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Coping with the unexpected: A job demands/resources study exploring Italian teachers' remote working experience during the COVID-19 lockdown



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ABSTRACT

The COVID-19 pandemic caused school systems to adapt very quickly to a variety of demands for change, and teachers, as frontline workers in the education system, were tasked with rapidly implementing new teaching practices in ways that promoted student learning while maximizing student safety. The aim of this study is to investigate how Italian teachers experienced the first COVID-19 lockdown in 2020, managing the difficult balance between job demands and personal resources to reduce the negative effects of this condition in terms of stress and burnout. Following the J-D/R model, the study analysed the role of personal resources, such as resilience and self-efficacy as components of Psychological Capital, in the relationship between job demands (work-life interface), job resources (principal's leadership support and participative decision-making), and emotional exhaustion. Participants were 606 Italian teachers working in different educational ranks. Results showed that personal resources play an important role to reduce the effects of job demands on emotional exhaustion and to buffer the effects of job resources on emotional exhaustion.

1. Introduction

The dreadful scenario that followed the rapid dissemination of the COVID-19 pandemic worldwide has radically redefined our personal and social life. Italy was among the first European countries to experience the lockdown in March 2020 with all its economic and social consequences. Among the many contexts overwhelmed by the pandemic, school was one of the most important. After the outbreak of the pandemic and a brief period at the end of February 2020 where schools were closed only in five regions of northern Italy, hoping to stop the infections and keep them under control, from 3rd March 2020, the Italian Government decided to close all schools. This was the beginning of a new and unexpected experience of change. Distance learning started immediately. From the didactic and technical point of view, most schools were ready to face the distance teaching relying on the presence of Information and Communication Technology infrastructures and the skills owed by the teachers. However, many schools experienced difficulties and felt disoriented because of the lack of technical and human resources able to face this huge change. The new circumstances imposed by COVID-19 during the first wave forced teachers to reorganize their working modes to keep long-term educational and teaching objectives unaltered. As a matter of fact, lots of difficulties arose in managing the working schedules from home. For example, during the working time, some teachers

had to take care of their children who, in turn, took advantage of distance learning, sometimes using the same parental device. Principals on their side had to organize their formal and informal communication with the teachers, to better coordinate the activities, reprogram the objectives and share new evaluation tools.

In view of the short description of this Italian experience, it emerged the huge difficulty that all the actors involved in the educational system (teachers, administrative staff, principals, and students with their families) had to face because of the outbreak of the pandemic. In particular, this unexpected situation might have challenged teachers in terms of job demands. At the same time, it could have been the opportunity to exploit some personal resources that might have helped them to overcome the stress and the pressure associated with their job performance. Therefore, drawing on the Job Demands-Resources Model (Demerouti et al., 2001; Bakker & Demerouti, 2007; Bakker et al., 2003), the study aims to investigate the role played by some job demands and resources during the COVID-19 lockdown experience from March to June 2020, assessing their impact on teachers' emotional exhaustion. More in detail, work and family interface were supposed to be significant job demands, while principal's leadership style and psychological capital were considered respectively crucial job and personal resources useful to manage those demands and to positively impact on teachers' emotional exhaustion.

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2. Theoretical framework

2.1. The job demands-resources model in the school context

Within the last decades, the Job Demands–Resources (JD–R) model (Demerouti et al., 2001; Bakker & Demerouti, 2007; Bakker et al., 2003) received increasing attention because it contributed to show that every occupation has its specific risk factors associated with job-related stress. According to the JD–R model, any work environment is characterized by the presence of two categories of job aspects that may influence workers' well-being and motivation. These factors are the job demands and the job resources. They recur across different occupational settings and exist independently from the tasks, activities, and skills featuring a profession. The category of job demands encompasses the whole of physical, psychological, social, or organisational aspects of the job requiring cognitive and emotional effort or skills and therefore being associated with specific physiological and/or psychological costs. Some examples of job demands are work pressure, irregular working hours, and an unfavorable work environment. Job demands are not necessarily negative. They may become job stressors once individuals have trouble recovering from the effort put into their work to fulfill these demands, as suggested by the transactional model of stress and coping developed by Lazarus & Folkman (1984) maintaining that the individual ability to cope and adjust to challenges is a consequence of the transactions that occur between a person and their environment. On the other hand, job resources refer to those physical, psychological, social, or organisational aspects of the job that help individuals in achieving work goals, reduce job demands' physiological and psychological costs and enhance personal growth, learning, and development. More specifically, job resources can be found at the organisational level (e.g., wages, career opportunities, job security), at the interpersonal level (e.g., supervisor and co-worker support, team climate), at the job position level (e.g., role clarity, participation in decision making), and at the task level (e.g., skill variety, task identity, task significance, autonomy, and performance feedback).

The two components of the model lead to the development of two opposed psychological processes: a health impairment process and a motivational process. Considering the first one, job demands may lead to energy depletion, demotivation, and health problems. In this perspective, research in the field has repeatedly found that high job demands (e.g., workload or emotional demands) tend to predict exhaustion and fatigue across different occupational groups especially when workers experience poor job resources (e.g., lack of learning opportunities, lack of autonomy, social isolation) (Bakker & Demerouti, 2017; Bakker & Vries, 2021). Conversely, following the motivational process, although experiencing high job demands, workers provided with abundant job resources would feel highly motivated and committed to the organizational context (Schaufeli & Bakker, 2004). In view of the above, because of their motivational potential, job resources support workers' efforts to meet their personal and professional goals, encouraging their positive organizational behavior especially when job demands are high (Bakker et al., 2003; Hakanen et al., 2006). One of the main consequences of workers' perception of high demands and low resources could be emotional exhaustion, which refers to "feelings of being overextended and depleted of one's emotional and physical resources" (Maslach et al., 2001, p. 399). Therefore, emotional exhaustion concerns workers' subjective perception of the excessive emotional demand required by the management of working situations and the consequent feeling of incapacity to deal with this demand (Schaufeli & Buunk, 2003).

