

# Work Stress of Female Primary School Teachers During Covid-19 Pandemic and Demographic Differences



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## ABSTRACT

*Recent research shows teachers report their job being very stressful (OECD/TALIS). The Covid-19 pandemic caused many changes in education, which put teachers under additional strain (Sokal, Trudel & Babb, 2020). Female teachers in Slovak primary education outnumber male teachers by a ratio of 9-to-1. Even though women spend as much time in work as men, women's involvement in household chores is more than double. This creates an even greater challenge. The paper has several aims – the first aim is an examination of the stress level of primary school female teachers during the pandemic. The second aim is an examination of the intensity of measured stressors. The third aim is to compare work stress in female and male teachers. The fourth aim is to investigate the role of variables (age, work experience, education stage) on work stress. The research sample consisted of 473 teachers (426 female). According to results, over 58 % of female teachers reported quite a bit (34 %) or a lot of (24,7 %) experienced work stress. Overall, female teachers perceived most stress in stressors: having too much administrative work to do, uncertainty associated with frequent changes in education caused by pandemic and social acknowledgment.*

*Female teachers compared to male teachers experienced significantly more stress in several stressors, for example: being held responsible for students' achievement and perfectionism. Younger and less experienced female teachers perceived significantly more stress in specific stressors. 2<sup>nd</sup> stage female teachers*

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*experienced more stress in specific sources of stress compared to 1<sup>st</sup> stage female teachers.*

**KEY WORDS:** *teacher, female teacher, stress, work stress, demographic, demographic differences, Covid-19 pandemic*

## **Introduction**

Recent research repeatedly shows teacher stress is a serious issue. When teachers are asked to rate the level of their work stress, roughly 20-25 % of them report their job being very stressful (Unterbrink et al., 2007; Travers, 2017). In the case of female teachers, TALIS 2018 survey reports 11,3 % of Slovak female teachers experiencing a lot of stress (OECD/TALIS). A consequence of this work stress is teacher attrition, the rate at which teachers leave the profession (Shannon et al., 2017). In a survey of English teachers (Lightfoot, 2016), almost half of them revealed they planned to leave the profession in the next five years and almost 80 % of schools disclosed they had problems recruiting teachers. Through attrition, teacher work stress substantially threatens the quality of education.

The Covid-19 pandemic caused worldwide school closures, which put teachers under additional strain. German study surveying 380 teachers during school lockdowns reports teachers experiencing medium to high levels of stress (Klapproth, Federkeil, Heinschke & Jungmann, 2020). Longitudinal research of Canadian teachers followed their experience of work stress at two points in the Covid-19 pandemic. Over the first three months of the lockdown, teachers exhibited increasing levels of exhaustion and cynicism. Additionally, teachers' attitudes toward constant changes in educational processes became more negative (Sokal, Trudel & Babb, 2020). Interesting findings of a survey during the first week of October 2020 indicated a high level of average teacher burnout, significant predictors of burnout being anxiety communicating with parents and administrative support (Pressley, 2021).

Female teachers in primary education in Slovakia outnumber male teachers by a ratio of 9-to-1 (Education and training monitor, 2019). Even though female workers spend as much time in work as male workers, women's involvement in household chores is more than double when compared to their partners. This inequality can lead to more overall strain (Cerrato & Cifre, 2018). Moreover, COVID-19 lockdown has intensified

women's domestic workload, which could exacerbate these issues (Adisa, Aiyenitaju & Adekoya, 2021).

Over the years teacher stress research revealed many sources of stress are similar to those concerning comparable occupational groups (for example lack of time), but others are more job-specific (dealing with classes and students/pupils (Travers, 2017). Multiple attempts to identify such sources and their broader categories were made. Authors Greenberg, Brown, and Abenavoli (2016) differentiate four main sources of teacher stress. The first source of stress is school organization, which includes lack of school support and unsatisfactory relationships with administrators, colleagues, or students/pupils. The second main source of stress comprises job demands, stressors like too much administrative work, too much teaching, managing students/pupils with behavior problems, and communicating with difficult parents. The third main source of stress is problems with work resources including limited teacher autonomy or limited decision-making. The fourth source of stress according to the authors is social and emotional competence, which affects teachers' ability to manage work challenges adequately.

In 2018, a study assessed teachers' stress using individual interviews. The main goal of the study was to identify sources of stress in the teaching profession. Following stressors were recognized as most stressful; lack of administrative support, challenges associated with managing of students/pupils, teacher perceptions, and state mandates (Haydon, Leko & Stevens, 2018). In the population of Slovak teachers, the most intense sources of stress were identified; frequent legislative changes, working with pupils with special educational needs, and professional acknowledgment (Žitniaková-Gurgová & Behúňová, 2017).

