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Special needs teachers in emergency remote teaching during the COVID-19 pandemic: the role of personal resources and teaching motivation on burnout

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Background: This cross-sectional study explores the connections between burnout, personal resources, and teaching motivation among Italian special needs teachers (SNTs) one year following the start of the COVID-19 pandemic. It specifically seeks to determine if and how personal resources and teaching motivation can help SNTs by buffering the effects of burnout symptoms.

Methods: The study was conducted using a sample of 837 full-time, in-service kindergarten and primary teachers at public schools in Italy. Data were collected through self-report questionnaires, including the Copenhagen Burnout Inventory, the Santa Clara Brief Compassion Scale, the Crèche Educators Emotional Style Questionnaire, and the Autonomous Motivations for Teaching Scale. A multiple regression model was performed to assess the predictive role of personal resources and teaching motivation on the burnout of special needs teachers.

Results: The findings indicate that higher levels of autonomous motivation are associated with reduced burnout, specifically among special education teachers. Conversely, higher levels of negative emotion regulation strategies were linked to increased burnout, and this relationship was stronger in mainstream teachers than in special education teachers. We found no significant association between teachers' compassion and burnout.

Conclusions: Our research supports the need for educational policymakers and school leaders to focus on personal resources and work-related well-being

to enhance and support teachers, in particular during emergencies (e.g., the COVID-19 pandemic) and for specific groups of teachers, such as SNTs.

KEYWORDS

special needs teachers, COVID-19, teaching motivation, personal resources, burnout

Introduction

The COVID-19 outbreak completely disrupted people's lives. In Italy, where the present study was conducted, schools were required to move learning activities totally or partly online, according to local infection rates and restrictions.

With reference to the COVID-19 pandemic, 73.6% people were aware of the presence of infected people in their city, while only 9.5% directly knew at least one of them.

COVID-19 had a profound impact on Italian education, requiring teachers to switch to Emergency Remote Teaching (ERT): "a temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances. It involves the use of fully remote teaching solutions for instruction or education that would otherwise be delivered face-to-face or as blended or hybrid courses, and that will return to that format once the crisis or emergency has abated" (Hodges et al., 2020).

ERT caused changes to the workloads and professional practices of teachers (Bozkurt et al., 2020).

Following the closures of educational institutions and implementation of ERT, the impact on special education is likely to be more detrimental since those in special education are more vulnerable in the aftermath of an emergency.

Furthermore, studies conducted before the COVID-19 outbreak revealed that special needs teachers (SNTs) perceived online learning as a problematic instructional modality for students with disabilities (Rizvi Jafree et al., 2023).

Therefore, it is feasible to imagine that SNTs faced greater challenges than their mainstream colleagues when it came to establishing meaningful interactions with students and cultivating an effective and interactive learning atmosphere while providing ERT.

Managing ERT during the COVID-19 pandemic posed more challenges for SNTs beyond the issues related to the teaching devices used for online learning than those experienced by most mainstream teachers (Smith et al., 2016; Crouse and Rice, 2018). They had to manage the difficulties experienced by many students with disabilities in accessing these teaching resources.

The likelihood of burnout among special education teachers increases according to the intensity of the relationship with their students. In this respect, teaching special needs children is one of the professions most susceptible to stress and exhaustion, leading to dissatisfaction (Bozgeyikli, 2018; Langher et al., 2017; Park and Shin, 2020).

Drawing upon international data on the impact of COVID-19 on educational settings and research on risks and protective factors, this study explores the relationships between burnout, personal resources, and teaching motivation in a sample of 738 Italian

SNTs one year after the COVID-19 health crisis. More specifically, this research intends to determine the extent to which personal resources and teaching motivation may buffer the effects of burnout symptoms of SNTs teachers.

Burnout risks, emergency remote teaching and special needs teachers

SNTs perceive significant stress while providing education and support to students with special needs (SSN) (Horne and Timmons, 2009; Kaufhold et al., 2006; McKay, 2016; Pearson et al., 2003). This work stress is attributed to several factors: inadequate training (Crispel and Kasperski, 2021), insufficient support from school administration and employers (Strydom et al., 2012), overwhelming job responsibilities (De Stasio et al., 2017), and the perception that their efforts are not effectively benefiting the students (Kristiana and Hendriani, 2018).

