Perceived Change in Job Demands and Resources and Teacher Well-Being during the Pandemic

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∽   This study explores the role of perceived change in job demands and resources and socio-demographic characteristics in teacher well-being during the Covid-19 pandemic. We used data from over three thousand Croatian school teachers with at least three years of service. We performed path analysis to test the proposed relationships of socio-demographics (gender, school level and years of service) and perceived change in job demands and resources (work demands, the frequency of student difficulties and the quality of professional cooperation) with teacher well-being (job satisfaction, stress and work-life balance). The effects of the socio-demographic variables on the measures of well-being varied from non-existent to small. The model fitted the data well. However, the parameter values indicated a modest contribution of socio-demographics and perceived change in job demands and resources in explaining teacher well-being during the Covid-19 pandemic. Teachers reported relatively high job satisfaction, low levels of stress, and medium levels of work-life balance. In addition, their experiences of stress and work-life balance were not considerably affected by the perceived increases in job demands. Our results suggest that teachers demonstrated resilience in adapting to challenging circumstances. This capacity should be continuously nurtured in their professional development programmes.

Keywords: Covid-19 pandemic, job demands-resources model, teachers, well-being

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Zaznane spremembe v delovnih zahtevah in virih ter dobro počutje učiteljev med pandemijo

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∽   Ta študija raziskuje vlogo zaznanih sprememb v delovnih zahtevah in virih ter sociodemografskih značilnostih pri dobrem počutju učiteljev med pandemijo covida-19. Uporabili smo podatke več kot tri tisoč hrvaških učiteljev z najmanj tremi leti delovne dobe. Izvedli smo analizo poti, da bi preverili predlagane povezave med sociodemografskimi značilnostmi (spol, stopnja šole in dolžina delovne dobe) ter zaznanimi spremembami v delovnih zahtevah in virih (delovne zahteve, pogostost težav učencev in kakovost strokovnega sodelovanja) z dobrim počutjem učiteljev (zadovoljstvo pri delu, stres ter usklajevanje poklicnega in zasebnega življenja). Učinki sociodemografskih spremenljivk na mere dobrega počutja so bili različni, od neobstoječih do majhnih. Model se je dobro ujemal s podatki, vendar so vrednosti parametrov pokazale skromen prispevek sociodemografskih značilnosti ter zaznanih sprememb v delovnih zahtevah in virih k pojasnjevanju dobrega počutja učiteljev med pandemijo covida-19. Učitelji so poročali o razmeroma visokem zadovoljstvu pri delu, nizki stopnji stresa ter o srednji stopnji usklajevanja poklicnega in zasebnega življenja. Poleg tega na njihovo doživljanje stresa ter usklajevanja poklicnega in zasebnega življenja ni bistveno vplivalo zaznano povečanje delovnih zahtev. Naši rezultati kažejo, da so učitelji pokazali odpornost pri prilagajanju na zahtevne okoliščine. To zmožnost bi bilo treba nenehno gojiti v programih njihovega poklicnega razvoja.

Ključne besede: pandemija covid-19, model delovnih zahtev in virov, učitelji, dobro počutje

Introduction

Schooling during the extended period of the Covid-19 pandemic placed an entirely new set of demands on educational stakeholders worldwide. Educational systems had to establish new forms of teaching and learning in an online environment, with teachers facing the major challenge of increasing workload following a rapid transition to online teaching (Billett et al., 2023; DeCoito & Estaiteyeh, 2022). They had to master new teaching skills and support their students' learning needs in an online environment (Baptista et al., 2023; Jukić Matić, 2021). They also had to balance their increasingly complex work with home responsibilities, often facing conflicting role demands. Increasing demands related to rapid shifts in the teachers' professional role impacted various aspects of teachers' mental health and well-being (Hofmann et al., 2021). A meta-analysis reporting the frequency of symptoms related to impaired mental health reveals the prevalence of symptoms being 30% for stress, 19% for depression, and 17% for anxiety (Ozamiz-Etxebarria, Mondragon et al., 2021). The most common stressors teachers faced were related to difficulties in balancing their personal and professional roles, concerns related to their students' academic functioning and well-being during the pandemic and the increasing demands from school leadership (Robinson et al., 2023). The available data also indicate that stress experiences during the pandemic were related to teachers' gender and age. Female teachers reported higher anxiety and stress than male teachers did, while younger teachers reported higher levels of stress compared to older participants who, in turn, had higher anxiety (Ozamiz-Etxebarria, Berasategi Santxo et al., 2021; Santamaría et al., 2021; Stang-Rabrig et al., 2022).