Research examining the relationship between gender and teacher work stress has produced mixed results. Some studies indicate male teachers experience more stress related to their job (Aftab & Khatoon, 2012), but the majority of findings suggest female teachers are more vulnerable to occupational stress (OECD/TALIS; Santamaría et al., 2021). Research on female teachers' burnout levels confirmed 49 % of the sample reported very high levels (Tikhonova et al., 2019). There is also evidence that male and female teachers process stress differently, according to Klapproth et al. (2020) female teachers experienced significantly higher stress levels, but coped with it more functional way.

Regarding the impact of teachers' age on work stress, findings are less clear. Some studies indicate older teachers generally report higher levels of work strain and burnout. According to a 2021 study, older teachers reported a higher level of occupational stress and exhaustion than other groups (Xhelilaj, Petani & Ntalla, 2021). The findings of authors Kavita and Hassan (2018) show teachers in age (31-50 years) experienced more work stress compared to the younger age group (20-30 years) and older age group (51-60 years).

Contrastingly, a study of teachers during the Covid-19 pandemic suggests the opposite trend. Younger teachers (23-35 years old) experienced higher levels of stress compared to middle-aged teachers (36-46 years old), but lower levels of stress when compared to older teachers (over 47 years old). So overall stress intensity distribution depending on age groups seems to form U-shape, meaning youngest and oldest teachers experienced comparatively more occupational stress during pandemic (Ozamiz-Etxebarria, 2021). Another study on teachers' stress during pandemic reported age groups of less than 30 years old and 31 to 40 years old experienced more occupational stress compared to older age groups during this time period (Chitra, 2020).

Years of work experience is another factor affecting teacher stress. Aftab and Khatoon (2012) suggest teachers with 6 to 10 years of experience perceive the highest levels of stress, while teachers with 0 to 5 years of experience perceive the lowest levels of stress. Other data points out teachers with teaching experience between 11-15 years experienced more stress compared to all other groups (Kavita & Hassan 2018).

A study focusing on female teachers pinpointed that age and years of experience were inversely related to emotional burnout. Therefore, younger and less experienced female teachers were more vulnerable to burnout (Tikhonova et al., 2019).

The Slovak primary school system is divided into the primary and secondary education stages. The 1<sup>st</sup> education stage consisting of 4 grades educates the youngest pupils in the age of 6 to 9. The 2<sup>nd</sup> education stage comprising of five grades educates older pupils in the age of 10 to 14. The role of 1<sup>st</sup> and 2<sup>nd</sup> stage teachers differs substantially. 1<sup>st</sup> stage teachers generally manage and lead their class and teach almost all subjects in that class. 2<sup>nd</sup> stage teachers specialize in particular school subjects and teach multiple classes. Taking into account the differences, the level of general stress and sources of stress might vary in these two groups.

Findings from the 2017 study show first education stage teachers report a higher rate of burnout compared to ones in the second stage. Additionally, a critical state of stress was measured in 36 % of the first stage teachers, compared to 20 % present in second stage teachers (Žitniaková-Gurgová & Behúňová, 2017). However, data on the Slovak population of female teachers during the pandemic period indicates 2<sup>nd</sup> stage teachers experiencing more occupational stress (Loziak, Fedáková & Čopková, 2020).

As this introduction presents, some research on teacher work stress during the Covid-19 pandemic is already published. Scientific data generally points to a worsening trend in this area. However, research focusing on specific sources of stress and the role of gender and other variables on stress during the pandemic is, at least to our knowledge, lacking.

The goal of the present paper is assessment and examination of the stress level and specific sources of stress in primary school female teachers during the Covid-19 pandemic. We investigate whether work stress differed in female and male teachers. We also analyze the role and impact of measured variables (age, years of experience, and education stage) on female teachers' work stress.

## **Methods**

The original research sample included 489 primary school teachers. After conducting an analysis of careless responses, we excluded 16 participants from the sample. In the remaining sample of 473 school teachers (426 female, 47 male), the age ranged from 25 to 62 (mean 44.48) with 19 years of work experience on average.

For the majority of the analysis, we have used a sample of 426 female teachers. 171 teachers worked at the first primary education stage, 255 teachers worked at the second primary education stage. In this sample, the age ranged from 25 to 62 (mean 44.95) with 19 years of average work experience. 171 female teachers worked at the 1<sup>st</sup> primary education stage, 255 female teachers worked at the 2<sup>nd</sup> primary education stage.