Studies indicate that the stress levels of teachers have increased following the COVID-19 pandemic. This rise in stress is mainly due to the abrupt transition to novel teaching methodologies (Glessner and Johnson, 2020; Klapproth et al., 2020), as well as a lack of support or resources for conducting online classes (Ayda et al., 2020; Toquero, 2020).

However, the relationship between special needs teachers and burnout during the COVID-19 pandemic remains understudied. In a research by Pellerone (2021) on a sample of 374 Italian teachers - curricular and SNTs - the overall level of burnout increased during the COVID-19 pandemic. It was even higher in teachers who had to interact with students with disabilities. This likely occurred because teachers initially lost the ability to manage behavior physically and experienced uncertainty about how to manage behavior while online (Pellerone, 2021).

SNTs reported higher stress and burnout than mainstream teachers (Chang, 2009; Brittle, 2020; Olatunji et al., 2020) and burnout and depersonalization (Küçüksüleymanoglu, 2011). SNTs experience different stressors than those experienced by mainstream teachers. Specifically, SNTs are stressed by a lack of resources, while mainstream teachers are stressed by a lack of time (Williams and Gersch, 2004). According to the literature, 39% of teachers who moved from special education to general education reported that burnout was the reason for their transition (Billingsley and Cross, 1991).

Indeed, special education primarily requires teachers to fully utilize specific skills and resources to meet the varying grades of abilities and the increasingly diverse social-emotional

and learning needs of students (Langher et al., 2017; De Stasio et al., 2017). Küküksüleymanoglu (2011) studied Turkish SNTs working with students with mental disabilities to explore if factors such as gender, family status, years of teaching experience, educational background, or type of school affected their burnout. The study found that these teachers experienced greater burnout, stress, exhaustion, and depersonalization compared to their counterparts in mainstream education. Earlier studies indicated that factors like age, more years of experience, higher education levels, and being female typically correlate with lower burnout levels (Crane and Iwanicki, 1986; Embich, 2001).

Interpersonal relationships are crucial in the teaching profession, particularly for Special SNTs, who engage with a growing number of stakeholders, including students, colleagues, supervisors, parents, and experts. Positive interpersonal relationships at school can help reduce the risk of burnout among these teachers (De Stasio et al., 2017). Furthermore, research on coping strategies used by SNTs to combat burnout suggests that emotional coping is linked to higher burnout levels. Specifically, avoidance coping is associated with higher levels of disengagement, while rational coping tends to lower disengagement levels, highlighting the need to consider individual characteristics when addressing burnout in SNTs (Brittle, 2020).

Konstantopoulou and colleagues investigated SNTs to understand the challenges posed by the COVID-19 pandemic. They discovered that SNTs possess a high degree of personal competence, maintain high standards, show perseverance, and have a strong sense of purpose (Konstantopoulou et al., 2022). These teachers strive to achieve their goals, and their level of discouragement from past failures is moderate. However, the COVID-19 pandemic significantly affected SNTs. The necessary changes in teaching methods and the adoption of Emergency Remote Teaching (ERT) during the pandemic caused moderate to severe impacts on SNTs, particularly in terms of stress, depression, anxiety, emotional exhaustion, and emotional fatigue (Cormier et al., 2022).

Given that both emotional exhaustion and fatigue contribute to burnout syndrome, it is crucial to investigate the burnout levels of SNTs who implemented ERT during the pandemic further. Briefly, the existing literature highlights the relationship between low emotion regulation and motivational domains and the increased risk of SNT burnout. However, to the best of our knowledge, no investigations exist on the specific roles of the motivational and emotional dimensions on SNTs adjustments at school during the COVID-19 pandemic.

Teachers' personal resources: emotional regulation and compassion and their roles in burnout

Professional caregivers are required to engage their emotional competencies to deal with everyday situations constantly, and teaching is regarded as highly emotional work. Teachers' emotional practices are associated with their individual characteristics (such as years of teaching experience), and

their professional abilities are related to emotions, such as their style of emotional socialization and self-efficacy (Ciucci et al., 2018; Ornaghi et al., 2020).