The adoption of the JD–R model in the school context was suggested by a growing literature revealing that schoolteachers are one of the most stressed categories of workers who could experience emotional exhaustion because of an imbalance between job demands and job resources (Collie et al., 2018; Myers et al., 2018; Simbula, 2010; Simbula & Guglielmi, 2010; Yin et al., 2018). International research conducted on school teachers confirmed the impact of some job de-

mands (e.g., role conflict and workload), job resources (e.g., colleagues support and supervisory coaching), and personal resources (e.g., self-efficacy and resilience) on organizational outcomes like strain, demotivation, and burnout for this category of professionals (Dicke et al., 2018; Liu & Cheung, 2015; Prieto et al., 2008). More recently, scholars confirmed similar results also in the pandemic context: among the job resources, the principal's supportive leadership style and his/her ability to involve teachers in decision making were shown to mitigate teachers' emotional exhaustion (Charoensukmongkol & Phungsoonthorn, 2021; Collie, 2021), while self-efficacy was found to be one of the most significant personal resources (Cataudella et al., 2021; Rabaglietti et al., 2021). Sokal et al. (2020) investigated the role played by a cluster of several different job demands typically related to the teaching profession (e.g., balance of home and work life) finding that these were all significantly correlated with emotional exhaustion during the pandemic. In the case of the present study, moving from these considerations, the aim was to explore the health impairment process that could have involved a group of Italian teachers during the first wave of the pandemic emergency, specifically examining the influence that some job demands (i.e., the need to balance work and family needs during the emergency) and job resources (i.e., principal's leadership factors) could have had on teachers' emotional exhaustion, considering the mediating role played by their personal resources (i.e., resilience and self-efficacy) in these unexpected circumstances.

2.2. Work-family interface as a job demand

In view of the challenges posed by the COVID-19 pandemic to the school context, researchers investigated the job demands that teachers had to face during the lockdown, such as the pressure to maintain high educational standards and the difficulties in keeping the borders between personal and professional life while working at home (De Carlo et al., 2019; Kim & Asbury, 2020). Already a decade ago, the relationship between family and work was shown to be one of the five emerging psycho-social risks in the labor market (European Agency on Health and Safety at Work, 2010) and this evidence has been further amplified by the outbreak of the pandemic that has radically redesign working contexts, practices and cultures, blurring the boundaries between the work and life spheres and asking workers to adapt to these huge changes (European Agency on Health and Safety at Work, 2021). The two life domains may compete for time and space and exercise parallel pressures on the individual, engendering what is defined as work-life conflict. This type of conflict may be extremely stressful and cause work-related emotional exhaustion and burnout (Amstad et al., 2011; Lambert et al., 2010; Langballe et al., 2011; Lizano & Barak, 2012). Moreover, the inter-role conflict is a bidirectional concept including work interference with family (WIF) and family interference with work (FIW) (Andres et al., 2012; Carlson et al., 2000). WIF is a more pervasive phenomenon which is determined by long working hours, work overload and high work-related stress (Geurts et al., 2005; Leung et al., 2015), while FIW is determined by the double presence, namely by responsibilities in raising children and in managing the burden of domestic duties parallel to work engagements (Fu & Shaffer, 2001).

Drawing on the JD–R model, previous studies demonstrated that emotional exhaustion may occur under conditions where individuals spend considerable resources to meet the demands of stressful tasks or emotional regulation (Grandey et al., 2005; Liu et al., 2015; Sarwar et al., 2021). With special reference to the difficult situation of teachers during the pandemic, work-family conflict emerged as a relevant job demand that might have challenged teachers' emotional exhaustion. Studies conducted during the first wave showed that the blurring of the borders between family and work during the pandemic in terms of time management and workload heavily impacted on teachers' perception of their quality of life, engendering work-life conflict (Martin et al., 2021; Vega-Fernández et al., 2021). In view of the above, the first hypothesis of the present study argued that:

H1: Job Demands (negative work to family and family to work spillover) are positively related to teachers' Emotional Exhaustion.

2.3. Principal's supportive and participative leadership as a job resource

According to the JD-R model, job resources are those aspects of a job (physical, psychological, social, and organizational) that are functional in achieving work goals, reducing the psychological and physical costs of high job demands, and promoting personal growth (Bakker & Demerouti, 2007, 2017; Demerouti et al., 2001). Although emotional exhaustion is mainly predicted by job demands, it may also derive from a lack of resources (Hakanen et al., 2008; Schaufeli & Bakker, 2004). Employees who have access to abundant job resources are better equipped to cope with job demands than employees who have poor access to job resources. Considered the specific target and context of the study, the present contribution focused on teachers' perceptions of the principal's supportive and participative leadership as job resources. The influence of the leader in creating a positive work environment, motivating collaborators, sustaining their morale, and nurturing their well-being is supported by decades of empirical evidence (Kiker et al., 2019; Peng et al., 2021; Skiba & Wildman, 2019). A distributed leadership style was proved to increase collaborative teamwork and encourage participative decision-making, positively impacting on teachers' organizational commitment and performance (Harris, 2011, 2020; Kilicoglu, 2018; Tian et al., 2016). In times of crisis and change, the role of the school principal becomes crucial, given the responsibility to help teachers reduce individual resistance, perceived uncertainties, and the emotional exhaustion that might derive from challenging situations. During the pandemic, principals had to provide emotional and instrumental support to teachers, encouraging them to collaborate, helping with policy changes, and providing opportunities for professional development (Bagwell, 2020; Beauchamp et al., 2021; Harris, 2020). Furthermore, principals' effectiveness in involving teachers in critical decision making was proved to be an important factor in supporting teachers' adaptation to the emergency (Bush, 2021; De Carlo et al., 2019). Therefore, based on these assumptions, the study postulated that:

H2: Job Resources (distributed leadership support and participative decision-making) are negatively related to Emotional Exhaustion.

