliefs Scale (E-RIBS; Gavița & Duță, 2013). We translated all other scales into Romanian and conducted reliability analyses to investigate the psychometric properties of the translated scales. We report alpha coefficients below at the description of the scales.

Demographic data form

Data about age and gender of the participants, general information including teaching experience, school profile, subject taught was collected based on the Demographic data form.

Basic needs satisfaction

Basic Psychological Need Satisfaction at Work Scale (BPNSW; Deci, Ryan, Gagne', Leone, Usunov, & Kornazheva, 2001) is a 21-item scale, comprising 3 subscales measuring the satisfaction of the basic psychological needs for autonomy, competence, and relatedness. Participants were asked to evaluate on a 7-point scale the degree to which they agree or disagree with the statements of the scale (1 = *Strongly disagree*, 7 = *Strongly agree*). The subscales added constitute the Basic Needs Satisfaction Total score. Cronbach Alpha scores for Need for Autonomy was $\alpha = .75$, for Need for Competence $\alpha = .80$, for Need for Relatedness $\alpha = .84$ and for Basic Need Satisfaction Total $\alpha = .91$. Higher scores mean higher satisfaction of the psychological needs.

Teacher Burnout

The Maslach Burnout Inventory-Educator Survey (MBI-ES; Maslach, Jackson, & Leiter, 1996) was used to measure emotional exhaustion, depersonalization, and reduced personal accomplishment. This scale comprises 22 items, where participants evaluate on a 7-point Likert-type scale the degree to which they experience the feelings operationalized in the statements of the survey (0 = *Never*, 6 = *Every day*). High scores on Emotional Exhaustion and Depersonalization and low scores on Personal Accomplishment represent high burnout. Cronbach Alpha scores for the current sample for Emotional Exhaustion was $\alpha = .92$, for Depersonalization $\alpha = .78$ and for Personal Accomplishments $\alpha = .79$.

Social-emotional competencies

To measure teachers' social-emotional competencies, we used the Social-Emotional Competence Questionnaire (Yoder, 2014), a 21 item Likert type scale, comprising statements that evaluate the subjective level of the 5 core competencies, proposed by CASEL (Collaborative for Academic, Social, and Emotional Learning, 2008a, b): self-awareness, self-management, social awareness, relationship management, and responsible decision making. Participants have to indicate on a scale from 1 (*Strongly disagree*) to 4 (*Strongly agree*) the degree of their agreement with the statement. Top scores on the subscales show highly developed social-emotional competencies. A total score is a sum of the subscale scores. Reliability analysis results show good psychometric properties for the total score $\alpha = .93$.

Rational beliefs

Participants' rational beliefs were assessed using the ERIBS (Employee Rational and Irrational Beliefs Scale, Gavița & Duță, 2013), a 30 item Likert type scale on which participants expressed using a scale from 1 to 4 (1 = *Strongly agree*, 4 = *Strongly disagree*) how much they agreed or not with the statements expressing demands or preferential thinking. The scores are added up to calculate the Irrational Beliefs and the Rational Beliefs subscale's scores. High scores on the subscales indicate low levels of occurrence of rational, respectively irrational beliefs. More specifically, high scores on the Rational beliefs scale indicate low levels of rationality, and high scores on the Irrational beliefs scale show low levels of irrationality. Reliability analysis conducted for the current sample's answers shows the following results: Irrational Beliefs $\alpha=.83$ and Rational Beliefs $\alpha=.81$ (consistent with the authors' reliability analyses results, respectively, Irrational beliefs $\alpha = .86$, Rational beliefs $\alpha = .83$; Gavița & Duță., 2013). We used the Rational beliefs subscales scores only in data analysis, consistent with the study's aim of investigating the relationships between burnout factors and positive outcome variables.

Results

We used Statistical Software (SPSS 20.0) for data analysis. After the analysis of the skewness and kurtosis, the sample showed a non-normal distribution. Log transformations on the variables did not help normalize the data distribution; in consequence, we conducted non-parametric tests for the data analysis.

We conducted Spearman Rho correlations to test the first hypothesis, to analyze the relationships between basic needs satisfaction, burnout factors, rational beliefs, and social-emotional competencies. The means, standard deviations, medians, and significant correlations are presented in Table 1.

Table 1. Means, standard deviations, medians and correlation coefficients for the measured variables.