Emotion regulation involves cognitive and affective processes that help in monitoring, evaluating, and modifying emotional responses to various experiences (Eisenberg and Spinrad, 2004). Teachers who understand their own emotions are better equipped to recognize, accept, and manage the emotions of children, thereby fulfilling crucial roles as significant socializing agents during childhood (Ciucci et al., 2018). Oplatka (2009) emphasized that managing emotions is crucial for effective teaching and classroom management, but it is also associated with work-related stress and emotional exhaustion. Successful coping mechanisms are supported by strong emotional skills and intelligence, which can help protect teachers from poor performance, exhaustion, and burnout (Katz et al., 2016; Mérida-López and Extremera, 2020; Schäfer et al., 2020; Fiorilli et al., 2016; Jennings and Greenberg, 2009).

The COVID-19 pandemic caused unprecedented disruptions in education systems worldwide (De Matthews et al., 2020; Donnelly et al., 2022).

During the pandemic, teachers faced numerous challenges that negatively impacted their mental health, with some studies documenting moderate to severe levels of anxiety, depression, and stress (Chang et al., 2022; Klapproth et al., 2020; Glessner and Johnson, 2020; MacIntyre et al., 2020). Research in Spain by Sánchez-Pujalte et al. (2021) found that teachers with higher emotional intelligence exhibited lower levels of burnout, highlighting the protective role of effective emotion regulation strategies. Similarly, an Italian study by Messineo and Tosto (2022) identified a significant correlation between emotional regulation and perceived stress among teachers.

While the focus has often been on mainstream teachers (Ramdan et al., 2019), special attention has been given to SNTs. Cormier et al. (2022) noted that SNTs faced the same challenges as other teachers during distance learning but showed higher rates of clinically significant symptoms. Brunsting et al. (2014) emphasized that effective emotion regulation helps SNTs adapt to the school environment and manage stress.

Despite the recognized importance of emotion regulation in teaching (Hargreaves, 2000), quantitative studies exploring this are limited, often overlooking aspects like support for teachers' experiences. Mulyani et al. (2021) discovered that strong emotional regulation skills significantly reduce burnout in SNTs by helping them manage the impacts of their working conditions.

Special education settings, reliant on compassion, involve teachers providing essential care to children (Kremenitzer, 2008; Sutton and Wheatley, 2003; De Stasio et al., 2019, 2020). Compassion is vital, not only for students but also among teachers, enhancing emotional connections to their work and strengthening ties between organizational support and work commitment (Eldor and Shoshani, 2016). Studies have explored how compassion and proactive coping strategies influence teacher adaptability, job satisfaction, and the overall classroom atmosphere (Mason et al., 2014; Mauno et al., 2016; De Stasio et al., 2019, 2020).

Research on teachers' compassion, especially among SNTs, is limited but shows promising findings, such as higher self-compassion being associated with lower stress and greater teaching efficacy (Hwang et al., 2019; Moè and Katz, 2020). Given the

high vulnerability of special education teachers to burnout, further research into the roles of emotion regulation and compassion is crucial (Emery and Vandenberg, 2010; Lee et al., 2011).

Teacher's motivation

Educational research has consistently highlighted the significance of teacher motivation for student motivation as well as teachers' psychological and physical well-being (Hattie, 2008; Miller et al., 2008; Pelletier et al., 2002; Roth et al., 2007; Deci et al., 2017; Ryan and Deci, 2000). The Basic Self-Determination Theory (SDT) (Deci et al., 2017) distinguishes between two types of motivation: autonomous and controlled. Controlled motivation involves actions driven by external pressures or rewards, such as approval from superiors or to avoid guilt (Barni et al., 2019; Deci and Ryan, 1985). In contrast, autonomous motivation stems from genuine interest or enjoyment in the activity itself (Ryan and Deci, 2017), with autonomously motivated teachers teaching due to the intrinsic value they find in it.