Data were collected in October 2020, in the time frame the most of primary school education in Slovakia was face-to-face, only 10 % of teachers taught remotely. The sample was created by self-selection. Voluntary response sampling was applied. An online questionnaire was

delivered to the teaching staff of 28 primary schools in all Slovak regions, teachers completed the questionnaire voluntarily. The completion of the survey took approximately 25-30 minutes. Despite self-selection, analysis has confirmed sample can be considered representative of primary school teachers' population in key characteristics of gender, age, and region.

Two measurements of work stress were used - a TALIS stress questionnaire (OECD/TALIS) and a Teacher stressor questionnaire (Clip & Boghean, 2015). We have also measured age, years of experience, and education stage.

TALIS stress questionnaire is part of the international TALIS survey, which asks teachers and school leaders about working conditions and learning environments, and in 2018 has surveyed many countries including Slovakia.

The stress questionnaire consisted of 12 items. The first item assessed general stress level of teachers (*I experience stress in my work*). 11 items measured intensity of specific stressors in the teaching profession (*Having too much lesson preparation; Having too many lessons to teach; Having too much marking; Having too much administrative work to do; Having extra duties due to absent teachers; Being held responsible for students' achievement; Maintaining classroom discipline; Being intimidated or verbally abused by students; Keeping up with changing requirements from authorities; Addressing parent or guardian concerns; Modifying lessons for students with special needs*).

Items utilized 4-point scale was used from 1 (Not at all) to 4 (A lot). McDonald's omega ( $\omega$ ) for 11 items assessing specific stressors in 2018 (sample of 3043 Slovak teachers) was evaluated at 0,942. McDonald's omega ( $\omega$ ) for the same items in our study was estimated at 0,825.

The Teacher stressor questionnaire (TSQ) was another method of identifying specific stressors for primary school teachers. We decided to use an additional scale to assess a more comprehensive list of possible stressors. The method was applied previously by Slovak researchers (Žitniaková-Gurgová & Behúňová, 2017; Loziak, Fedáková, Čopková, 2020). From the original 15 items, 5 items were discarded because they investigated the same sources of stress as TALIS questionnaire items. The remaining 10 items were utilized (*Social acknowledgment; Low wage; Taking multiple roles; Perfectionism; Routine; Professional acknowledgment; Teacher education; Insufficiency or lack of materials; Relationships with school management; Relationships with other teachers*). We added 3 items (*School*

*performances; Preparing new forms of education; Classroom teacher stress*) covering valid stressors identified in recent research of Slovak teachers stress (Loziak, 2021) and 2 items (*Regulations in education caused by a pandemic; Uncertainty associated with frequent changes in education caused by pandemic*) covering sources of stress associated with the pandemic situation in October 2020.

To assess the perceived intensity of work stressors, a 5-point scale was used from 1 (not stressful at all) to 5 (extremely stressful). McDonald's omega ( $\omega$ ) for this modified, 15 item version of the questionnaire was evaluated at 0,880.

## **Results**

Following the first aim of this paper, we examined the stress level of primary school female teachers during the Covid-19 pandemic. The overall work stress level was measured by item *I experience stress in my work*. Four different answers were possible: 1 (Not at all), 2 (To some extent), 3 (Quite a bit), 4 (A lot). 5,6 % of the sample (24 participants) answered *Not at all*. 35,7 % of the sample (152 participants) answered *To some extent*. 34,0 % of the sample (145 participants) answered *Quite a bit*. 24,7 % of the sample (105 participants) answered *A lot*. Cumulatively, over 58 percent of female teachers reported quite a bit or a lot of experienced stress in work.