	BNS	RB	EE	DP	PA	SEC
M	101.17	27.15	13.15	3.65	38.96	66.51
(SD)	(16.46)	(6.46)	(9.48)	(4.52)	(6.41)	(8.94)
Basic Needs Satisfaction	-					
Rational Beliefs	-.23*	-				
Emotional Exhaustion	-.56**	.05	-			
Depersonalization	-.70**	.35**	.62**	-		
Personal Accomplishments	.64**	-.03	-.51**	-.67**	-	
Social emotional competencies	.46**	-.27*	-.28**	-.40**	.48**	-

Notes. *Correlation is significant at 0.05 level; **Correlation is significant at 0.01 level (2-tailed); M mean; SD standard deviation; BNS basic psychological needs satisfaction total; RB rational beliefs; EE emotional exhaustion; DP depersonalization; PA personal achievement SEC social-emotional competencies

To investigate the study's second objective, the second and third hypotheses, we conducted mediation analyses, using bootstrapping procedures (bootstrapping tests with 5000 re-samples; PROCESS for SPSS 2.16.3, Hayes, 2013), for assessing the indirect effects. Size of the indirect effects, confidence intervals, and standard errors were reported. Mediation occurs if the confidence interval for estimating the indirect effect does not include 0.

Testing the mediation model 1, proposed for the exploration of the second hypothesis, concluded a significant total effect of basic needs satisfaction (BNS) on depersonalization ($c = -.18$, $SE = .023$, $p < .001$, $95\% CI = [-.22, -.13]$). The indirect effect of BNS on Depersonalization through Rational Beliefs was also significant (Indirect effect = $-.02$, $SE = .01$, $95\% CI = -.05$ to $-.001$). BNS was significantly related to rational beliefs ($a = -.09$, $SE = .042$, $p = .028$, $95\% CI = [-.18, -.01]$) and rational beliefs was a significant predictor of depersonalization ($b = .17$, $SE = .057$, $p = .003$, $95\% CI = [.05, .28]$). The direct effect of basic needs satisfaction on depersonalization was also significant ($c' = -.16$, $SE = .022$, $p < .001$, $95\% CI = [-.21, -.12]$).

In light of our third hypothesis, we tested three mediation models. The results show that BNS mediates the relationship between social- emotional competencies (SEC) and all burnout factors. SEC are significantly associated with BNS ($a = .92$, $SE = .179$, $p < .001$, $95\% CI = [.56, 1.2]$) and BNS significantly predicts emotional exhaustion ($b = -.34$, $SE = .060$, $p < .001$, $95\% CI = [-.46, -.22]$), depersonalization ($b = -.19$, $SE = .026$, $p < .001$, $95\% CI = [-.24, -.13]$) and personal accomplishments ($b = .21$, $SE = .039$, $p < .001$, $95\% CI = [.13, .29]$).

The total effect of SEC on emotional exhaustion was significant ($c = -.31$, $SE = .114$, $p = .007$, $95\% CI = [-.54, -.08]$). SEC predict emotional exhaustion through BNS, Indirect effect = $-.32$, $SE = .08$, $95\% CI = -.53$ to $-.17$. The total effect of SEC on depersonalization was significant ($c = -.14$, $SE = .054$, $p = .010$, $95\% CI = [-.25, -.03]$). The indirect effect of SEC on depersonalization through BNS was also significant (Indirect effect = $-.17$, $SE = .04$, $95\% CI = -.28$ to $-.09$). The total

effect of SEC on personal accomplishments was significant ($c = .29$, $SE = .073$, $p < .001$, $95\% CI = [.14, .44]$). The indirect effect of SEC on personal accomplishments through BNS was also significant (Indirect effect = $.20$, $SE = .05$, $95\% CI = .11$ to $.32$).

The direct effect of SEC on emotional exhaustion, depersonalization and personal accomplishments is not statistically significant ($c' = .009$, $SE = .111$, $p = .929$, $95\% CI = [-.21, .23]$; $c' = .03$, $SE = .049$, $p = .474$, $95\% CI = [-.06, .13]$, and ($c' = .09$, $SE = .072$, $p = .197$, $95\% CI = [-.05, .23]$).

Discussion

Our study aimed to investigate the relationships between basic psychological need satisfaction, social-emotional competencies, rational beliefs, and teacher burnout factors. We conducted correlations (H1) and tested four mediation models. First, in Mediation model 1 (H2), we proposed that rational beliefs will be a significant mediator between basic psychological need satisfaction and depersonalization. Second, in Mediation model 2, 3, 4 (H3) we proposed that social-emotional competencies will have a significant effect on emotional exhaustion, depersonalization, and personal accomplishments through the satisfaction of the basic psychological needs.