Studies show that autonomously motivated employees generally experience greater job satisfaction, reduced burnout, and increased engagement (Deci et al., 2001; Deci et al., 2017), and these outcomes also apply to those in educational contexts (Fernet et al., 2012a,b; Fernet et al., 2016; Fernet et al., 2017; Soenens et al., 2012). A comprehensive literature meta-analysis by Slemp et al. (2020), which reviewed data from 102 studies involving over 40,000 participants, found that autonomy motivation is associated with higher levels of job satisfaction, organizational commitment, and work engagement among teachers. Furthermore, autonomous motivation is linked to greater well-being and lower levels of burnout and distress compared to controlled motivation (Cuevas et al., 2018; Fernet et al., 2008).

Promoting autonomous motivation in teachers could effectively enhance their well-being and performance at work (Guay et al., 2001; Roth et al., 2007) and support a motivating style that fosters student autonomy, leading to favorable student outcomes (Reeve et al., 2004). Since the onset of the COVID-19 pandemic, research has explored the impact of distance teaching on teachers' motivation. Studies such as those by Kulikowski et al. (2021) and Khanal et al. (2021) reported a decline in teachers' motivation due to decreased autonomy, increased workloads, and disruptive student behavior. Additionally, Panisoara et al. (2020) observed that during remote teaching, extrinsic motivation was linked to increased burnout, whereas intrinsic motivation mitigated it.

Higher education teachers' motivation is also influenced by factors such as the perceived relationship with students and the impact of their instruction, which were diminished during online teaching (Han and Yin, 2016; Moorhouse and Kohnke, 2021). While general education teachers' burnout has been well-studied, the same cannot be said for Special Needs Teachers (SNTs). Work motivation is crucial for implementing inclusive education and is a known predictor of burnout (Feng, 2012; Panisoara et al., 2020; Skaalvik and Skaalvik, 2020). However, the relationship between SNTs' work motivation and burnout remains under-investigated.

The current study

This study aims to verify the associations between burnout, personal resources (emotional regulation and compassion), and teachers' motivation in a sample of Italian SNTs one year after the onset of the COVID-19 pandemic.

More specifically, we hypothesized that personal resources (emotional regulation and compassion) and teaching motivation were negatively associated with teachers' burnout. We were also interested in verifying the moderating effect of the teachers' role (being an SNT or not) to detect differences in the estimation of these relationships.

Materials and methods

Participants and procedure

Our cross-sectional study included 837 teachers from Italy, 88.1% of whom were female and 42.2% of whom were special needs teachers (teachers who work with special needs children, such as children with neurodevelopmental disorders).

The age range of participants was 24 to 69 years, with an average age of 44.26 years (SD = 8.85). Regarding marital status, 61.2% were married, 30.9% single, 6.8% separated or divorced, and 1.1% widowed. About 61% of the teachers had children. Their teaching experience varied from 1 to 41 years, averaging 11.16 years (SD = 10.11). In terms of the educational level they taught, 22.8% were in high schools, 28.9% in middle schools, 36.1% in primary schools (for children aged 6–11 years), and 12.2% in kindergartens (for children aged 3–5 years). The survey was conducted online in December 2021, where participants were informed about Italian privacy laws, provided informed consent, and then participated in the study. This research adhered to the ethical principles and code of conduct set by the American Psychological Association (2010).

Measures

The Santa Clara Brief Compassion Scale (Hwang et al., 2008) is a concise five-item instrument designed to measure compassion and its influence on pro-social behavior. It captures two aspects of compassion: the emotional connection to others' suffering (e.g., "When I hear about someone going through a difficult time, I feel a great deal of compassion for him or her") and actions taken to assist those in need (e.g., "I often have tender feelings toward people when they seem to be in need"). This scale is a condensed version of the one developed by Sprecher and Fehr (2005). According to Sprecher and Fehr (2005) definition, compassion is an "attitude toward other(s), either close others or strangers of all of humanity; containing feelings, cognitions, and behaviors that are focused on caring, concern, tenderness, and an orientation toward supporting, helping, and understanding the other(s)" (Sprecher and Fehr, 2005, p. 630). This definition is consistent with that of Lazarus (1991), who defined compassion as "being moved by another's suffering and wanting to help" (Lazarus, 1991, p. 289). The scale has already been used in the Italian cultural context with teachers

(e.g., in De Stasio et al., 2019 the Cronbach's alpha was 0.87) and it demonstrated a Cronbach's alpha of 0.81 in the current study.