Figure 1: Perceived stress level of primary school female teachers

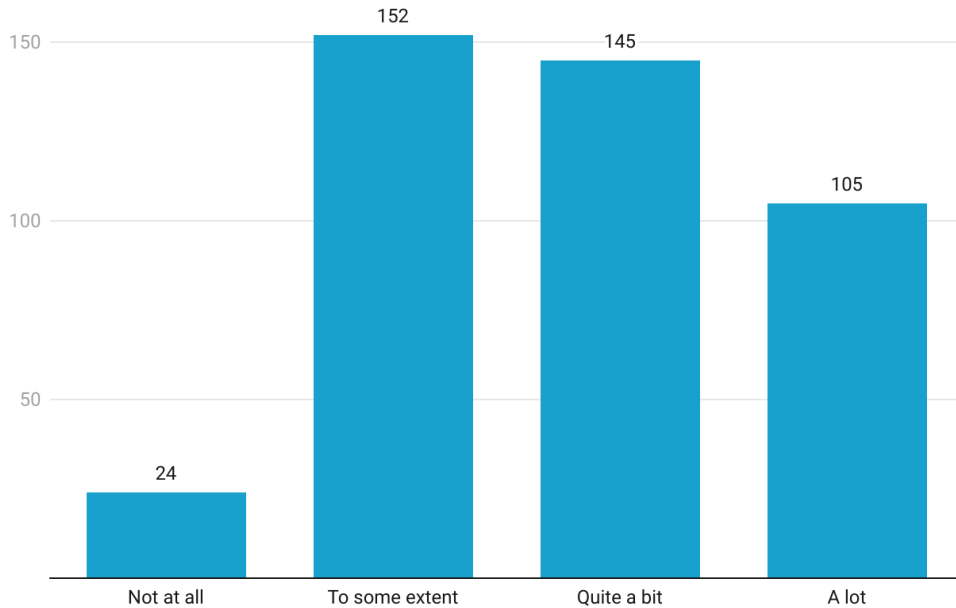


Figure 2 displays mean values and standard deviations of 11 stressors measured by the TALIS stress questionnaire, partly addressing the second aim of the study – examination of the intensity of stressors. Respondents answered on a 4-point scale from 1 (Not at all) to 4 (A lot). The highest mean score was measured in sources of stress *Having too much administrative work to do* and *Keeping up with changing requirements from authorities*. The lowest mean score was detected in stressors *Having too much marking* and *Being intimidated or verbally abused by students*. Considering the scale of the used questionnaire, in 9 of the stressors teachers reported at least some extent of stress, which indicates perceived stress in a variety of situations.



*Figure 2 Female teacher TALIS questionnaire stressors – mean values and standard deviations*

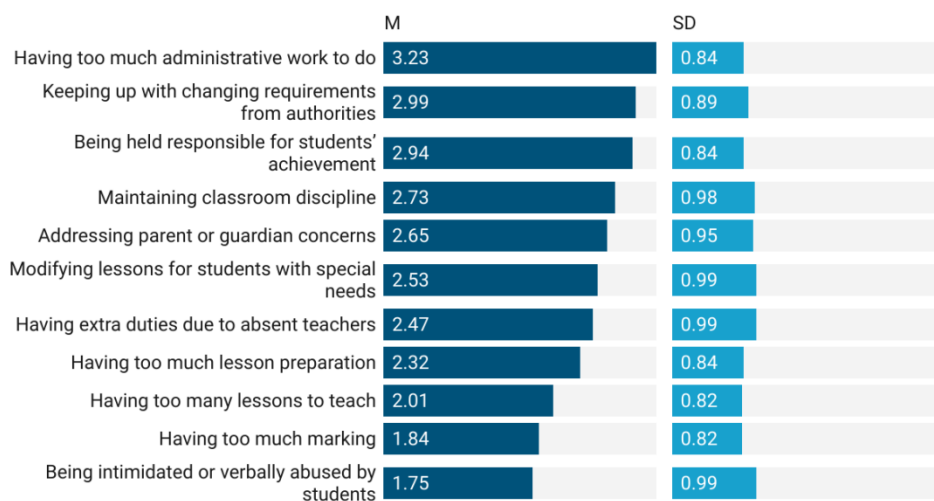
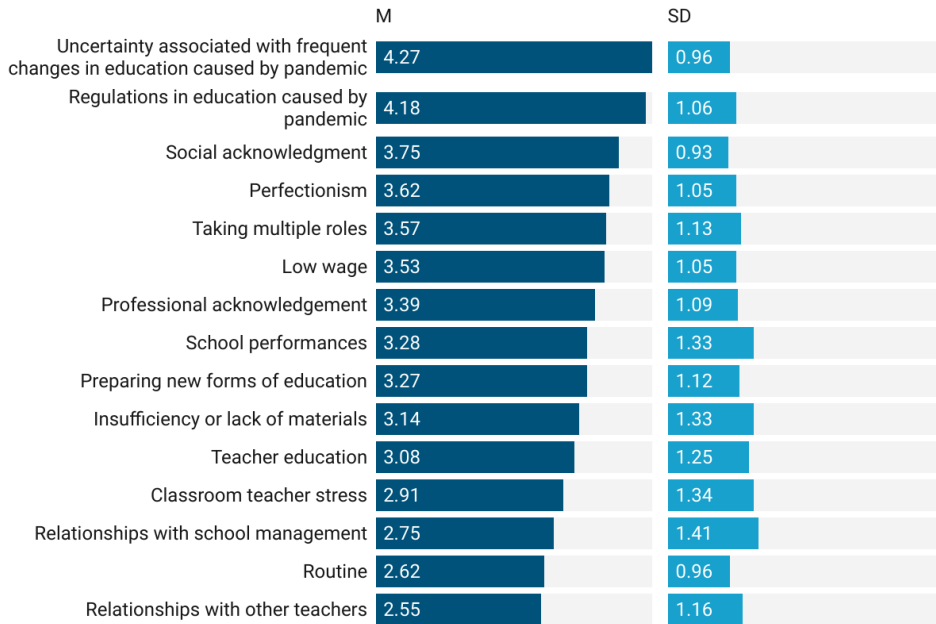