Experiences of stress were related to the burnout dimensions of emotional exhaustion and depersonalisation. Teachers also experienced increased depersonalisation and a perceived lack of accomplishment in terms of their teaching compared to the pre-pandemic period (Stang-Rabrig et al., 2022). Teacher stress levels were related to anxiety due to the pandemic, entirely online teaching, and communication anxiety in school (Pressley et al., 2021). Teachers experienced increased feelings of exhaustion and cynicism, but, at the same time, they reported an increased classroom management efficacy (Sokal et al., 2020a). A literature review on stress and burnout among teachers around the world revealed that burnout increased during the Covid-19 pandemic (Westphal et al., 2022).

Job Demands-Resources Model
Over the previous two decades, the job demands-resources (JD-R) model has become a leading conceptual framework for explaining burnout

and engagement at work (Bakker & Demerouti, 2007, 2017). The model proposes that job characteristics shape an individual's experiences and well-being at work. Job characteristics are broadly organised into two categories: job demands and job resources. Job demands are physical, psychological, social, or organisational, such as work overload, time pressure, or emotionally demanding client interactions, leading to energy depletion and physical and psychological costs. Job resources are physical, psychological, social, or organisational aspects of the work that facilitate reaching work goals, managing job demands, and achieving personal growth. Job demands and resources initiate two different psychological processes. In a health-impairment process, the intensity of job demands requires increased effort from the employee. This process has a toll on cognitive, physical, and emotional resources that become depleted, leading to job strain, burnout, and health problems. In a motivational process, job resources enable reaching one's work-related goals and satisfying psychological needs, which in turn leads to higher work engagement and well-being. Job resources can also buffer the effects of job demands and reduce physical or psychological costs, such as job-related stress, anxiety, or emotional exhaustion. The role of job resources is particularly important when job demands are high (Bakker & Demerouti, 2017).

A more recent extension of the theory introduced personal resources, which refer to beliefs about being able to control one's environment. Personal resources such as optimism, resilience and self-efficacy interact with job resources in a reciprocal way. Employees with more personal resources tend to have more job resources over time, such as a higher level of autonomy or opportunities for personal growth. As a result, employees with higher perceived work autonomy feel more in control of their work environment and are better able to cope with their job demands. The major strength of the model is its flexibility, allowing it to be applied in a wide variety of work contexts (Bakker et al., 2023).

In recent years, the JD-R model has been recognised as an appropriate theoretical framework to explore factors related to teachers' occupational well-being (Collie, 2023; Collie et al., 2018; Granziera et al., 2021). The research data are generally supportive of the model, indicating that teachers who perceive more personal or institutional job resources report fewer symptoms of stress and burnout when facing challenging classroom situations (Bottiani et al., 2019; Dicke et al., 2018). Evidence also offers a more nuanced view of the interplay between job demands, resources, and outcomes. Different job demands predict different aspects of burnout, with the buffering effects of perceived autonomy and supervisory support as job resources that reduce emotional exhaustion (Skaalvik & Skaalvik, 2018). Teaching is a highly emotionally demanding

profession, which leads to lower teacher well-being, while job resources such as supervisor support, perceived autonomy and development opportunities positively relate to work engagement and job performance (Yin et al., 2016; Bakker & Bal, 2010).