2.4. Psychological capital as a personal resource

Although studies on the JD-R model have focused largely on work characteristics, the recent addition of personal resources into the model is a significant contribution (Xanthopoulou et al., 2007). Personal resources are defined as the aspects of the self that are linked to resilience and individuals' sense of their ability to control and impact the environment successfully (Hobfoll et al., 2003). These kinds of resources resulted fundamental in times of great changes. In a study conducted in the framework of the COVID-19 pandemic, Mariani et al., (2020) found that self-efficacy and hope were negatively related to stress and emotional exhaustion derived from the emergency in a sample of Italian primary and secondary school teachers. Similarly, in a longitudinal study conducted in the German context, Weißenfels et al., (2022) found evidence that teachers' depersonalization and lack of accomplishment were negatively correlated to changes in self efficacy from the pre to post covid 19 outbreak, indicating that the real challenge of these times is the lack of resources rather than simply workload.

In the present study, we decided to operationalize personal resources by choosing two dimensions of psychological capital (i.e., self-efficacy and resilience) that may be most salient for our target in the historical moment linked to the pandemic. Specifically, self-efficacy refers to an individual's confidence in their ability to mobilize their motivation, cognitive resources, and courses of action to achieve high levels of performance. Resilience refers to the ability of an individual to bounce back

from adversity, uncertainty, or failure and adapt to changing and stressful life and work demands (Masten & Reed, 2002; Tugade & Fredrickson, 2004). Self-efficacy and resilience were proven to be significant personal resources supporting teachers in coping with the negative emotional consequences of the emergency, especially during the first wave of the COVID-19 (Cataudella et al., 2021; Rabaglietti et al., 2021). Based on these argumentations, the third hypothesis supposed:

H3: Personal Resources (self-efficacy and resilience) are negatively related to Emotional Exhaustion.

2.5. The mediating role of personal resources

By introducing the concept of personal resources in the JD-R model, Xanthopoulou et al. (2007) proposed a moderation hypothesis and a mediation hypothesis, arguing that self-efficacy, organizational-based self-esteem, and optimism could moderate the relationship between job demands and exhaustion, and could mediate the relationship between job resources and work engagement. Their study did not find support for the moderation hypothesis but confirmed the mediation role of personal resources between job resources and work engagement. Beyond the hypothesized associations, they found out that personal resources fully mediated the relationship between job resources and exhaustion, highlighting a more active role of resources in the prevention of exhaustion. This finding challenged the role traditionally attributed to resources in the JD-R model, where they were emphasized only as moderators in the health impairment processes (Bakker et al., 2005), and suggested the need to further explore the direct and indirect effects of job and personal resources on exhaustion and other "negative" outcomes (Demerouti & Bakker, 2011).

Prior studies found that high levels of job demands may decrease personal resources and increase the levels of emotional exhaustion (Huang et al., 2016). These relationships suggest the mediation role of personal resources which are influenced by job demands and have an impact on emotional exhaustion. Further studies confirmed the mediation role of personal resources in the relationship between job stressors and exhaustion (Szczygieł & Baka, 2016) and between emotional job demands and exhaustion (Onwezen et al., 2014). On the other hand, personal resources may be cultivated by environmental factors (Bandura, 2000). Luthans et al. (2006) showed that a resourceful work environment activates employees' psychological capital (i.e., hope, optimism, efficacy, and resilience development), which in turn may bring to enhanced performance and therefore to higher competitive advantage for companies. These findings suggest that environmental (job) resources may have an impact on personal resources and this, in turn, may result in positive psychological and organizational outcomes, as demonstrated by Karatepe (2015) who highlighted the mediating role of personal resources in the relationship between organizational support and emotional exhaustion. Accordingly, a study exploring the impact of the pandemic in the Romanian high-school context (Obad, 2020) reported that teachers' perceived support from colleagues and from the principal was positively related to resilience and negatively to COVID-19-induced stress. Based on these assumptions, the present study aims to contribute to the understanding of the cognitive, emotional, and behavioural scenario that featured teachers' work experience during the pandemic, focusing specifically on the mediating role played by personal resources in the relationship between job demands and job resources and emotional exhaustion of school teachers during the COVID-19 lockdown.

Based on the evidence showed above, the present study argued that personal resources could contribute to buffer the negative effects of job demands, enhancing the positive effects of job resources. In other words, personal resources may mediate the relationship between work-related stressors and physical strain. This assumption was supported by conclusions coming from studies cited earlier (e.g., Xanthopoulou et al. 2007) showing that personal resources partially mediated the relationship between job resources and engagement and by the study by

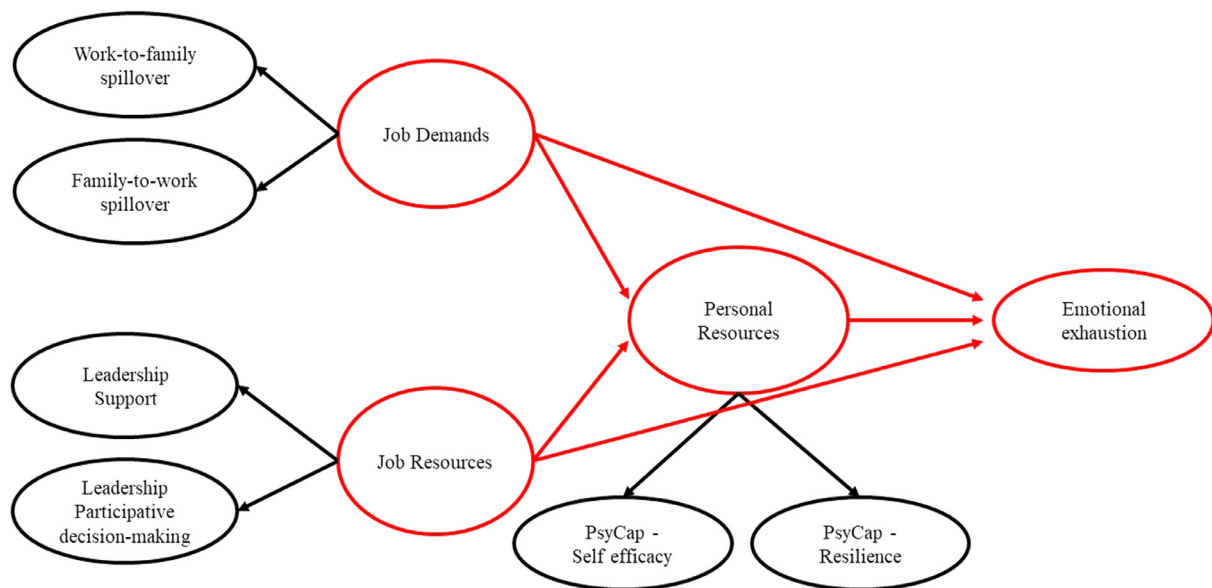


Fig. 1. The research model exploring the mediator role of Personal resources in the relationships between Job demands-resources and Emotional exhaustion. H4a and H4b refer to the mediated effects.

