



REPORT

Stress Factors for Female Teachers at Distance Learning Environment in Conditions of COVID-19

Research Institute for Social & Gender Studies

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Stress Factors for Female Teachers at Distance Learning Environment in Conditions of COVID-19

Kazakh National Women's Teacher Training University, Research Institute for
Social and Gender Studies
UNESCO Almaty Cluster Office

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EXECUTIVE SUMMARY

The worldwide outbreak of COVID-19 has a huge impact on all fields and every aspect of people's lives. Across every sphere, from economy to the education, the pandemic has influenced men and women and further increased existing gender inequalities. In this report, we have focused on the academic sector, particularly on what effect pandemic has on teaching and learning process. Since education is a drive for sustainable development and peace, and is a human right for everyone, it is important to ensure a continuous, high-quality educational process in learning institutions and universities. COVID-19 has led to a historic change in the education system around the world. According to data from the United Nations Educational, Scientific and Cultural Organization (UNESCO), transformations in the education system due to the pandemic have directly affected 1.2 billion students worldwide, and the education systems of 190 countries. This situation affects all social structures of society, which requires modification and development of traditional methods of education in order to bring it to a new level.

To empower women teachers to cope better and remain productive in their daily routine during the pandemic, the UNESCO Almaty Cluster Office and the Research Institute for Social and Gender Studies at the Kazakh National Women's Teacher Training University collaborated on a joint project to investigate stress factors affecting mental health of female teachers from schools and universities in Central Asian countries, particularly in Kazakhstan and Kyrgyzstan. The project is multidisciplinary study that integrates gender, psychology and education issues within the digitalization and COVID-19 contexts.

The emergency during the pandemic has led to new inequalities of opportunities in the education system. One of the effects of the pandemic on the educational process is the suspension of face-to-face classes and communication, which has an adverse effect on the socialization process. Because of the low Internet connection in rural and remote areas, teachers and students were encountering barriers to education. Furthermore, large families with three or more children were experiencing financial and technical use (access to technologies) inequality, as well as mental pressure.

Our findings show that women teachers felt inability to control important events in their lives during the pandemic. Post-pandemic stress response indicators revealed a change in respondents' confidence in their ability to solve personal problems. Further analysis also indicated that there are no differences between the perceptions of Organizational Climate and the Levels of Material and Technical Security in Kazakhstan and Kyrgyzstan. However, significant differences were found between teachers' perceptions in Kazakhstan and Kyrgyzstan concerning the levels of anxiety and depression before and during the pandemic. Female teachers in Kyrgyzstan felt more anxious and depressed than teachers in Kazakhstan during the pandemic. Similar trend was observed in comparing the levels of anxiety and depression before the pandemic: anxiety and depression were stronger for the residents of Kyrgyzstan compared to those who are from Kazakhstan.

More detailed data analysis on stress factors, measurements of anxiety and depression, employee perceptions of psychological climate is presented in this report based on the research study.

INTRODUCTION

In the pre-pandemic period, Central Asia was already experiencing so-called educational poverty and inequality, defined in terms of the unbalanced distribution of academic resources, school funding, qualified and knowledgeable teachers, weak Internet connection, etc. Therefore, this study is a further analysis of the stress factors that affect women teachers who were working remotely during the pandemic.

The COVID-19 negatively affected the education system in Central Asia, with a significant impact on human capital, the economic and social development of the individuals, groups and society. It became clear that such crises would affect the future social psychology and economic conditions of teachers in the educational process. The sudden transition to online (distance) learning, resulted in an unplanned shift from traditional teaching and learning to digital learning, caused additional stress to teachers and students at their work and home. Within this context, the present study aimed to explore stress components for women teachers who were implementing distance-learning methods in the pandemic conditions in Kazakhstan and Kyrgyzstan. Main objectives of this project are to develop strategic recommendations for universities, schools, and education policy makers; and to empower socially vulnerable female groups to cope with digitalization and career-related challenges, by organizing trainings/workshops on a basis of the study results.

Literature review:

During the state emergency because of the pandemic, people (including children) in all countries of the world were obliged to stay at their homes, and go out only for meeting their basic needs. As a result, teaching activities were transformed to online learning.