Several studies have used the JD-R theoretical framework to examine experiences related to teachers' mental health and well-being during the pandemic when teacher job demands were enhanced due to the rapid shift to online education, while resources related to digital skills, adequate technical equipment, or collegial support were often limited. A longitudinal qualitative study by Kim et al. (2022) identified the main job demands and job resources related to teachers' mental health and well-being during the pandemic. Factors such as uncertainty, workload, health struggles, and multiple roles were job demands related to reduced mental health and well-being, while job resources such as social support, work autonomy, and coping strategies had a positive role in outcomes related to teachers' mental health and well-being. Job demands such as time management, parental demands, technology use, impaired work-family balance and a lack of resources were all related to teacher burnout during the pandemic (Manuti et al., 2022; Sokal et al., 2020b). Collegial support and leadership appear to be significant job resources associated with positive teacher outcomes during pandemic teaching in various educational contexts. Collegial leadership and collegial support predicted higher job satisfaction and coping among teachers in the USA and Germany (Herman et al., 2021; Stang-Rabrig et al., 2022). Leadership support and participative decision-making indirectly affected emotional exhaustion, mediated by teachers' personal resources of self-efficacy and resilience (Manuti et al., 2022). Self-efficacy appears to be a significant personal resource protecting against teacher stress and burnout during the pandemic (Košir et al., 2020; Daniel & Van Bergen, 2023).

Current Study

The aim of this study was to explore the role of teacher socio-demographic characteristics and perceived change in job demands and job resources in the well-being of Croatian teachers during the pandemic. In response to the pandemic, educational authorities introduced a set of measures at different education levels: primary and lower secondary education existing in single-structure elementary schools and upper secondary education comprising general education and vocational education programmes. ICT tools were introduced at various levels to enable remote teaching and learning in pandemic circumstances (Ristić Dedić & Jokić, 2021). The sudden shift to remote teaching required an entirely new set of teaching skills related to the use of digital technology in

Croatian schools. This shift also altered the communication modes between teachers, pupils, parents, and school leaders, leading to increased teacher job demands. Existing data from various educational contexts indicate that gender and age or years of service might be significant factors in teachers' experiences during the pandemic, with female teachers and younger teachers experiencing more stress, probably due to their multiple roles at home and work. The role of educational level in teacher experiences is worth exploring, given the different ages of students at various levels and, subsequently, different teacher responsibilities. Further, the identification of job demands and resources related to certain aspects of teacher well-being during the crisis in various educational contexts expands the knowledge that could inform the design of possible intervention strategies. Existing studies identified job demands and resources at one point in time during the pandemic, while this study utilises perceptions of change in job demands and job resources regarding pandemic teaching compared to the pre-pandemic period. Perceptions of change in work demands and in the frequency of student difficulties were used as indicators of teachers' job demands during the pandemic, while the perception of change in the quality of professional cooperation was an indicator of job resources. We used three indicators of teacher well-being: current job satisfaction, stress, and work-life balance. Job satisfaction and the experience of stress are the most commonly used indicators of teacher occupational well-being. Work-life balance was a major challenge for teachers during remote teaching and learning.

In line with this, we aim to address the following research questions:

1. Are socio-demographic characteristics (gender, years of service and school level) related to teachers' job satisfaction, stress, and work-life balance during the pandemic?

2. Are perceived changes in work demands, the frequency of student difficulties and the quality of professional cooperation related to teachers' job satisfaction, stress, and work-life balance during the pandemic?

Method

The teacher data were collected using the online survey that took place from June to August of 2022 as part of the 'Changes in the Organization of the Educational Process Caused by the COVID-19 Pandemic: Effects on Educational Experiences, Well-Being and Aspirations of Pupils in Croatia (EWAchange)' research project. The survey included various scales assessing socio-demographic variables, perceived change in work demands, perceived change in the frequency of student difficulties, perceived change in the quality

of professional cooperation, job satisfaction, stress, and work-life balance. The data that support the findings of this study are available from the corresponding author upon reasonable request.