Figure 3 presents mean values and standard deviations of 15 stressors measured by the Teacher stressor questionnaire. These results also address the second aim of the study. Respondents answered on a 5-point scale was used from 1 (not stressful at all) to 5 (extremely stressful). The highest mean score was estimated in sources of stress *Uncertainty associated with frequent changes in education caused by pandemic*, *Regulations in education caused by pandemic* and *Social acknowledgment*. The lowest mean score was measured in stressors *Routine* and *Relationships with other teachers*. These results also suggest a high level of stress in a wide variety of work situations, as in 11 out of 15 stressors mean score surpasses the 3-point (midpoint) answer.

Figure 3 Female teacher TSQ questionnaire stressors - mean values and standard deviations



In further comparative analyses, Welch's t-test was utilized, as unequal variances of samples were identified by the F test. Moreover, according to some researchers (Delacre, Lakens, Leys, 2017) Welch's t-test provides better control of Type I error rates when the assumption of homogeneity of variance is not met, and it loses little robustness in comparison to Student's t-test when the assumptions are met. Authors argue that Welch's t-test should be used as a default statistical test. Effect sizes were calculated using Hedges g.

Following the third aim of the paper, we compared samples of men and women in general stress levels and all measured sources of stress. Welch's t-tests and Hedges g were applied. Although general stress levels did not vary significantly by gender, we identified statistical differences in four specific sources of stress. In all of these stressors, female teachers experienced significantly higher levels of work stress. Hedges g for calculations ranged from ( $g = 0,32$  to  $0,63$ ), which can be considered medium effect size. *Being held responsible for students' achievement* was a stressor with the highest measured effect size ( $g = 0,63$ ), meaning differences in the experienced work stress between men and women were

greatest in this stressor. Overall, these results indicate female teachers perceived higher levels of stress at least in some of the work situations. The results of the analysis are presented in Table 1.

*Table 1: Comparison of female and male teachers in sources of work stress*

Sources of work stress	Female M (SD)	Male M (SD)	t (p)	g
Being held responsible for students' achievement	2,94 (0,84)	2,40 (0,85)	4,11 (< 0,001)	0,63
Perfectionism	3,62 (1,05)	3,13 (1,14)	2,83 (0,007)	0,45
Relationships with other teachers	2,55 (1,16)	2,08 (1,18)	2,79 (0,007)	0,42
School performances	3,27 (1,33)	2,85 (1,35)	2,04 (0,046)	0,32

In the next section of the results, the fourth aim of the paper is addressed. Following analysis compared two age groups (25-43 years old and 44-62 years old) of female teachers in general stress level and all measured sources of stress. Even though general stress levels did not vary significantly concerning age, we identified statistical differences in seven sources of stress. In stressor *Having too much administrative work to do*, older female teachers experienced more work stress. In all other sources of stress, higher levels of work stress were experienced by younger female teachers. Hedges g ranged from (g = 0,19 to 0,33), which can be interpreted as a quite low effect size. More detailed results of the tests are presented in Table 2.