The Copenhagen Burnout Inventory (Kristensen et al., 2005), adapted to Italian by Fiorilli et al. (2015), includes 19 items that evaluate three facets of burnout: personal burnout, work-related burnout, and client-related burnout. Each facet assesses physical and psychological fatigue and exhaustion specific to the individual, their work, or their interactions with clients, such as students in this context. Responses are scored on a 5-point Likert scale from 1 (almost never) to 5 (always), with a reliability (Cronbach's alpha) of 0.92.

The Crèche Educators Emotional Style Questionnaire (CEESQ, Ciucci et al., 2015) assesses early childhood teachers' approaches to emotional socialization and their emotional self-efficacy. It includes 21 items under three subscales: Emotion Coaching style (EC), Emotion Dismissing style (ED), and Self-Efficacy as Emotion Socializer (SEES), with reliability coefficients ranging from 0.75 to 0.81. Another section with 15 items measures teachers' awareness, acceptance, and regulation of their own emotions under two subscales: Self-Efficacy (SE) and Denial of Emotion (DE), with a Cronbach's alpha of 0.73.

The Autonomous Motivations for Teaching Scale (Roth et al., 2007) comprises 16 items on a 5-point Likert scale from 1 (totally disagree) to 5 (totally agree). This scale differentiates between controlled motivations (e.g., "When I devote time to individual talks with students, I do so because I want the parents to appreciate my knowledge and familiarity with their children") and autonomous motivations for teaching (e.g., "When I devote time to individual talks with students, I do so because I like being in touch with children and adolescents"), achieving a Cronbach's alpha of 0.78.

Data analysis

Preliminary analysis

We presented the study variables using means, standard deviations, and ranges (Table 1). The relationships between variables were determined through bivariate Pearson correlations (Table 1).

Moderation of teachers' role on the relations between studied variables and burnout

We conducted a multiple regression model to examine the moderation hypothesis. The model included autonomous and controlled motivation, compassion, and negative emotion regulation as independent variables. We also explored the interaction effects of the moderator, which was the teacher's role (special education teacher vs. general teacher), on the outcome of teachers' burnout. Socio-demographic variables such as having children, marital status, and years of teaching experience were included as covariates in the final model. Simple slope analysis was used to investigate any significant interaction effects.

The data exploration involved several procedures: (a) univariate and multivariate outlier analysis, using Mahalanobis's distance with a significance level set at $p < 0.001$ (Gath and Hayes, 2006); (b) analysis of score distribution, with skewness and kurtosis thresholds set between [-2; +2] (George and Mallery, 2018); (c)

analysis of missing values, which were handled by listwise deletion (Little, 1992). Following these procedures, we compiled the sample described previously. The analyses were conducted using SPSS v. 24.0 and Mplus v. 8.3.

Results

Descriptive statistics for the study variables and their intercorrelations are presented in Table 1.

The mean level of burnout among teachers was 2.55 (SD = 0.78; range 1.00–4.95). According to these preliminary results, higher levels of teachers' burnout were significantly associated with an increase in the use of negative emotion regulation strategies ($r = 0.34$, $p < 0.01$) and higher levels of controlled motivation ($r = 0.08$, $p < 0.01$). In addition to this, teachers with longer teaching experience ($r = 0.08$, $p < 0.01$) and teacher who were not SNTs ($r = 0.07$, $p < 0.01$), reported higher levels of burnout.

Table 2 displays the outcomes of the moderated regression analyses. The model was statistically significant and explained a considerable proportion of the variance in teachers' burnout ($R^2 = 0.178$, $p < 0.000$). Teachers' autonomous motivation was found to be negatively correlated with burnout. In contrast, controlled motivation and negative emotion regulation strategies were positively correlated with burnout. Furthermore, the relationships of autonomous motivation, controlled motivation, and negative emotion regulation strategies with burnout were influenced by the teachers' role.