Van den Broeck et al. (2008) who reported that the satisfaction of basic psychological needs mediated the relationships between job demands and exhaustion, between job resources and vigor, and between job resources and exhaustion.

Consequently, the following hypotheses were explored:

H4a: Personal Resources mediate the relation between Job Demands and Emotional Exhaustion.

H4b: Personal Resources mediate the relation between Job Resources and Emotional Exhaustion.

A synthesis of the hypotheses that guided the study is showed in Fig. 1.

3. Material and methods

3.1. Participants and procedure

Participants were 620 Italian teachers working in different educational grades from elementary to high school. They were recruited through a convenience sampling launching a call for participation in blogs dedicated to this profession. They were invited to fill in an online questionnaire. The questionnaire was introduced by a short text explaining that the study dealt with teachers' professional experience during the COVID-19 pandemic. Participants were told that the information provided was dealt with strictly confidential, and that the outcomes from the different respondents would be aggregated and analyzed as a whole. Data collection took place from May the 8th to June the 12th 2020, namely during the lockdown period in Italy. After data cleaning, the final sample consisted in 606 teachers, because we removed 14 invalid or missing records. Participants were 93% women, with a mean of 3.37 ($SD=1.17$) years of teaching experience, working in primary (30%) or secondary (70%) schools. We conducted the analyses considering teachers working in different educational grades as one sample, since some previous studies suggested no differences between primary and secondary school teachers for our variables of interest (Jurjević et al., 2021) and many other studies adopted a combination of grade levels (e.g., Aloe et al. 2014, Collie 2021).

3.2. Variables and measures

Data were collected through a self-report online questionnaire articulated into two main sections. The first one encompassed socio-

demographic (age, gender, marital status, work-family engagements) and professional information (job seniority, context of teaching, institutional additional engagements). The second one collected information about the psycho-social variables focus of the study and described below.

- Work-family Interface.* The Italian version of the Work-Family Interface Scale (WFIS) elaborated by Kinnunen et al. (2006) and validated by De Simone et al. (2018) was adopted to assess this variable. The two scales of negative spillover were used for the purpose of the study: the first dimension assesses negative work-to-family spillover (NEGWFIF) with four items (e.g., "Your job or career interferes with your responsibilities at home, such as cooking, shopping, child care, yard work and house repairs?"), the second evaluates negative family-to-work spillover (NEGFIW) with four items (e.g., "Your home life interferes with your responsibilities at work, such as getting to work on time, accomplishing daily tasks or working overtime?"). Participants were invited to indicate how often did they feel that each sentence described their personal experience using a 5-point scale from 1 (never) to 5 (very often).
- Leadership support.* Eight items from the Distributed Leadership Inventory (Hulpia et al., 2009) were used to assess teachers' perception about the principal's supportive leadership style variable. An example of the item is "The Principal encourages me to pursue my own goals for professional learning". Participants were invited to express the occurrence of each item in their personal experience using a 5-point scale from 1 (never) to 5 (always).
- Leadership participative decision-making.* This variable was measured using four items proposed by Leithwood & Jantzi (1999) to analyze to what extent teachers perceive that their principal involves them in the processes of decision-making. A sample item is "The principal adequately involves teachers in decision making". Participants were invited to express the occurrence of each item using a 5-point scale from 1 (never) to 5 (always).
- Self-efficacy.* This variable was assessed through four items taken from the Psychological Capital Questionnaire, elaborated by Luthans et al. (2007) and translated into Italian by Alessandri et al. (2015) (e.g., "I am confident in my performance that I can work under pressure and challenging circumstances"). Participants were asked to rate their agreement/disagreement

with each item using a 5-point scale from 1 (completely disagree) to 5 (completely agree).

- (e) *Resilience*. Four items from the Psychological Capital Questionnaire, elaborated by Luthans et al. (2007) and translated into Italian by Alessandri et al. (2015) was used also to assess this variable (e.g., “Although too much responsibility at work makes me awkward, I can get through to work successfully”). Participants were asked to rate their agreement/disagreement with each item using a 5-point scale from 1 (completely disagree) to 5 (completely agree).
- (f) *Emotional exhaustion*. This variable was assessed through five items taken from the Maslach Burnout Inventory – General Survey (Maslach et al., 1986). Participants were asked to express the occurrence of each item in their ordinary experience using a 5-point scale from 1 (never) to 5 (everyday).

3.3. Data analysis

Descriptive statistics, Pearson correlations for interrelations between variables, and Cronbach's alpha coefficients for reliabilities of scales were investigated using the R software (R Core Team, 2019). The R package “lavaan” (Rosseel, 2012) was used to test the hypothesized models through Structural Equation Modelling (SEM) with the maximum likelihood method of estimation. Several criteria were considered to evaluate the goodness of fit of the models to the observed data. The chi-squared statistic was examined, although it used to be significant for SEM with large samples (400 or more) because the sample size is a multiplier of the adaptation function (Barrett, 2007). Furthermore, we explored additional pragmatic fit indices as suggested in literature (Bollen & Long, 1993): the Comparative Fit Index (CFI), the Tucker Lewis Index (TLI), the standardized root mean square residual (SRMR), and the root mean square error of approximation (RMSEA). These indices show the degree to which the model might be discrepant from the data, rather than a binary fit/no-fit decision as for the null hypothesis significance testing (Barrett, 2007). Nevertheless, some authors (e.g., Hu & Bentler 1999) indicate conventional cut-offs for pragmatic fit indices, which could be considered to evaluate their acceptability: values of CFI and TLI greater than 0.90 and values of SRMR and RMSEA lower than 0.08 suggest a good fit of the model. Furthermore, we investigated the Akaike's Information Criterion (AIC) and the Bayesian Information Criterion (BIC), for which smaller values indicate better models.