*Table 2: Comparison of age groups (25-43 years old) and (44-62 years old) in sources of work stress of female teachers*

<b>Sources of work stress</b>	<b>25-43 M (SD)</b>	<b>44-62 M (SD)</b>	<b>t (p)</b>	<b>g</b>
Having too much administrative work to do	3,14 (0,86)	3,31 (0,81)	2,19 (0,032)	0,21
Being held responsible for students' achievement	3,05 (0,82)	2,84 (0,84)	2,49 (0,013)	0,24
Maintaining classroom discipline	2,90 (0,93)	2,58 (0,99)	3,40 ( $< 0,001$ )	0,33
Being intimidated or verbally abused by students	1,90 (1,07)	1,62 (0,90)	2,84 (0,005)	0,28
Addressing parent or guardian concerns	2,75 (0,97)	2,57 (0,92)	1,99 (0,048)	0,19
Teacher education	3,28 (1,26)	2,91 (1,22)	3,05 (0,002)	0,29
Uncertainty associated with frequent changes in education caused by pandemic	4,36 (0,88)	4,18 (1,03)	1,97 (0,049)	0,19

We also compared female teachers in general stress level and all assessed sources of stress based on years of work experience; for this purpose, two groups were created (0-20 years and 21-40 years of experience). A significant difference in general stress level was not confirmed, however, we discovered statistically significant differences in eight sources of stress. In all of these stressors, less experienced female teachers (those with less than 20 years of experience) perceived more occupational stress. Hedges  $g$  ranged from ( $g = 0,20$  to  $0,31$ ), suggesting lower effect size. Table 3 presents results in more detail.

*Table 3: Comparison of years of experience groups (0-20 years) and (21-40 years) in sources of work stress of female teachers*

<b>Sources of work stress</b>	<b>0-20 M (SD)</b>	<b>21-40 M (SD)</b>	<b>t (p)</b>	<b>g</b>
Maintaining classroom discipline	2,87 (0,97)	2,60 (0,96)	3,15 (0,002)	0,31
Being intimidated or verbally abused by students	1,86 (1,05)	1,62 (0,89)	2,55 (0,011)	0,25
Addressing parent or guardian concerns	2,75 (0,96)	2,54 (0,92)	2,35 (0,019)	0,23
Teacher education	3,25 (1,27)	2,88 (1,20)	3,08 (0,002)	0,30
Preparing new forms of education	3,39 (1,05)	3,12 (1,18)	2,53 (0,012)	0,25
Classroom teacher stress	3,08 (1,35)	2,68 (1,29)	3,08 (0,002)	0,29
Regulations in education caused by pandemic	4,28 (0,99)	4,06 (1,12)	2,08 (0,038)	0,20
Uncertainty associated with frequent changes in education caused by pandemic	4,36 (0,88)	4,17 (1,03)	2,02 (0,045)	0,20

Lastly, a comparison of 1<sup>st</sup> education stage and 2<sup>nd</sup> education stage female teachers in general stress level and sources of stress was computed. Although general stress levels did not vary significantly by education stage, we identified statistical differences in six specific stressors. In these six stressors, 2<sup>nd</sup> stage female teachers experienced significantly higher levels of work stress. Hedges *g* for calculations ranged from ( $g = 0,22$  to  $0,38$ ), which can be considered small to medium effect size. In stressor *Classroom teacher* with effect size ( $g = 0,38$ ), we identified the largest difference in the perceived stress between 1<sup>st</sup> education stage and 2<sup>nd</sup> education stage female teachers. The results of the analysis are presented in Table 4.

*Table 4: Comparison of first stage teachers group and second stage teachers group in sources of work stress of female teachers*

Sources of work stress	1 <sup>st</sup> stage M (SD)	2 <sup>nd</sup> stage M (SD)	t (p)	g
Having too much lesson preparation	2,19 (0,76)	2,40 (0,88)	2,45 (0,015)	0,24
Having too much marking	1,71 (0,76)	1,92 (0,84)	2,60 (0,010)	0,25
Being intimidated or verbally abused by students	1,61 (0,89)	1,85 (1,04)	2,54 (0,012)	0,25
Social acknowledgment	3,63 (0,95)	3,84 (0,92)	2,23 (0,027)	0,22
Taking multiple roles	3,42 (1,16)	3,68 (1,09)	2,34 (0,020)	0,23
Classroom teacher stress	2,60 (1,18)	3,09 (1,40)	3,90 ( $< 0,001$ )	0,38

## Discussion

The first objective of this paper was the examination of the stress level of primary school female teachers during the Covid-19 pandemic. Reflecting experienced work stress, 34,0 % of female teachers reported *Quite a bit* of stress, 24,7 % reported *A lot* of stress. Based on these proportions, it can be implied that over 58 percent of female teachers perceived their work being stressful in this time period. Only 5,6 % of the sample answered *Not at all*, suggesting no experienced stress.

Our results correspond with some other findings in the field. Part of research before the Covid-19 pandemic suggested 20-25 % of teachers reporting their work as very stressful (Unterbrink et al., 2007; Travers, 2017), which matches 24,7 % of our sample answering they experience a lot of stress. However, when compared with the results of the TALIS 2018 survey, which reports 11,3 % of Slovak female teachers answered experiencing *A lot* of stress (OECD/TALIS), it seems levels of stress in Slovak female teachers increased since 2018. It is unclear whether the observed increase is caused by a pandemic, as the pandemic started in 2020.