The COVID-19 pandemic has challenged the education system across the world and forced educators to shift to an online mode of teaching, which in turn has led to increased pressure, stress and anxiety for teachers, as they had to rapidly adapt to new and untested teaching methods (Alves et al. 2020; Anderson et al., 2021; Doghonadze et al., 2020; Ozer, 2020; Rehman et al., 2020). This was especially challenging for female teachers and those who have families and children, as they have additional household responsibilities, including care for the sick, elderly and children (Cortés-Álvarez et al., 2020; Klapproth et al., 2020; Košir et al., 2020.).

Research and studies conducted during the time of lockdown showed the importance of returning to offline education when health situation allows it (Francis and Pegg, 2020; UNESCO, 2020). Moreover, according to UNESCO data, teachers were confused and stressed because of the uncertainty about the duration of online learning and poor knowledge of distance education (UNESCO, 2020).

Moreover, some studies show that when the pandemic started, teachers had high levels of stress, anxiety, depression and sleep disturbance because of online teach (Besser et al., 2020). Other studies found that using Information and Communication Technologies (ICT) for working out of office can create tension, anxiety, exhaustion and decreased job satisfaction (Cuervo et al., 2018). Nevertheless, during the pandemic ICT was the only tool available to educators.

Several studies conducted during the COVID-19 pandemic also indicated that variables like age (González-Sanguino et al., 2020; Nwachukwu et al., 2020; Picaza et al., 2020), gender (Talevi et al., 2020; Ozamiz-Etxebarria et al., 2020), having children (Cameron et al., 2020; Fitzpatrick et al., 2020) had impacted the people's levels of stress, depression and anxiety.

Without any doubt, gender should also be considered in the analysis of psychological response to the pandemic. Many studies have suggested that women appear to present more severe symptoms of depression, anxiety and distress in comparison with men (Gao et al., 2020; Lai et al.,

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2020; Qiu et al., 2020). It is also worth to note that there is a high level of feminization of teaching profession in Central Asian countries.

Overall, the COVID-19 pandemic may have a long-lasting impact on teachers and education activities, and, as a result, on children (Holmes et al., 2020). Therefore, it is needed to consider how teachers are coping with the return to offline education and what relevant support may be needed (Holmes et al., 2020).

Given the fact that teachers were exposed to significant levels of mental pressure at the beginning of the pandemic, there is a need for continued research that will provide deeper understanding of the issues related with the mental health of the educators. This would allow providing appropriate resources and support to meet their needs and reduce the negative effects of the pandemic crisis on their mental well-being. In this sense, it is necessary to provide recommendations to the policy makers in the educational community based on research evidence regarding COVID-19 and its consequences.

Aim of the project: to investigate stress factors affecting mental health of female school and university teachers in pre-and post-pandemic periods.

Objectives of the project:

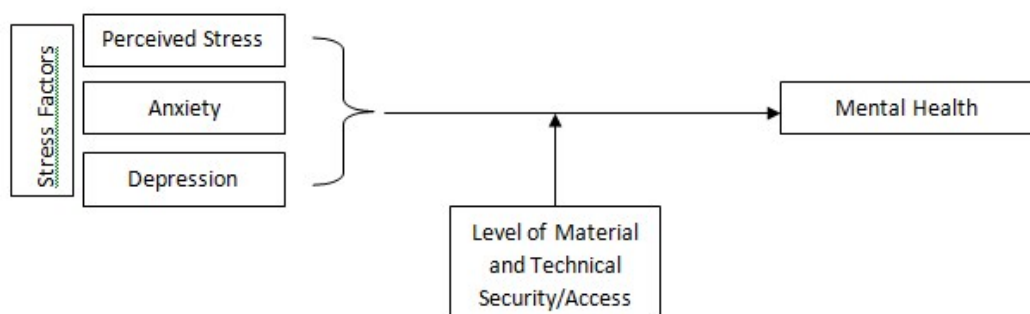
- 1). Develop strategic recommendations for university and school management and education policy makers on measures and actions against professional burnout, dissatisfaction and work inefficiency.
- 2). Empower socially vulnerable female groups to cope with digitalization and career-related challenges by organizing the series of psychological trainings/workshops on a basis of the study results.

Scope of the project: the study was conducted in two Central Asian countries - Kazakhstan and Kyrgyzstan.

Target Audience: female teachers, school and university teachers involved in distance teaching.