Participants

The dataset contained data from 3634 teachers from a nationally representative random sample of 159 Croatian public schools that carry out regular programmes. The school sample consisted of 77 elementary schools that provide primary and lower secondary education (students aged 7–15) and 82 upper secondary schools that provide grammar and/or vocational education (students aged 15–19); about 8.8% and 22.7% of all schools in Croatia, respectively. In the present study, we used the data from 3385 teachers (93.1% of the total sample) who had at least 3 years of service (i.e., teaching experience), which allowed them to compare their experiences before and during the pandemic. Of these, 1616 teachers (47.7%) worked in elementary schools (class and subject teachers), and 1769 (52.3%) worked in upper secondary schools.

Instruments

Socio-Demographic Variables

The teachers provided information on their gender, years of service and the school level they teach.

Due to the lack of scales assessing perceptions of changes in work demands, in the frequency of student difficulties, and in the quality of professional cooperation, the new scales were designed specifically for this study, aligning with the JD-R model (Bakker & Demerouti, 2007, 2017; Bakker et al., 2023). Their purpose was to evaluate how teachers' job demands (work demands, student difficulties) and resources (quality of professional cooperation) have changed during the pandemic in comparison to the pre-pandemic period. Confirmatory factor analysis (CFA) with three latent factors was employed to test the construct validity of the scales, revealing an adequate fit (χ^2 = 2723.694, df = 116, p = .000; RMSEA = .082 [95% CI from .079 to .085]; CFI = .897; SRMR = .046). Additionally, exploratory factor analyses (EFA) were conducted to assess whether all scales demonstrate unidimensionality (see below).

Perceived Change in Work Demands

This scale consists of nine items referring to key teacher tasks: teaching, lesson planning, assessment, communication with students and their parents,

supporting students' learning, social and emotional support provided to students, administrative tasks, and professional development activities. Teachers were asked to assess the average time they dedicate to each task during a typical workday compared to in the pre-pandemic period on a 5-point response scale ranging from 1 – significantly less time to 5 – significantly more time. EFA resulted in a one-factor solution that explained 48.1% of the variance (α = .86).

Perceived Change in the Frequency of Student Difficulties

The teachers were asked to assess the change in the frequency of the following student difficulties in comparison to the pre-pandemic period: behavioural problems, attention difficulties, difficulties with learning motivation and social and emotional difficulties. The assessments were given on a 5-point scale ranging from 1 – significantly less frequent to 5 – significantly more frequent. Conducting an EFA yielded a single-factor solution accounting for 69.8% of the variance (α = .89).

Perceived Change in the Quality of Professional Cooperation

The teachers assessed the quality of their cooperation with their colleagues, the principal and the educational specialists at their schools compared to the pre-pandemic period on a 5-point scale ranging from 1 – significantly worse to 5 – significantly better. EFA led to a one-factor solution that explained 73.9% of the variance (α = .82).

Job Satisfaction

The teachers' job satisfaction was measured by means of a four-item scale from Skaalvik and Skaalvik (2013). In addition, two items related to enthusiasm for teaching (Kunter et al., 2008) were added to form a final scale score for the analysis since all six items yielded a one-factor solution. The assessments were given on a 5-point Likert scale ranging from 1 – completely disagree to 5 – completely agree. EFA resulted in a one-factor solution that explained 79.4% of the variance (α = .95). Extremely high values of Cronbach's α may suggest redundancy among scale items. Nevertheless, in this instance, the item variance inflation factors (VIF) were below 5, indicating that none of the items displayed signs of multicollinearity.

Stress

The level of stress was assessed on a four-item scale used in the Teaching and Learning International Survey (TALIS; OECD, 2018). The participants indicated their agreement with each item on a 4-point scale ranging from 1 – not

at all to 4 – a lot. EFA led to a one-factor solution that explained 62.8% of the variance (α = .80).