The hypothesized models explored the mediating role of personal resources in the relationship between job demands-resources and emotional exhaustion. In the measurement model three reflective second-order factors were defined to develop a more parsimonious model and reduce the risk of multicollinearity between independent variables. The second-order factors are: Job demands (JD) referred to the work-family conflict, measured by Work-to-family spillover and Family-to-work spillover; Job resources (JR) referred to the leadership, measured by Leadership support and Leadership participative decision-making; Personal resources referred to the psychological capital, measured by Self-efficacy and Resilience. The reflective first-order factors consisted in the abovementioned psycho-social variables, each measured by its set of items. A Confirmatory Factor Analysis (CFA) was conducted to test the measurement model with first and second order latent factors, highlighting a good fit with acceptable values of pragmatic indices, χ^2 (582, $N = 606$) = 1409.02, $p < .001$, CFI = 0.94, TLI = 0.93, RMSEA = 0.05, SRMR = 0.05, and statistically significant factor loadings for all indicators of each latent variable at $p < .001$. The sizes of the standardized factor loadings were between 0.79 and 0.88 for Emotional exhaustion; between 0.78 and 0.85 for Family-to-work spillover; between 0.85 and 0.90 for Work-to-family spillover; between 0.48 and 0.80 for Self-efficacy; between 0.44 and 0.68 for Resilience; between 0.68 and 0.90 for Leadership support; and between 0.52 and 0.88 for Leadership participative decision-making. Since the measures of different constructs were taken together through a self-report questionnaire, we used Har-

man's single factor as a diagnostic technique in order to check if the common method bias could have been a problem (Podsakoff et al., 2003): the CFA addressing a measurement model with one factor showed a bad fit, χ^2 (594, $N = 606$) = 10,291.11, $p < .001$; CFI = 0.28, TLI = 0.24, RMSEA = 0.16, SRMR = 0.20, indicating that a single factor did not account for all the covariances among the indicators.

The structural model was made of two exogenous variables, one mediator and one outcome. The two exogenous variables were the second-order latent factors of JD and JR; the mediator was Personal resources as second-order latent variable; the outcome was Emotional exhaustion as first-order latent variable. Following the strategy for testing mediation effects recommended by Holmback (1997), we compared four models: (1) the model with full mediation of both JD and JR effects, (2) the model with partial mediation of JD effect and full mediation of JR effect, (3) the model with full mediation of JD effect and partial mediation of JR effect; and 4) the model with partial mediation of both JD and JR effects.

4. Results

4.1. Descriptive analyses

Table 1 shows means, standard deviations, Pearson correlations between the factor scores (in terms of average of item scores) of psychosocial variables, as well as their Cronbach's alpha coefficients. Almost all correlations reached significance and took the expected directions in the relationships between positive (e.g., Self-efficacy, Leadership support, etc.) and negative variables (e.g., Work-to-family spillover, Emotional exhaustion, etc.) at work, except for a very low positive relationship between Leadership support and Family-to-work spillover, which was expected as negative. Reliability of scales was acceptable since the internal consistencies values ranged from 0.74 to 0.94.

4.2. SEM analyses

Table 2 shows the statistic and pragmatic fit indices of four models, which were compared to test the mediating role of Personal resources in the relationships between Job resources and Emotional exhaustion and between Job demands and Emotional exhaustion. The four research models (represented in Fig. 2) shared the same measurement model (as described in the Data Analysis' paragraph) but differed for the presence of direct pathways from the exogenous latent variables (i.e., Job demands and Job resources) to Emotional exhaustion.

Model 1 investigated Personal resources as full mediator of both JD and JR effects, constraining to zero the direct effects of the exogenous variables on Emotional exhaustion. Direct path coefficients between second-order latent variables reached significance and took the expected directions: JR had a positive direct effect on the mediator, $\beta = 0.32$, $p < .001$; JD had a negative direct effect on the mediator, $\beta = -0.33$, $p < .001$; Personal resources had a negative direct effect on Emotional exhaustion, $\beta = -0.42$, $p < .001$. The indirect effects of both JD, $\beta = 0.14$, $p < .001$, and JR, $\beta = -0.14$, $p < .001$, on Emotional exhaustion were significantly different from zero, underlining the mediating role of Personal resources. Total effects were equal to indirect ones. This model showed an acceptable fit to the data (see Table 2).

Model 2 investigated the partial mediation of JD effect and the full mediation of JR effect, adding a direct pathway from JD to Emotional exhaustion and constraining to zero the direct effect of JR on Emotional exhaustion. The estimation of this model showed that all structural paths were significant and in the hypothesized direction: JD had a positive direct effect on Emotional exhaustion, $\beta = 0.60$, $p < .001$, and a negative direct effect on the mediator, $\beta = -0.15$, $p = .007$; JR had a positive direct effect on the mediator, $\beta = 0.32$, $p < .001$; Personal resources had a negative direct effect on the outcome, $\beta = -0.27$, $p < .001$. The indirect effect of JD on Emotional exhaustion was significantly different from zero, $\beta = 0.04$, $p = .007$, as well as the indirect effect of JR on

Table 1

Means (M) and standard deviations (SD) of items, Pearson correlations between factor scores (in terms of average of item scores), and Cronbach's alphas of scales (on the diagonal).

	M	SD	1	2	3	4	5	6	7
1. Self-efficacy	4.01	0.69	(0.80)						
2. Resilience	3.90	0.63	0.60*	(0.75)					
3. Work-to-family spillover	3.66	1.01	-0.11**	-0.14	(0.92)				
4. Family-to-work spillover	2.34	1.04	-0.18*	-0.14*	0.44*	(0.88)			
5. Leadership support	3.19	1.08	0.25*	0.18*	-0.04	0.01	(0.94)		
6. Leadership participative decision-making	2.74	0.90	0.26*	0.16*	-0.07	-0.01	0.69*	(0.83)	
7. Emotional exhaustion	3.51	1.11	-0.26*	-0.30*	0.56*	0.31*	-0.09***	-0.11**	(0.91)

Note. * $p < .001$, ** $p < .01$, *** $p < .05$.