Our results show partial sustainment for our first hypotheses, as burnout factors were significantly associated with social-emotional competencies and basic needs satisfaction, but only depersonalization was significantly related to rational beliefs. These results are consistent with previous research findings showing associations between emotions and well-being (Jennings & Greenberg, 2009; van Horn, Taris, Schaufeli, & Schreurs, 2004), basic need satisfaction and burnout (Bartholomew et al., 2014; van den Broeck et al., 2010). Emotional exhaustion was in a significant negative correlation with social-emotional competencies and basic needs satisfaction. In other words, teachers who are emotionally competent, and feel that their basic psychological needs for autonomy, competence, and relatedness are satisfied, experience lower levels of emotional exhaustion. We found no significant correlation between emotional exhaustion and rational beliefs. Thus, the emotional exhaustion factor of burnout is mainly associated with the social-emotional and motivational characteristics of teachers, not cognitive ones.

Depersonalization showed a similar pattern of association with the investigated individual characteristics, as emotional exhaustion (significant negative association with basic need satisfaction and social-emotional competencies). We can conclude that teachers who feel that their needs for autonomy, competence, and relatedness are satisfied within the school, experience lower levels of depersonalization. Further, teachers with highly developed social-emotional competencies are more likely to report lower levels of depersonalization than teachers who lack these competencies. Depersonalization is significantly related to

rational beliefs as well. Teachers that hold more rational beliefs are less likely to feel high levels of depersonalization. It seems that frustration tolerance, preferential thinking, badness, and unconditional acceptance (the rational beliefs measured in this study) are associated with lower levels of depersonalization in the present teacher sample. These results suggest that besides social-emotional and motivational characteristics, rational beliefs can be viewed as specific protective factors in preventing depersonalization, as teachers who hold more rational beliefs have a preferential thinking style, report lower levels of depersonalization than teachers whose thinking style and beliefs contain mainly demands. This result is in line with research results showing the positive link between rationality and well-being/healthy functioning (Bermejo-Toro & Pieta-Ursua, 2006; Bermejo et al., 2013; Bernard, 2016; Ellis, 2005; Popov & Popov, 2015). These results further emphasize the value of depersonalization as a significant distinctive factor in the overall burnout phenomenon, as suggested by Leiter and Maslach (2016), and urge us to investigate further the factors related to depersonalization to reduce and/or prevent it.

The personal accomplishments factor was significantly and positively associated with satisfaction of the basic needs and social-emotional competencies. These results suggest that teachers who feel that their need for autonomy, competence and relatedness is satisfied, and are more self- and socially aware, are better equipped in self- and relationship management skills and feel more responsible in their decisions, feel more competent in their work and workplace, compared to teachers who experience low need satisfaction and have less developed social-emotional competencies. As with emotional exhaustion, the personal accomplishment factor of burnout was not significantly associated with rational beliefs. One explanation for the association of rational beliefs only with the depersonalization factor of burnout could be the specificity of this factor, as it is working as a self-defensive coping strategy, a way to detach from work and colleagues due to a sense of disconnection and lack of value congruence between personal and organizational values. Emotional exhaustion implies fatigue, a lack of energy, is mainly related to workload, while reduced personal accomplishment refers to a crisis in work-based efficacy expectancies, feelings of poor contribution to one's work (Leiter & Maslach, 2016). We can argue, that more rational teachers are more able to use adaptive coping strategies in stressful situations and need not depersonalize, detach themselves, to protect self, presumably due to developing and maintaining a healthier separation between self and work, than those teachers who are less rational. This assumption needs further testing.

The items of the scale used to measure rational beliefs in this study mostly relate to evaluations of colleagues and teamwork, not workload or meaning and contribution, thus factors related more to depersonalization than the other two burnout factors.

Consistent with previous results on the relationships between resilience and emotions, positive thinking, proactive coping, rational beliefs, basic need

satisfaction, social-emotional competencies, emotions and teacher burnout, distress, well-being and resilience (Bermejo-Toro & Prieto-Ursua, 2006; Bermejo et al., 2013; Bernard, 2016; Ellis, 2005; Klassen et al., 2012; Jennings & Greenberg, 2009; Jennings et al., 2017; Skaalvik & Skaalvik, 2007), our study extends the investigation of these variables through testing mediational models involving cognitive-social-emotional and motivational factors in the analysis. One of the study's main assumptions was that positive individual factors (rational beliefs, the satisfaction of the basic psychological needs and social-emotional competencies) can, directly and indirectly, contribute to the prevention and/or reduction of negative well-being indicators, such as burnout factors. We tested mediation models to investigate Hypotheses 2 and 3.