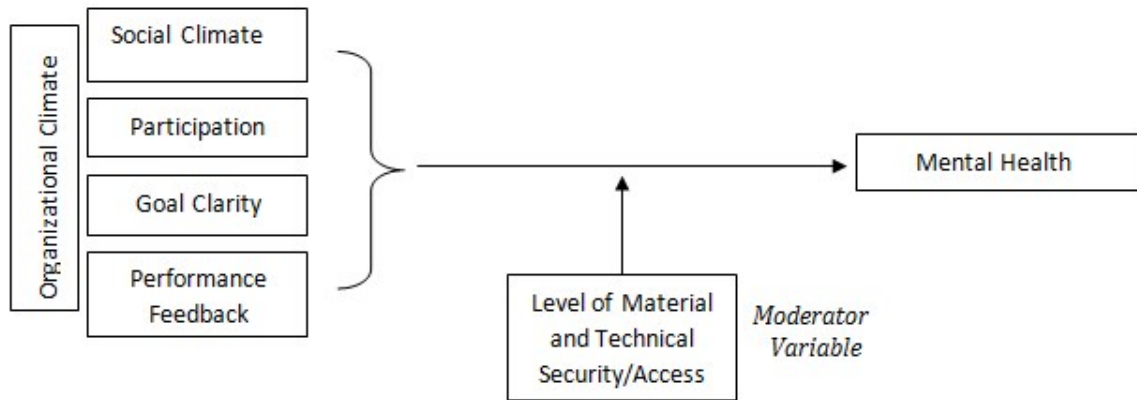
Research Model & Working Hypotheses:

The research model was designed to investigate and measure the relationships between dependent and independent variables and to check possible correlations between variables.

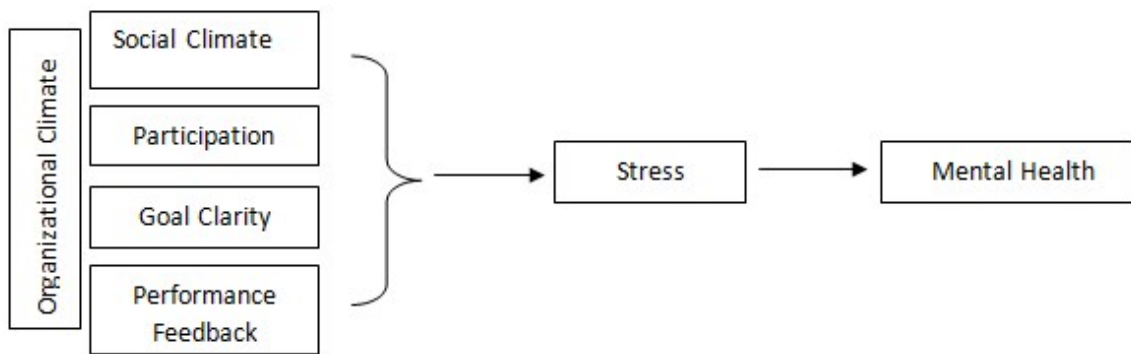


H1: The relationship between stress factors and mental health of female university and schoolteachers differs across countries and the level of material and technical security positively influences this relationship.

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H2: The relationship between organizational climate factors and mental health of female university and schoolteachers differs across countries and the level of material and technical security positively influences this relationship.



H3: Organizational Climate Factors (Social Climate, Participation, Goal Clarity or Performance Feedback) reduces Stress and positively affects Mental Health of women teachers.

Research methodology:

The study was designed as an empirical quantitative Survey-based research with the application of the following scales:

- 1) Perceived Stress Scale (Cohen et al., 1983; Cohen and Williamson, 1988).
- 2) Symptom Checklist-90 Scale (SCL 90-R) for measuring anxiety and depression (Derogatis, 1977; González de Rivera et al., 1989).
- 3) Quality-Work-Competence (QWC – adopted version) for measuring employee perceptions of psychological climate (Derogatis, 1977; González de Rivera et al., 1989).

Online questionnaire was used at the stage of data collection. The survey questionnaire consists of five sections such as “Demographic Profile”, “Perceived Stress Scale”, “Anxiety and Depression (SCL-90-R)”, “Quality-WorkCompetence (QWC) Scale” and “Level of Material and Technical Security”.

Stress factors were measured by 3 dimensions: perceived stress, anxiety and depression.

Organizational climate factors were measured by four dimensions: social climate, participatory management, goal clarity and performance feedback.