Table 2

Results of structural equation modeling: Fit indices of the four models, ordered by degrees of freedom.

	χ^2	df	p	CFI	TLI	RMSEA	SRMR	AIC	BIC
Model 4	1409,016	582	< 0.001	.938	.933	.048	.048	54,254,236	54,624,414
Model 3	1601,104	583	< 0.001	.924	.918	.054	.084	54,444,325	54,810,096
Model 2	1409,086	583	< 0.001	.939	.934	.048	.048	54,252,307	54,618,078
Model 1	1601,124	584	< 0.001	.924	.918	.054	.084	54,442,344	54,803,708

Note. χ^2 = Chi-squared; df = degrees of freedom; p = p-value; CFI = Comparative Fit Index; TLI = Tucker Lewis Index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual; AIC = Akaike's Information Criterion; BIC = Bayesian Information Criterion.

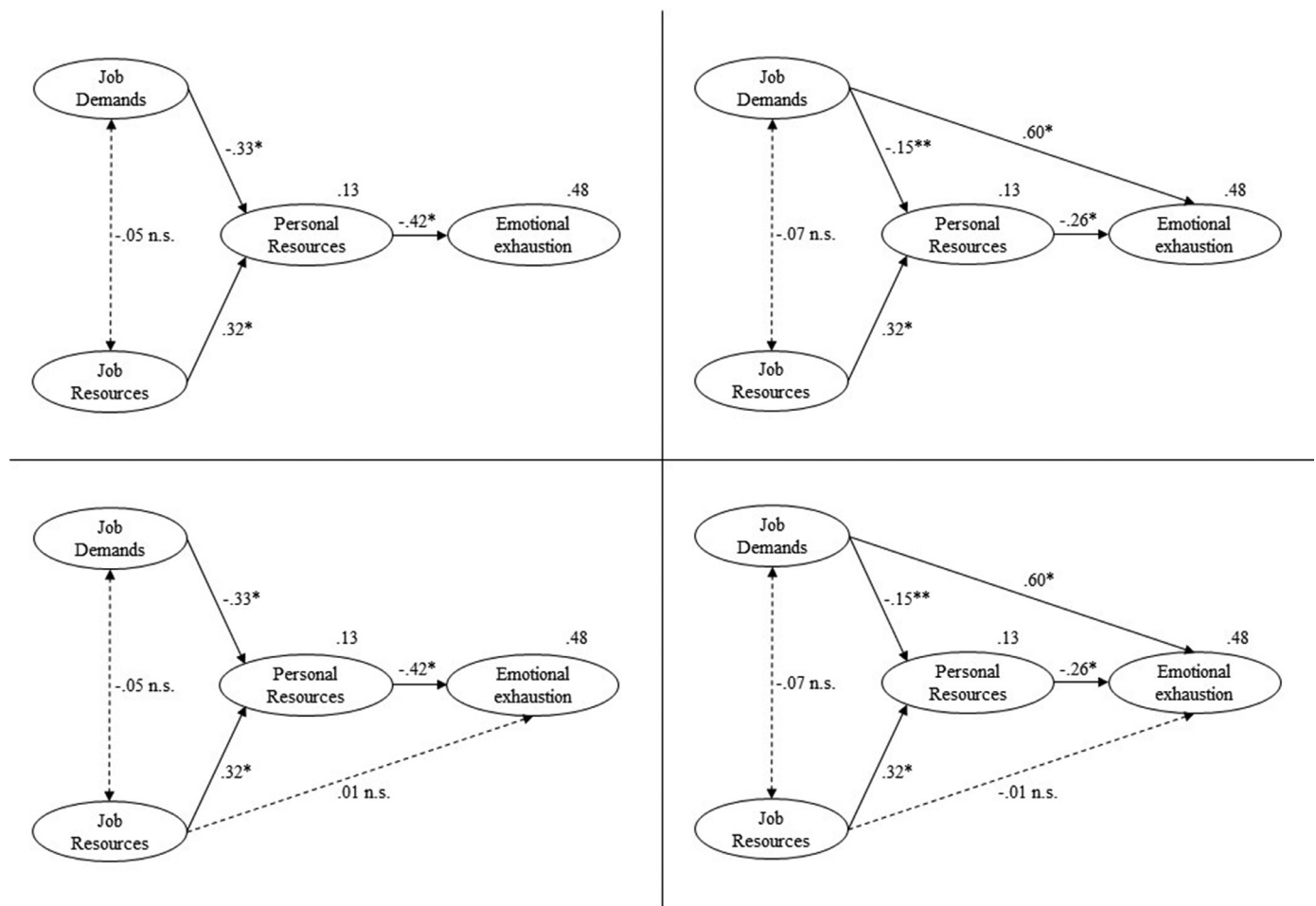


Fig. 2. Model 1 on the top left quadrant. Model 2 on the top right quadrant. Model 3 on the lower left quadrant. Model 4 on the lower right quadrant. The figures represent the second order latent variables and their paths, showing standardized regression coefficients, omitting the representations of first order latent variables and indicators. Discontinuous line indicates a non-significant relationship. * $p < .001$, ** $p < .01$.

Emotional exhaustion, $\beta = -0.09$, $p < .001$. The total effect of JD on Emotional exhaustion reached significance, $\beta = 0.64$, $p < .001$, and the total effect of JR was equal to the indirect one. Model 2 showed better fit indices than Model 1 (see Table 2), suggesting the partial mediator role of Personal resources in the relationship between JD and Emotional exhaustion.