Work-Life Balance

Work-life balance was measured on a five-item scale adapted from the European Working Conditions Survey (EWCS; Eurofound, 2022). The teachers assessed the frequency of difficulties in achieving a balance between their professional and private lives during the last month. The assessments were given on a 5-point scale ranging from 1 – never to 5 – always. EFA resulted in a one-factor solution that explained 59.0% of the variance (α = .82).

Research Design

The research was implemented according to the ethical guidelines and was approved by the Ethical Committee of the Institute for Social Research in Zagreb. The data were obtained via an online questionnaire. Unique questionnaire links were distributed to schools by email, along with a short description of the study aim and a request to forward the link to the teachers to complete the online questionnaire. This allowed the linking of the teachers' data with their respective schools. The questionnaire was otherwise anonymous. Upon receiving the email invitation to participate in the study, teachers decided to access the online questionnaire on a voluntary basis. The purpose of the study and the confidentiality of the data were again emphasised in the questionnaire itself.

We performed path analysis in Mplus 8.7 (Muthén & Muthén, 2017) to test the proposed relationships between the predictors (gender, school level, years of service, perceived change in work demands, perceived change in frequency of student difficulties and perceived change in quality of professional cooperation) and outcomes (job satisfaction, stress, and work-life balance). The hierarchical nature of the sample and the fact that teachers were nested within schools were accounted for through the TYPE = COMPLEX function in Mplus with the school as the clustering variable. We used maximum likelihood estimation with robust standard errors (MLR) to handle the non-normality of the data.

The results showed that none of the variables displayed signs of multicollinearity, as their VIFs were all below two. Most of the teachers (83.2%) responded to all the items, leading to a mostly complete dataset (96.4% of cells were completed). The missing rates for individual items were low ($\leq$ 4.9%), and because a missing rate of 5% or less is usually considered inconsequential for data analysis (Dong & Peng, 2013; Schafer, 1999), we decided to run a complete case analysis.

Results

Descriptive Statistics

Table 1 displays the descriptive statistics of all the variables used in the study. Most of the teachers were female, as is the case in the population. Roughly equal numbers of teachers worked in elementary and upper secondary schools. On average, they had 18.7 years of service.

On average, the teachers in our sample estimated that their work demands, as well as the frequency of student difficulties, had increased during the pandemic. In contrast, they thought that the quality of professional cooperation had not changed in the same period. On average, they reported high job satisfaction, low levels of stress related to their job and medium levels of work-life balance (i.e., they sometimes experienced difficulties in achieving a balance between their professional and private lives). The internal consistency of the scales was generally high (Cronbach's alphas for all the scales were ≥ .80).

The bivariate correlations between the outcomes and variables denoting perceived changes in job demands and resources were statistically significant but small, whereas the correlations between the outcomes and socio-demographic variables varied from non-existent to small (Table 2). In contrast, Pearson's *r* values between the outcome variables were medium to large (the largest correlation was the one between stress and work-life balance).

Table 1

Descriptive statistics.

	%	M	SD	Min	Max	Cronbach α
Socio-demographics						
Gender						
Male	19.1					
Female	80.9					
School level						
Elementary school	47.7					
Upper secondary school	52.3					
Years of service		18.71	9.71	3	35	
Perceived change in...						
...work demands		3.76	0.56	1	5	.86
... frequency of student difficulties		3.63	0.66	1	5	.89
... quality of professional cooperation		3.15	0.64	1	5	.82
Outcomes - Teacher well-being						
Job satisfaction		3.92	0.77	1	5	.95
Stress		2.11	0.57	1	4	.80
Work-life balance		3.30	0.71	1	5	.82

Table 2

Correlations between variables (Pearson's r).