Interaction plots indicated that higher levels of autonomous motivation were associated with lower burnout levels, specifically among special education teachers ($b = -0.166$, $p = 0.000$). Additionally, higher levels of negative emotion regulation strategies were linked to increased burnout levels, with a stronger relationship observed in general teachers ($b = 0.403$, $p = 0.000$) compared to special education teachers ($b = 0.220$, $p = 0.000$). However, the simple slope analysis did not identify a significant moderating effect of the teachers' role on the relationship between controlled motivation and burnout. No significant correlation was found between teachers' compassion and burnout.

Discussion

Personal resources and burnout

Our first aim was to verify possible associations between teachers' personal resources (emotion regulation strategies and compassion) and burnout. In terms of emotion regulation strategies, the results confirmed our hypothesis, suggesting that higher levels of emotional lability are correlated with higher levels of teachers' burnout. Specifically, a lack of acceptance of one's emotions referring to the Denial of Emotion factor measured by the Crèche educators emotional style questionnaire increased the level of burnout in both samples we studied.

Several studies have indicated that emotional regulation strategies such as suppressing, faking, or hiding emotions can lead to increased burnout (Chang, 2013; Brotheridge and Grandey, 2002; Lee et al., 2016). Conversely, teachers' emotional

TABLE 1 Means (M), standard deviations (SD), and Pearson correlation coefficients (N = 837).

	1	2	3	4	5	6	7	8	9
1. Age	1								
2. Teacher's Role	0.18**	1							
3. Years of Teaching	0.70**	0.33**	1						
4. Marital Status	0.23**	-0.04	0.13**	1					
5. Compassion	-0.02	-0.08*	-0.05	0.03	1				
6. Burnout	-0.01	0.07*	0.08*	-0.04	-0.03	1			
7. Negative Emotion Regulation	-0.01	-0.03	0.04	-0.01	0.18**	0.34**	1		
8. Controlled Motivation	-0.11**	0.01	-0.04	-0.02	0.19**	0.08*	0.32**	1	
9. Autonomous Motivation	-0.05	-0.04	0.01	0.05	0.34**	-0.06	0.01	0.26**	1
Mean	44.26	-	11.16	-	5.74	2.55	2.59	5.48	9.21
SD	8.85	-	10.11	-	1.00	0.78	0.81	1.54	0.79
Range	2469	-	1-41	-	2.00-7.00	1.00-4.95	1.00-5.00	2.00-10.00	5.50-10.00

**p < 0.01; *p < 0.05; Teachers' Role 1 = teachers vs. 0 = special education teachers; Marital status 1 = married vs. 0 = single/divorced/separated/widow; Sons/daughters 1 = yes vs. 0 = no.

TABLE 2 The role of personal resources and teaching motivation in predicting teacher's burnout: multiple regression analysis (MR).

Variables	Estimate (b)	p	R ²
			0.178, p = 0.000**
Marital Status	0.237	0.000	
Sons/Daughters	-0.189	0.002	
Years of teaching	0.035	0.303	
Autonomous Motivation	-0.124	0.006	
Teachers' Role	-0.752	0.337	
Controlled Motivation	0.112	0.041	
Negative Emotion Regulation	0.237	0.000	
Compassion	-0.030	0.559	
Autonomous Motivation * Teachers' Role	1.839	0.025	
Controlled Motivation * Teachers' Role	-1.443	0.011	
Negative Emotion Regulation * Teachers' Role	0.448	0.024	
Compassion * Teachers' Role	-0.040	0.905	

**p < 0.01; *p < 0.05; Teachers' Role 1 = teachers vs. 0 = special education teachers; Marital status 1 = married vs. 0 = single/divorced/separated/widow; Sons/daughters 1 = yes vs. 0 = no.

competence—comprising awareness of one's emotions, accurately perceiving others' emotions, and effectively managing and utilizing emotions—correlates with their perceived effectiveness in their roles (Day and Leitch, 2001; Penrose et al., 2007) and their ability to cope with stress and negative emotions (Brackett et al., 2010).