Model 3 examined Personal resources as full mediator of JD effect and as partial mediator of JR effect, adding a direct pathway from JR to Emotional exhaustion and constraining to zero the direct effect of JD on Emotional exhaustion. As regards direct effects, JR had a not statistically significant effect on Emotional exhaustion, $\beta = -0.01$, $p = .885$, and a significant positive effect on the mediator, $\beta = 0.32$, $p < .001$; JD had a significant negative effect on the mediator, $\beta = -0.33$, $p < .001$; Personal resources had a significant negative effect on Emotional exhaustion, $\beta = -0.43$, $p < .001$. The indirect effect of JD on Emotional exhaustion was significantly different from zero, $\beta = 0.14$, $p < .001$, as well as the indirect effect of JR on Emotional exhaustion, $\beta = -0.14$, $p < .001$. The total effect of JR on Emotional exhaustion reached significance, $\beta = -0.13$, $p = .006$, and the total effect of JD was equal to the indirect one. Fit indices of this model were similar to Model 1, but worse than Model 2 (see Table 2).

Model 4 aimed to explore the role of Personal resources as a partial mediator in the hypothesized structure, adding the direct pathways from JD and JR to Emotional exhaustion. As regards direct effects, JR had a not statistically significant effect on Emotional exhaustion, $\beta = -0.01$, $p = .790$, and a significant positive effect on the mediator, $\beta = 0.32$, $p < .001$; JD had a significant positive effect on Emotional exhaustion $\beta = 0.60$, $p < .001$, and a negative effect on the mediator, $\beta = -0.15$, $p = .007$; Personal resources had a significant negative effect on Emotional exhaustion, $\beta = -0.26$, $p < .001$. The indirect effect of JD on Emotional exhaustion was significantly different from zero, $\beta = 0.04$, $p = .007$, as well as the indirect effect of JR on Emotional exhaustion, $\beta = -0.19$, $p = .019$. The total effect of JD on Emotional exhaustion reached significance, $\beta = 0.64$, $p < .001$, as well as the total effect of JR on Emotional exhaustion $\beta = -0.09$, $p = .019$. Model 4 showed good fit indices but did not lead to improvements compared to Model 2, which is to prefer for its parsimony and goodness of fit (see Table 2).

To confirm the choice of the Model 2 as the best-fitting model, we conducted Chi-squared difference tests of the models. It was not possible to test the difference between Model 2 and Model 3 since they had the same degrees of freedom. Results showed that the difference between Model 4 and Model 2 was not statistically significant, $\Delta\chi^2(1) = 0.07$, $p = .791$, while the difference between Model 2 and Model 1 reached significance, $\Delta\chi^2(1) = 192.04$, $p < .001$. The difference between Model 4 and Model 3 was statistically significant, $\Delta\chi^2(1) = 192.09$, $p < .001$, while the difference between Model 3 and Model 1 did not reach significance, $\Delta\chi^2(1) = 0.02$, $p = .889$. Chi-squared difference tests involving Model 3 suggested Model 4 as the best-fitting model. On the other hand, Chi-squared difference tests involving Model 2 indicated that Model 4 was not statistically different from Model 2, which had to be preferred for its parsimony. Following Holmback's (1997) strategy suggestions, we addressed Model 2 as the best of the four models, underlining the role of Personal resources as a full mediator in the relationship between Job resources and Emotional exhaustion and a partial mediator between Job demands and Emotional exhaustion.

5. Discussion

The study aims to investigate the role played by personal resources, namely self-efficacy and resilience, in the relationships between job demands and job resources and emotional exhaustion in a group of teachers, during the COVID-19 pandemic emergency in Italy. Results provided some interesting suggestions that could be useful to develop future research and draw practical implications for the development of training interventions aimed at supporting teachers in coping with the difficult

changes brought about by the pandemic. With specific reference to the research model presented, the results endorsed the hypotheses.

Hypothesis 1 was confirmed: job demands, namely work-to-family and family-to-work spillover, were positively related to emotional exhaustion. These associations were largely supported by similar evidence reported across different occupational groups (Breevaart & Bakker, 2018; Lee et al., 2016; Penado et al., 2021). The challenges posed to the teaching profession in recent years were exacerbated by the pandemic and showed the emergence of previously ignored potential dimensions of stress, such as work-family conflict (Chakravorty & Singh, 2020). Teaching from home caused significant difficulties in keeping the borders between family and work due to the lack of control over working time and family attention (Palumbo, 2020; Tresierra & Pozo, 2020), with negative consequences on teachers' life satisfaction (Landolfi et al., 2021), levels of anxiety (Li et al., 2020), and emotional exhaustion (Kara et al., 2021). Hypothesis 2 was partially confirmed since results did not show a direct effect of job resources (in terms of the principal's supportive and participative leadership) on emotional exhaustion but highlighted an indirect effect mediated by personal resources. The absence of a direct effect may be explained by the characteristics of the school context, which is a typically loosely coupled system (Weick, 1976), where teachers keep wide autonomy in the management of their educational role and there is a tendency to underestimate the figure of the principal, whose power is quite limited to the management of the administrative staff and the control over formal practices and procedures. On the other hand, the significance of an indirect effect between principal's leadership dimensions and teacher's emotional exhaustion highlighted that principal's leadership could be an essential job resource for teachers influencing their personal resources and, in turn, protecting them from the negative consequences caused by the pandemic. As a job resource, supportive and participative leadership involves practices aimed at promoting individuals' empowerment and self-initiation (Aelterman et al., 2019; Ryan & Deci, 2017). A growing body of research highlighted the importance of the school principal for different teacher's positive organizational outcomes, such as higher levels of resilience (Collie et al., 2020), lower levels of work-related stress (Nie et al., 2015) and lower levels of emotional exhaustion (Klassen et al., 2012). Literature suggests that school principal supportive leadership allows teachers to feel more supported at work and to gain greater agency in their teaching (Klassen et al., 2012), helping them to navigate adversity in their work even if physically distant because of the pandemic (Collie et al., 2020). On the contrary, the lack of supportive leadership is associated with emotional exhaustion because, especially during COVID-19 period, they would leave teachers feeling unsupported and like their efforts are never enough (Eyal & Roth, 2011; Pisanti et al., 2003).