	1.	2.	3.	4.	5.	6.	7.	8.	9.
Socio-demographics									
1. Gender	-	.16**	-.11**	-.16**	-.11**	.01	-.05**	-.11**	.16**
2. School level		-	-.03*	-.12**	-.01	-.06**	-.07**	-.03	.09**
3. Years of service			-	.10	.01	-.09	.01	.01	.02
Perceived change in...									
4. ...work demands				-	.32**	.10**	.05**	.23**	-.22**
5. ... frequency of student difficulties					-	-.12**	-.11**	.19**	-.21**
6. ... quality of professional cooperation						-	.21**	-.16**	.10**
Outcomes - Teacher well-being									
7. Job satisfaction							-	-.47**	.37**
8. Stress								-	-.65**
9. Work-life balance									-

Note: Gender (0 = female, 1 = male), school level (0 = elementary school, 1 = upper secondary school); *p* < .05, **p* < .01. Significant correlations are shown in bold.

Path Model

We first tested the just-identified path model by specifying all the possible paths between the variables. Paths that were statistically non-significant (*p* > .05) were dropped from the model, and Figure 1 presents the final model showing only the significant paths between the variables. For the ease of the reader, we provide the covariances between variables in a separate table (Table 3). The final model fits the data fairly well, with fit indices as follows: χ^2 = 2.344, *df* = 3, *p* = .504; RMSEA = .000 [95% CI from .000 to .026]; CFI = 1; SRMR = .005.

Although the male teachers were slightly less satisfied with their jobs compared to their female counterparts, they also experienced lower levels of stress and higher work-life balance. Upper secondary school teachers were less satisfied, but they also experienced higher levels of work-life balance in comparison with their colleagues from elementary schools. There was no statistically significant difference between teachers teaching at different school levels in terms of the experienced stress. More experienced teachers had higher levels of work-life balance, although the effect size was very small. Years of service were not related to the other two outcomes.

Teachers who perceived more work demands during the pandemic reported higher levels of stress and less work-life balance. Surprisingly, they also reported higher job satisfaction (however, though statistically significant, this effect was negligible in size). The perceived increase in the frequency of student

difficulties was related to lower job satisfaction, higher levels of stress, and lower work-life balance. The perceived improvement in the quality of professional cooperation predicted higher job satisfaction, lower levels of stress and higher work-life balance.

The high values of the residual variances of the outcome variables indicate the modest contribution of the predictive model. The values of the covariances between the variables in the path model were very similar to those of the bivariate correlations (Tables 3 and 2, respectively).

Figure 1
Path model: standardised parameter estimates.
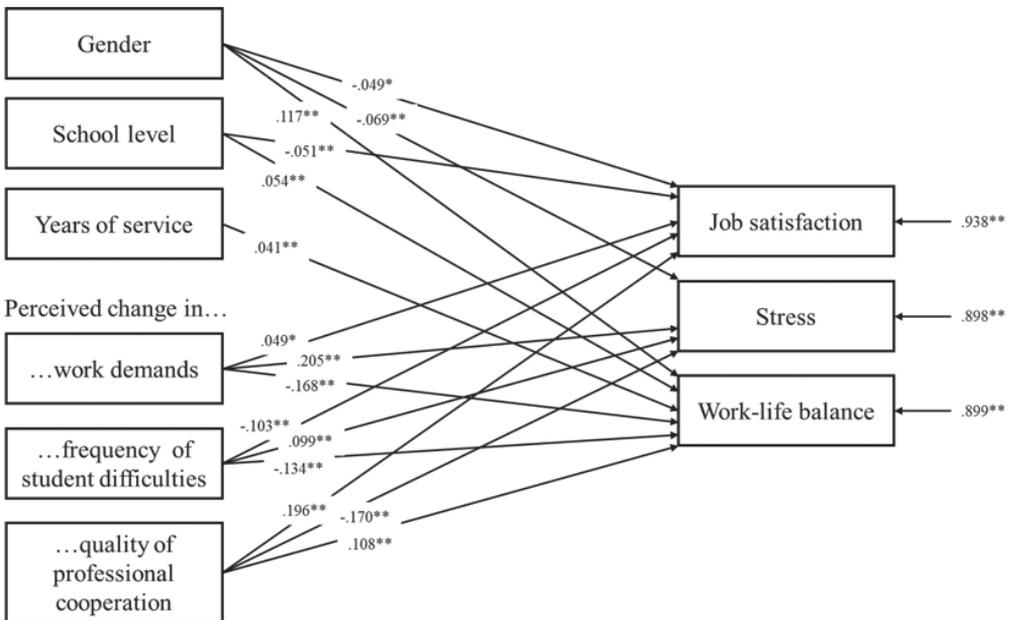
Note: Only significant paths were retained in the model; gender (0 = female, 1 = male), school level (0=elementary school, 1=upper secondary school); *p < .05, **p < .01.