During the COVID-19 pandemic, teachers encountered unprecedented challenges as they had to adjust to new methods and mediums, such as ERT, often without sufficient training,

contributing to increased stress and tension (Blanco and Blanco, 2021). The emotional toll of the pandemic, heightened by the pressures of lockdown, significantly impacted teachers (Buitrago and Molina, 2021).

Research during the pandemic explored how these emergent conditions affected teachers' emotional regulation abilities. Studies found that an increased reliance on avoidance strategies was linked to higher stress levels (MacIntyre et al., 2020; Yu et al., 2020). Specifically, among Italian kindergarten, primary, and secondary school teachers, those employing avoidance coping strategies reported higher stress, more negative affect, and less positive affect (Messineo and Tosto, 2022). The COVID-19 restrictions may have limited teachers' ability to employ their usual emotional regulation strategies or forced them to use some strategies only partially. These findings align with our research, which shows a positive correlation between burnout and emotional instability among teachers.

In terms of any possible differences in the estimate of this relationship between curricular teachers and SNTs, our results showed that during emergencies, although negative emotional regulation impacted the onset of burnout in SNTs, its effect was greater on mainstream teachers. These findings are in line with previous studies (Boujut et al., 2016; Kebbi, 2018; Pepe and Addimando, 2013) that analyzed the differences between the two groups and showed that curricular teachers were at a higher risk of burnout than SNTs as they manifest higher levels of stress. Therefore, during the pandemic crisis, emotional skills experiences had a greater impact on the perception of burnout in curricular teachers than in SNTs.

To the best of our knowledge, few studies have focused on the emotional condition of SNTs during the COVID-19 pandemic. Donnelly et al. (2022) noted that while specific resources for students with special needs were made available to teachers, many Special Needs Teachers (SNTs) were unable to utilize them effectively. This suggests that SNTs faced challenges in supporting students with special educational needs during the pandemic due to resource constraints. Cormier et al. (2022) found that SNTs faced significant challenges during the COVID-19 pandemic, exhibiting

higher rates of clinically significant symptoms of generalized anxiety disorder and depression, surpassing typical prevalence rates in the United States.

Konstantopoulou et al. (2022) explored the mental resilience of SNTs among Greek teachers and special support staff in secondary education during the pandemic. Those in the field of special education demonstrated high personal competence, strong perseverance, a sense of purpose, and a positive response to change, which may act as protective factors against burnout.

The ability of teachers to manage emotions effectively can serve as a shield against a “burnout cascade,” where stress leads to poor performance, burnout, and attrition (Jennings and Greenberg, 2009). Encouraging adaptive emotion regulation strategies among both mainstream teachers and SNTs, such as reflective supervision, mindfulness, stress reduction techniques, and fostering autonomous motivations for teaching, could help mitigate negative outcomes related to occupational stress. Considering the adverse impacts of negative emotions, interventions that promote positive emotion regulation strategies in teachers could enhance the overall well-being of the school environment (Harris et al., 2015; Jennings, 2016; Roeser et al., 2013).

In terms of compassion, there were no significant associations with teachers’ burnout or differences between curricular teachers and SNTs. Compassion represents a protective factor for teachers’ work engagement (Eldor and Shoshani, 2016; Buonomo et al., 2022). Personal resources, such as compassion and emotion regulation strategies, can help teachers cope with their job demands, shaping their perceptions of their work resources. Our results should be revised and expanded in future longitudinal studies to understand these relationships fully.

Motivation and burnout

Our research supports existing literature on the relationship between controlled and autonomous motivation and burnout among teachers. We found that autonomous motivation, as opposed to controlled motivation, is linked to higher levels of job satisfaction, organizational commitment, and work engagement in teachers. Additionally, teachers who are autonomously motivated tend to have higher well-being and less burnout and distress compared to those driven by controlled motivation (Cuevas et al., 2018; Fernet et al., 2008). Our findings also indicate that higher levels of autonomous motivation are associated with lower burnout levels, specifically in Special Needs Teachers (SNTs), an area previously unexplored in Italian SNTs.