A practical implication coming from the results of the present study could be related to school principals' human resource management practices. More simply, school leaders should avoid domineering and demanding behaviors and favor autonomy-supportive leadership which would encourage teachers to rely upon their resources while dealing with challenges at work. In turn, teachers are likely to experience fewer somatic symptoms and feel less stressed and emotionally drained at work (Bartholomew et al., 2014; Collie et al., 2018). Despite the communication and relational difficulties caused by physical distance, school principals have had to learn to support teachers to preserve their well-being and to mitigate the risk of stress and burnout with all the tools at their disposal (Sanders et al., 2020). In the pandemic scenario, the management of the principal was essential to help teachers use their personal resources to deal with the emergency and adapt effectively to changes, with consequences on containing the levels of exhaustion (Collie, 2021). In line with previous research (Luthans et al., 2006, 2007), the study confirmed also H3, showing a negative relationship between personal resources and emotional exhaustion. Maybe, being personal resources (self-efficacy and resilience) a fundamental component of individual adaptability (Hobfoll, 2002), the teachers involved in our study might

have relied upon them to deal with the pressing job demands brought about by the pandemic. As also recent studies conducted in the pandemic scenario pointed out, psychological capital may provide individuals with the ability to successfully manage stress and anxiety keeping high levels of well-being and health, especially in challenging situations (Turliuc & Candel, 2021).

Furthermore, our findings showed that not only personal resources (i.e., resilience and self-efficacy) contributed to decrease emotional exhaustion but partially mediated the effect of job demands on emotional exhaustion (H4a) and fully mediated the effect of job resources on emotional exhaustion (H4b). Results related to H4a suggested that teachers' personal resources, (resilience and self-efficacy), mitigates emotional exhaustion deriving from job demands associated with working from home. Although in the JD-R model, the health impairment process can be considered as a resource depletion process, whereby high and chronic job demands tend to exhaust employee's psychological and physical resources over time. Therefore, it would be expected that employees working in a demanding work environment (e.g., high workload) may feel inefficient, emotionally exhausted, and pessimistic about their future in the organization. On the other hand results coming from this study could probably be explained by the motivational process postulated by the JD-R model according to which the relationship with a challenging environment could be framed as a resource gain process for workers, whereby initial resource gain (e.g., high social support) leads to the accumulation of more resources over time. Following this line, self-efficacy, and resilience may mediate the relationship between job demands stressors and physical strain (Huang et al., 2016). On the other hand, results related to H4b suggested that job resources (i.e., the principal's supportive and participative leadership) may activate personal resources and these, in turn, might result in positive psychological and organizational outcomes (e.g., lower levels of emotional exhaustion).

In view of the above, the present study contributed to highlight the crucial role played by personal resources in managing job demands and resources to cope with the changes brought about by the pandemic and to curtail negative consequences on workers, such as emotional exhaustion. This conclusion is more evident within the pandemic scenario because teachers are asked to rapidly adjust to the "new normal", managing new challenging job demands, overcoming their resistance to change and relying upon their personal resources to cope with these unexpected circumstances.

6. Limitations, practical implications, and conclusions

Despite the contribution given by the study to the school context during the pandemic, some limitations could be highlighted. A first limitation was related to the cross-sectional nature of the study, which did not allow either to test eventual causal relationships among variables or to investigate them across time. Future research should focus on monitoring the effects that job demands have had on teachers' levels of emotional exhaustion, as well as changes in the way they work and the use of personal resources to address those demands. Therefore, future research should consider replicating the study by adopting longitudinal and/or diary methodologies. Another limitation could be found in the limited and heterogeneous sample involved that cannot allow the generalization of results. The convenience sampling and the collection procedure that used an online questionnaire involved teachers belonging to different school levels (i.e., primary school and secondary school), that could have experienced differently the emergency. Finally, the last limitation is related to the self-report measures that may reveal teachers' perceptions but do not represent objective measures of the constructs involved.

Beyond the limits set out, the results of the research were very interesting in terms of practical implications. The study focused on the school context at the time of the pandemic, where teachers faced significant stressors in relation to their work. The pandemic required a very sudden shift to remote learning, and teachers were called upon to sup-

port students' academic development and well-being throughout this shift, while also navigating adversity and stress in their own lives. The broad purpose of the current study was to provide knowledge about teachers' work-related stress experiences during COVID-19, adopting the Job Demands–Resources model (Bakker & Demerouti, 2017). Findings highlighted the mediating role of personal resources in the relationships of job demands and job resources with emotional exhaustion and confirm the important role of teacher's personal resources perception. Yet, results also pave the way for possible training interventions specifically addressed to the school context. Following Bakker & Demerouti (2013) who set up a JD-R model-based intervention strategy, including job redesign, job crafting, training, and strengths-based intervention, interventions centered on the individual or on the organizational level could be proposed also to schools. These may be targeted on different groups of teachers (differentiating age, seniority, role responsibility, etc.), on the work environment (e.g. job analysis addressed to gather information on the job demands and resources featuring a specific school context) and/or on individual needs (e.g. training aimed to empower personal resources). In this case, training interventions could focus on soft skills' development and implementation (e.g., problem-solving abilities); while strengths-based interventions could focus on the empowerment of personal resources (e.g., meaning of working, resilience, self-efficacy, etc.). In any case, these interventions are a precious tool to manage human resources efficiently, to increase motivation, commitment and to buffer stress even in the school context.

Therefore, considering the huge challenges posed to the school system, the study suggested investing in training interventions aimed to strengthen personal resources that might enhance teachers' well-being optimizing job resources and buffering job demands. Dedicated training sessions on the empowerment of self-efficacy, resilience and coping strategies could be beneficial to support teachers in managing job demands and effectively overcoming difficulties.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

CRediT authorship contribution statement

Amelia Manuti: Conceptualization, Methodology, Formal analysis, Writing – review & editing, Visualization, Supervision. **Maria Luisa Giancaspro:** Conceptualization, Methodology, Formal analysis, Writing – review & editing, Visualization, Supervision. **Cataldo Giuliano Gemmano:** Methodology, Formal analysis, Data curation, Writing – review & editing. **Francesca Morrelli:** Conceptualization, Resources, Data curation.

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