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Data collection:

The online questionnaires were distributed relying on a stratified territorial-demographic random sample technique. The research to school and university teachers was facilitated through the official contacts and assistance of state directories for education, embassies and general

consulates. The research instrument was reviewed and evaluated by education experts of the UNESCO Almaty Cluster Office.

Data analysis:

The study data have been analyzed by SPSS-22 statistical package with the application Reliability test¹, Pared Samples T-test², Independent Samples T-test³, Pearson's Correlation and Moderation Regression analysis⁴. The results have been interpreted and visualized as statistical Tables and Diagrams in the next section(s).

Partners engaged in the project:

Different partners from different sectors were involved in the project including:

- ✓ Higher Education Institutions of Central Asia;
- ✓ Schools of Central Asia;
- ✓ Ministries of Education and Science;
- ✓ Education Management Agencies at local or regional levels;
- ✓ Regional offices of UNESCO;
- ✓ Research Organizations.

Impact, sustainability and dissemination of project results:

Through the cross-country comparative analysis, individual recommendations will be prepared to enable each participating universities and schools to strengthen managerial and development strategies. The results and findings of the study can be used by UNESCO Offices as a supportive material for ongoing human rights, gender equality and education related projects. Additionally, an important expected impact of the project will be the strategic recommendations for university and school management and education policy makers on measures and actions against professional burnout, dissatisfaction and work inefficiency. Moreover, the project has a positive social impact in terms of empowering socially vulnerable female groups to cope with digitalization and career-related challenges by organizing the series of psychological trainings/workshops (supported by the UNESCO Almaty Cluster Office) on a basis of the study results. The project produces the data specific to Central Asia.

¹ T-test of paired samples-compares the average values of variables for one group of observations. For all observations, the differences of the values of the two variables are calculated, and then it is checked whether the average of these differences differs from zero. This procedure also automates the calculation of the size of the t-test effect. [Available at: <https://www.ibm.com/docs/ru/spss-statistics/SaaS?topic=tests-paired-samples-test>].

² The independent sample test - the Student's t-test for independent samples is used to compare the average values of two independent samples. [Available at: <https://statpsy.ru/t-student/t-test-doble-ind/>].

³ Pearson correlation analysis is used to study the relationship of two variables measured in metric scales on the same sample. It allows you to determine how proportional the variability of two variables is. [Available at: <https://statpsy.ru/pearson/linear-pirson/>].

⁴ Regression analysis is a method of modeling the measured data and studying their properties. The data consists of pairs of values of the dependent variable (response variable) and the independent variable (explanatory variable). The regression model is a function of an independent variable and parameters with an added random variable. [Available at: <http://www.machinelearning.ru/wiki/index.php.>].

1 DEMOGRAPHIC PROFILE OF RESPONDENTS

The sample in the study constituted of 748 female teachers, with the majority of the participants based in Kazakhstan (n = 722), and fewer participants based in Kyrgyzstan (n = 26). The figures for participants' age were distributed almost equally between the ranges 18-30 years old (23%), 31-40 years old (28%), 41-50 years old (25%) and 51-60 years old (21%). Only few participants were older than 60 years old (3%).