These findings are consistent with those of Xie et al. (2022), who drew upon the theories proposed by Gagné et al. (2008) to explain how work motivation might influence organizational commitment through an internalization process. According to this model, internalization involves the psychological process of adopting and accepting new goals or values that were initially external (Ryan, 1995). Xie et al. (2022) suggest that “teachers with autonomous motivation to educate students with special needs are likely to internalize the value of inclusive education, leading to an adaptive commitment to their schools.” In contrast, “teachers with controlled motivation may not recognize the value of their work, resulting in a maladaptive commitment to their schools.”

For instance, if SNTs are motivated by external approval or the avoidance of guilt (controlled motivation), they may not truly appreciate the importance of inclusive education. They might work in their roles because of limited job alternatives or for financial reasons. Conversely, teachers who are motivated autonomously, believe in the effort required to educate students with special needs, and whose personal values align with inclusive education are more likely to embrace the natural diversity among students and the benefits of inclusive education. Consequently, their educational values are likely to align with their schools’ goals, leading them to commit to and emotionally connect with their schools (Xie et al., 2022).

This view aligns with findings on SNTs, who report feeling effective in managing their responsibilities, achieving their goals, and taking pride in their accomplishments (Konstantopoulou et al., 2022; Katsaris and Vidakis, 2021). According to Van Knippenberg (2000), who analyzed job motivation and performance from the perspective of social identity theory, it can be speculated that autonomous motivation enhances SNTs’ belief in the positive impact of their efforts. Such motivation is crucial for effective teaching and student success, reinforcing teachers’ beliefs in their ability to positively influence their students (Amtu et al., 2020).

Conclusion

The current investigation sheds new light on Italian SNTs’ burnout during an emergency (e.g., the COVID-19 pandemic) by considering the contributions of their personal resources against burnout (emotional regulation and compassion) and their motivation in a single model. In particular, the results showed that teachers’ autonomous motivation was a protective factor, while emotional lability and controlled motivation were risk factors for burnout. Schools face new challenges and complexities daily, and these challenges increase daily, putting a strain on the wellbeing of teachers, educators, parents, and children. According to a recent European Commission document (European Commission, Directorate-General for Education, Youth, Sport and Culture, 2013), 50% of teachers in Europe report high levels of stress at work (varying from 90 to 20% in different member states), and between 22 and 24% report that stress has a negative impact on their physical and mental health.

Teachers’ personal resources, alongside their contextual resources, represent important variables that should be targeted in training to increase their resilience and wellbeing, to bring about positive outcomes at school (e.g., work engagement, wellbeing, self-determination etc.), especially during emergencies (such as the COVID-19 pandemic). Future research on the profiles of SNTs, applying person-oriented analyses, could include more combinations of dimensions shaping high-risk profiles.

This could contribute to their early identification and subsequent support with intervention programmes at primary and secondary levels.

It can be argued that through specific training actions, it would be possible to increase teachers’ awareness of their use of personal resources, enabling them to strengthen a positive view of their skills and abilities to cope with stress and consequently promote resilience strategies and positive attitudes towards inclusive practices.

In particular, compassion-based intervention could represent interesting programs to implement with teachers, considering that compassionate behaviors in the workplace can have long-lasting effects on how individuals experience their work and that compassion among teachers can enhance their feelings of emotional connection to their work and strengthen the association between organizational support and work commitment (Eldor and Shoshani, 2016).

We urge educational policymakers and school leaders to focus intently on the aspects of personal resources and work-related well-being to enhance the promotion of teachers, especially during crises like the COVID-19 pandemic and for specific teacher groups, including Special Needs Teachers (SNTs).

Study limitations and future perspectives

This study presents certain limitations. Since the data are cross-sectional, we cannot establish cause-and-effect relationships. Future research could adopt a longitudinal approach to explore the causal dynamics between variables over time and take into account other mediation and moderation effects. Additionally, the results may be subject to social desirability bias, and the reliability and validity of our self-report measures might be affected by the translation of instruments from English to Italian. Furthermore, the findings may not be applicable to male teachers, teachers working in non-urban environments or those from varied cultural backgrounds. Therefore, it is recommended that future studies use more diverse samples to enhance the generalizability of our findings.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

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