Our results are also comparable with a study on female teachers' burnout level which revealed 49 % of the sample reporting very high levels (Tikhonova et al., 2019). Overall findings suggest over half of female teachers experience a considerable amount of occupational stress, which is an alarming proportion.

The second aim was an examination of the perceived intensity of measured sources of stress in female primary school teachers. In a group of stressors measured by the TALIS stress questionnaire, the highest mean values were detected in stressors *Having too much administrative work to do* ( $M = 3,23$ ) and *Keeping up with changing requirements from authorities* ( $M = 2,99$ ). Administrative work seems to be a pressing problem, as it was identified as one of the most stressful aspects of teachers' work by other research as well (Haydon, Leko, Stevens, 2018). High intensity of stressor associated with changing requirements from authorities can be in our opinion related to the overall pandemic situation ongoing in education.

In a group of stressors assessed by the Teacher stressor questionnaire, the highest mean scores were estimated in sources of stress *Uncertainty associated with frequent changes in education caused by pandemic* ( $M = 4,27$ ), *Regulations in education caused by pandemic* ( $M = 4,18$ ), and *Social acknowledgment* ( $M = 4,18$ ). Although the intensity of the first two mentioned stressors is kind of unsurprising and supported by other research (Sokal, Trudel, Babb, 2020), the intensity of stressor associated with social acknowledgment is quite unforeseen. Similar stressor, *Professional acknowledgment* ( $M = 3,39$ ) scored rather high in our study as well. These two stressors were measured by the same questionnaire in Slovak teachers (general, not female) in 2017, however, mean values did not reach the same levels – *Social acknowledgment* ( $M = 3,16$ ) and *Professional acknowledgment* ( $M = 2,58$ ) (Žitniaková-Gurgová, Behúňová, 2017). We suggest work stress of female teachers related to social and professional acknowledgement increased over the last years. Research of teacher stress is often focused on workload and work activities, but based on our results we can argue this research scope is insufficient.

The third goal of the research was investigating the role of the gender, so the comparison of stress levels and sources of stress in female and male teachers was made. Despite the fact general stress level did not differ significantly by gender, we identified statistical differences in following stressors: *Being held responsible for students' achievement* ( $g = 0,63$ ), *Perfectionism* ( $g = 0,45$ ), *Relationships with other teachers* ( $g = 0,42$ ) and

*School performances* ( $g = 0,32$ ). All of the stressors followed the same trend, female teachers experiencing significantly higher levels of work stress in contrast to male counterparts. This is in line with the majority of findings proposing women working as teachers are more vulnerable to occupational stress (OECD/TALIS; Santamaría et al., 2021). It is rather interesting to pinpoint specific stressors that threaten women's mental health in work more than men's. For example, a significant difference in stressor *Being held responsible for students' achievement* with the highest effect size may imply female teachers care more about students' successes, resulting in more experienced work pressure.

The fourth aim of the paper was the investigation of the role of age, years of experience, and education stage on sources of work stress of female teachers. For purpose of examining the impact of age, we created two age groups: 25-43 years old and 44-62 years old. We did not confirm the statistical difference in general stress for age, however, we managed to identify differences in several sources of stress.

In stressor *Having too much administrative work to do* ( $g = 0,21$ ), older female teachers experienced more work stress. In stressors *Being held responsible for students' achievement* ( $g = 0,24$ ), *Maintaining classroom discipline* ( $g = 0,33$ ), *Being intimidated or verbally abused by students* ( $g = 0,28$ ), *Addressing parent or guardian concerns* ( $g = 0,19$ ), *Teacher education* ( $g = 0,29$ ), and *Uncertainty associated with frequent changes in education caused by pandemic* ( $g = 0,19$ ), higher levels of work stress were experienced by younger female teachers. Apart from administrative duties, which seem to burden older teachers more, the general trend shows younger teachers feel a higher level of stress in more situations. Our findings are supported by a study during the Covid-19 pandemic that reported age groups of less than 30 years old and 31 to 40 years old experience more occupational stress than older age groups (Chitra, 2020). The results of our paper are almost identical to mentioned study in terms of age ranges where statistical differences occurred, but it is important to emphasize we did not confirm differences in overall stress, only in specific stressors.