Table 3

Covariances between the path model variables.

	1.	2.	3.	4.	5.	6.	7.	8.	9.
Socio-demographics									
1. Gender	-	.17**	-.11**	-.16**	-.11**	.01			
2. School level		-	-.03	-.12**	-.01	-.06**			
3. Years of service			-	.10**	.01	-.09**			
Perceived change in...									
4. ...work demands				-	.32**	.10**			
5. ... frequency of student difficulties					-	-.12**			
6. ... quality of professional cooperation						-			
Outcomes - Teacher well-being									
7. Job satisfaction							-	-.48**	.39**
8. Stress								-	-.62**
9. Work-life balance									-

Note: Gender (0 = female, 1 = male), school level (0 = elementary school, 1 = upper secondary school); *p* < .05, **p* < .01.

Discussion

In this paper, we analysed if and how teachers' perceptions of change in their job demands and resources during the Covid-19 pandemic contributed to the explanation of their well-being, more precisely to their job satisfaction, stress, and work-life balance. We focused on perceived change in teachers' work demands and perceived change in the frequency of student difficulties (both representing teaching job demands), as well as on perceived change in the quality of professional cooperation (representing a job resource in the teaching profession; cf. Bakker & Demerouti, 2007, 2017).

The present findings demonstrate that male teachers experienced slightly less job satisfaction but also lower levels of stress and higher work-life balance compared to female teachers. It appears that female teachers perceived teaching during the pandemic as more rewarding but also as more demanding, given their roles and responsibilities at home. More experienced teachers had marginally higher levels of work-life balance in comparison to less experienced teachers. This could mainly be due to their age difference and different stages of life (e.g., with younger, less experienced teachers more often being parents of young children), but it could also denote more experienced teachers' development of adaptive strategies to achieving work-life balance. However, teaching experience did not significantly relate to job satisfaction or stress. Regarding

the school level, the results suggest that teachers working in upper secondary schools reported less job satisfaction, but, at the same time, they experienced higher levels of work-life balance compared to their colleagues working in elementary schools. This could reflect the difference in the nature of elementary and secondary education, especially with respect to its relational dimension. Teachers in elementary education had to provide more support to their students compared to their secondary school colleagues, which made their jobs both more demanding and more rewarding during the pandemic. In comparison, teachers in secondary schools were less engaged in providing support to their more mature and autonomous students, therefore having better work-life balance but lower job satisfaction. We found no difference in the experience of stress between teachers working at different school levels.

All three aspects of teacher well-being bear statistically significant associations with all three aspects of perceived change in demands and resources in the teaching profession. Overall, the teachers' perceptions of increased work demand during Covid-19 were related to higher stress, lower work-life balance and (marginally) higher job satisfaction. The teachers' perceptions of an increased number of student difficulties during Covid-19 were associated with lower work-life balance, somewhat higher levels of stress and lower job satisfaction. Finally, the teachers' perceptions of better-quality professional cooperation during Covid-19 were related to higher job satisfaction, lower levels of stress and higher work-life balance. These findings are very much in line with the general conclusions of the previous studies using the job demands-resources (JD-R) model (e.g. Bottiani et al., 2019; Dicke et al., 2018; Herman et al., 2021; Kim et al., 2022; Stang-Rabrig et al., 2022). Considering the model fit of the data from the considerably large and heterogeneous sample of Croatian teachers, it is safe to say that our study provides additional proof that the JD-R model serves as an adequate theoretical framework for teacher experiences during pandemics.