The results confirmed our second hypothesis. Basic needs satisfaction has a significant direct effect on depersonalization, and rational beliefs seem to mediate this effect. Rational beliefs that teachers hold seem to have a significant role in the relationship between the perceived psychological need satisfaction of teachers and their depersonalization level. It seems that basic need satisfaction influences rational beliefs, which influence depersonalization. Teachers that perceive that their need for autonomy, competence, and relatedness is satisfied will experience lower levels of depersonalization/cynicism, through the preferential thinking style they develop. This could sustain the role of supportive and healthy environments (as perceived by teachers) in developing healthy, functional and rational thinking and more effective coping, which can prevent teachers from engaging in a detached behavior (depersonalization).

Our third hypothesis was confirmed, more specifically, teachers that have highly developed social-emotional competencies, perceive that their psychological needs are satisfied and thus experience lower levels of emotional exhaustion and depersonalization and have higher levels of personal accomplishments. SEC does not have a direct influence on burnout factors, but an indirect one, through the satisfaction of the needs for autonomy, competence, and relatedness. We can assume that teachers who are socially aware, self-aware, have good self- and relationship- management and decision-making skills, are more likely to experience higher levels of satisfaction of their need for autonomy, competence, and relatedness, and maybe even contribute to this, precisely because of their high competence. Further, the satisfaction of the basic psychological needs will lead to experiencing lower levels of emotional exhaustion, depersonalization, and higher levels of personal accomplishments.

These results are interesting and worthy of further exploration in understanding mechanisms of change in burnout development and reduction. We can conclude that basic needs satisfaction, social-emotional competencies, and rational thinking can be all considered protective factors in teacher emotional exhaustion, depersonalization, and personal accomplishments. Interventions can focus on environment modification which leads to higher levels of need satisfaction, and on the development of rationality and social-emotional competencies of teachers.

These variables are related to burnout factors not only directly, but because of the specific interactions between them, which could increase the effectiveness of interventions that consider these results. Interventions developed in an Rational Emotive Behavior Therapy framework, with social competence development and need sustaining elements could be one form of increasing well-being and promoting the emotional health of teachers and reducing teacher stress and burnout, turnover intentions (Nucci, 2002; Warren, 2010b).

Limitations and future directions

One of the major limitations of the present study is the relatively small sample size, which could contribute to the statistical power of the results and influence the generalizability of the results. Another limitation is the use of self-report measures only, although the way teachers experience, view, and report aspects of the studied phenomenon is crucially important to better understanding these complex relationships. The distribution of the data urges us to interpret and generalize our results with caution. Still, for fitting the data the best way possible, nonparametric tests were used for data analysis. Future studies should include longitudinal designs.

Conclusion and future directions for research and practice

Previous research has shown significant relationships between burnout and rational beliefs, basic needs satisfaction and emotional intelligence (Bermejo et al., 2013; Bernard, 2016; Brackett et al., 2010; Ellis, 2005; Jennings & Greenberg, 2009; Popov & Popov, 2015; Robertson & Dunsmuir, 2013; Skaalvik & Skaalvik, 2007; van den Broeck et al., 2010). The present study contributes to previous research by identifying specific direct and indirect relationships between the before mentioned variables and the three individual factors of burnout. Social-emotional competencies and basic needs satisfaction are significantly related to emotional exhaustion, depersonalization, and personal accomplishments, while rational beliefs show a significant association with depersonalization. Rational beliefs mediate the relationship between basic need satisfaction and depersonalization, and basic need satisfaction is a mediator in the relationship between social-emotional competencies and emotional exhaustion, depersonalization, and personal accomplishments, respectively. We can thus conclude, based on our results, that developing the social-emotional competencies and rationality of teachers, and building an environment that promotes and enables need satisfaction (i.e., offering choice, constructive feedback, positive school climate) can lead to lower levels of emotional exhaustion and depersonalization, and higher personal accomplishments in teachers. This is consistent with previous research findings, showing that

interventions that include cognitive (increasing rationality), motivational and social-emotional modification and development components would be highly beneficial for teacher trainees and practicing teachers, and schools (Bernard & DiGiuseppe, 1994; David, Szentagotai, Eva, & Macavei, 2005; Jesus & Conboy, 2001; Ugwoke et al., 2017; Warren, 2010b). In conclusion, including competence, need satisfaction, and cognition improving elements within intervention programs could make teacher burnout prevention and reduction more efficient, as they influence burnout factors in interconnected ways.

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