When examining stressors with significant differences more closely, we can speculate higher level of stress of younger teachers in certain situations (*Maintaining classroom discipline* or *Addressing parent or guardian concerns*) might be simply affected by insufficient work experience. Stressor *Uncertainty associated with frequent changes in education caused by pandemic* on the other hand implies younger female teachers were more



vulnerable to the stress that was directly related to ongoing pandemic restrictions in education.

With the intention of examining the impact of experience on teachers' stress, we created two groups: 0-20 years of work experience and 21-40 years of work experience. We did not manage to confirm the statistical difference in general stress level with respect to experience, but we did confirm differences in several sources of stress. In all of the stressors, less experienced female teachers reported more occupational stress. We confirmed statistical differences in following sources of stress: *Maintaining classroom discipline* ( $g = 0,31$ ), *Being intimidated or verbally abused by students* ( $g = 0,25$ ), *Addressing parent or guardian concerns* ( $g = 0,23$ ), *Teacher education* ( $g = 0,30$ ), *Preparing new forms of education* ( $g = 0,25$ ), *Classroom teacher stress* ( $g = 0,29$ ), *Regulations in education caused by pandemic* ( $g = 0,20$ ) and *Uncertainty associated with frequent changes in education caused by pandemic* ( $g = 0,20$ ). A similar inverse relationship of years of experience and stress was discovered by another study of female teachers (Tikhonova et al., 2019), even though stress was researched in form of emotional burnout.

Findings support our expectation that differences in some stressors like *Maintaining classroom discipline* or *Addressing parent or guardian concerns* might not necessarily be the result of young age but rather lack sufficient work experience. Findings also imply that similarly to age, more years of experience might be a protective factor for stress related to pandemic restrictions. This is rather surprising as many might expect younger people to be more adaptive to changes, at least in the case of using more technology during pandemic education.

Based on our results, important implications for different groups of teachers can be proposed. Data strongly suggests younger and less experienced female teachers are more vulnerable to stress associated with changes in education due to pandemics. These can be important findings to sectors and institutions that provide help and counselling to teachers. Counselling from mental health professionals can be adjusted and targeted to beginner teachers, who can feel overwhelmed in these crises situations. This does not mean more experienced teachers should be overlooked, rather different types of help should be provided to different age groups.

Finally, differences between the 1<sup>st</sup> education stage and 2<sup>nd</sup> education stage female teachers were computed. We pinpointed six specific sources of stress in which 2<sup>nd</sup> stage teachers perceived more stress: *Having too much*

*lesson preparation* ( $g = 0,24$ ), *Having too much marking* ( $g = 0,25$ ), *Being intimidated or verbally abused by students* ( $g = 0,25$ ), *Social acknowledgment* ( $g = 0,22$ ), *Taking multiple roles* ( $g = 0,23$ ) and *Classroom teacher stress* ( $g = 0,38$ ). These results are supported by our previous research on female teachers, which also suggest 2<sup>nd</sup> stage teachers experience more work stress (Loziak, Fedáková, Čopková, 2020). However, the findings of these two studies differ in some ways. While in the 2020 study statistical difference was measured in stressor related to lack of professional recognition, in the present study no differences in this stressor were discovered. The present study on other hand emphasizes important differences in *Classroom teacher stress*. This fact suggests it was more difficult for 2<sup>nd</sup> stage female teachers to lead their own classes during the Covid-19 pandemic. We can only guess what factors made it more difficult for them compared to 1<sup>st</sup> stage, but a fact that 2<sup>nd</sup> stage teachers work with multiple classes on top of their own might play a role.

Research also seems to imply 2<sup>nd</sup> stage female teachers are more burdened by stressors associated with workload (having too much lesson preparation, having too much marking, taking multiple roles) compared to 1<sup>st</sup> stage. We propose a reduction of marking requirements for this group of teachers, at least during times of pandemic or similar crisis, which can be an effective way to reduce their stress. Education system can also consider making sure 2<sup>nd</sup> stage teachers are not overly strained by multiple roles in school.

Approaching the end of the study we would like to acknowledge the limitation of our research. An unevenness of used scales did not allow us to unite all measured stressors in one list and compute a comprehensive comparison of all of the stressors. However, we decided to use scales in their original forms, which allowed us to make other valuable comparisons.

In conclusion, we would like to emphasize that teachers of this age deserve more attention than ever before. Pandemic stopped many aspects of our lives, but education continued even in the most critical moments. It is our social responsibility to take notice of teachers' problems, to study these problems scientifically, and also to make sure produced findings are used for improvements in education and teachers' everyday work lives.

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