Previous studies on teacher samples revealed gender and age differences in the absolute levels of adverse outcomes, such as stress, anxiety, and depression (Ozamiz-Etxebarria, Mondragon et al., 2021; Santamaría et al., 2021; Silva et al., 2021; Stang-Rabrig et al., 2022). In addition, the present study showed that the relationship between job demands, job resources, and aspects of teacher well-being is maintained after controlling for gender, years of service, and school level (elementary vs upper secondary).

As reported, the coefficients between the variables reveal associations in expected directions. However, most of them are rather small, resulting in large residuals (i.e., large amounts of unexplained variance) regarding all three

of the teacher well-being aspects. Obviously, the perception of more difficult working conditions during the Covid-19 pandemic (i.e., perceived increases in work demands and the frequency of student difficulties), combined with the stable level of cooperation (i.e., no change in the quality of professional cooperation during Covid-19 compared to in the pre-pandemic period), was not strongly related to the teachers' subsequent well-being. We see two possible non-conflicting explanations for this (unfortunately, neither is verifiable with our cross-sectional data). First, it seems very probable that the variables denoting perceived change in job demands during the Covid-19 pandemic would be more predictive of teacher well-being measured at the peak of the pandemic. It is likely that, at the time of our data collection, the teachers' job satisfaction, experience of stress and work-life balance had already returned to their baseline levels or, at least, had somewhat recovered. Second, it is rather probable that some of the more pervasive factors, whether individual (e.g., personality, motivation for the teaching profession) or contextual (e.g., salary, work conditions, family support), determine teacher well-being to a significantly greater extent than the temporary circumstances that were analysed here. This points to a limitation of the present study in that it only focused on variables related to the perceived change in job demands and resources during the Covid-19 pandemic and did not simultaneously include other, more stable determinants of teacher well-being. Another limitation is related to the fact that *perceived* change in job demands and resources during the Covid-19 pandemic was included in the study. The perceived change was assessed directly by the participants at the time of the data collection and was not calculated by the researchers as a departure from the baseline assessments in the pre-pandemic period. This represents a potential gap in the current approach to estimating the baseline dynamics that existed prior to the pandemic. Thus, readers should bear in mind that the current approach might be burdened with the non-negligible level of respondents' bias in assessing actual change.

Conclusion

As previously mentioned, the teachers reported relatively high job satisfaction, low levels of stress, and medium levels of work-life balance. These results, together with the finding that experiences of stress and work-life balance were not considerably affected by the perceived increase in job demands (alongside the stable job resource of professional cooperation), could be attributed to teacher resilience, a capacity that enables them to adapt and thrive in challenging situations (Zhang et al., 2023). We think this notion is worth

exploring in future research. Namely, with longitudinal data, it would be valuable to test the hypothesis that relatively short-term disruptions and crises, such as the Covid-19 pandemic, cannot significantly diminish teacher well-being in the long run and that, in these cases, teachers' resilience or recovery comes to light. This could further be extended to include the hypothesis that crises might not be a valid reason for teachers to rethink their career choices. If established, this would be promising in light of the pressing issue of teacher attrition (see, e.g. Madigan & Kim, 2021).

Societies are likely to face new challenges. Though the pandemic was a rather radical example of the disruption that, among other aspects, affected educational systems and, consequently, teachers' working conditions, it is not unlikely that any emerging global or local challenge will make its way to classrooms. Our results suggest that teachers demonstrated resilience in facing the requirements of teaching in crisis, which has to be systematically supported. In an era of enlarged ambiguity and insecurity, teacher resilience as an important part of their well-being should be a focus of teacher professional development programmes. To raise strong and resilient children, we need to support the advancement of teachers' resilience and place a focus on teacher well-being.

Acknowledgements

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