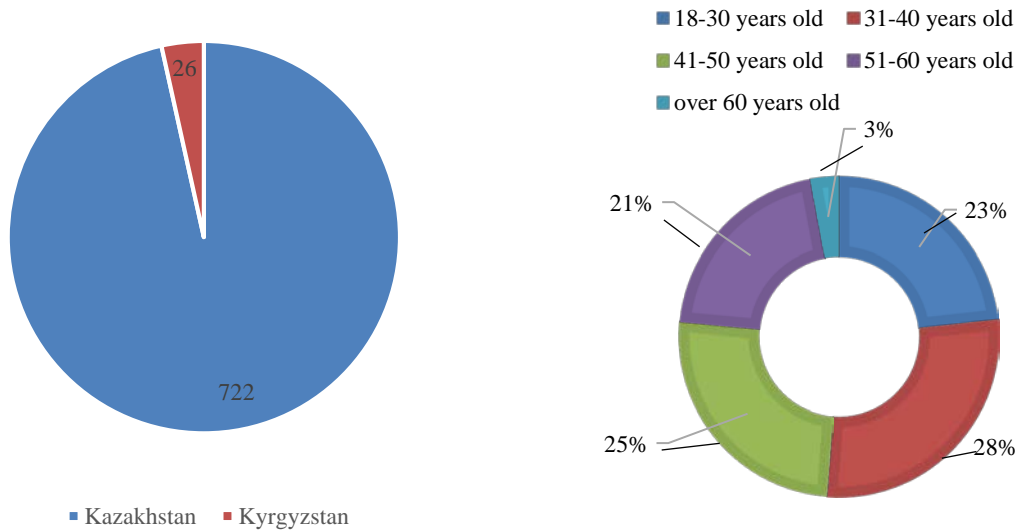


Figure 1. Distribution of respondents by country

Figure 1-1. Distribution of respondents by age

Figure 2. Most of the participants were teaching at secondary school level (62.2%), with fewer teaching at undergraduate (33.8%) and graduate levels (4.0%). In terms of qualifications half of the sample represented teachers at secondary schools (45.9%), with the other big categories being bachelor (20.5%) and master's degree holders (21.0%). PhDs (4.3%), assistant professors (1.2%), associate professors (2.8%) and full professors (4.4%) were much less represented in the sample.

Figure 2-1. The figures for years of experience were relatively balanced as well. One fifth of the participants had less than 5 years of experience (21%), the next biggest group had 6-10 years of experience (17.1%). Five other groups were represented almost equally: 11-15 years – 13.8%, 16-20 years – 12.0%, 21-25 years – 11.2%, 26-30 years – 10.8%, over 30 years – 14.0%.

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■ School teacher ■ Master's level
■ Assistant Professor ■ Full Professor
■ Bachelor Level ■ PhD level
■ Associate Professor

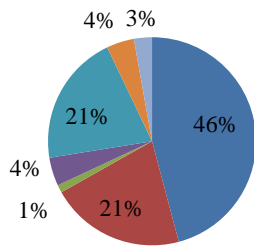


Figure 2. Distribution of respondents by the professional level

■ under 5 ■ 6-10 ■ 11-15 ■ 16-20
■ 21-25 ■ 26-30 ■ over 30

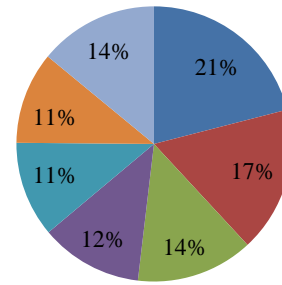


Figure 2-1. Distribution of respondents by the years of professional qualification

Analysis of the survey participants' subject areas show that they are involved in the following groups: Arts and Humanities (55.7%), followed by STEM (29.8%), Social Sciences (12.0%) and finally Business and Economics (2.4%).

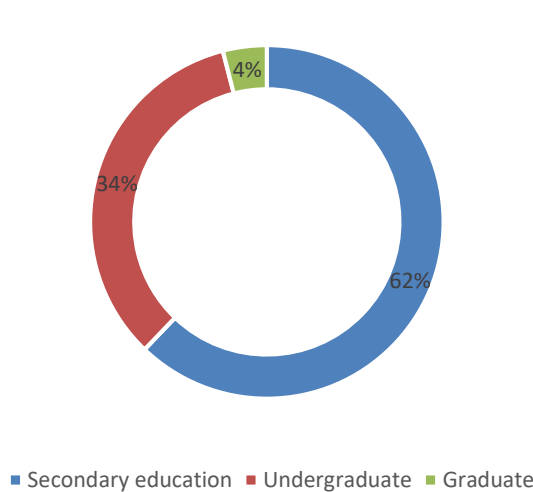


Figure 3. Distribution of respondents by the level of education at which they teach

■ Social sciences
■ STEM
■ Arts and Humanities
■ Business and Economics

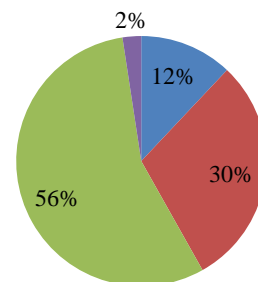


Figure 3-1. Distribution of respondents by the subject area that they teach

As for number of children that respondents have in their households, most participants had one child (21.4%), two (28.6%) or three children (20.2%). Fewer respondents had no children (14.4%). And those who had four, five, or more than five children consisted 7.9%, 4.7% and 2.8% respectively.

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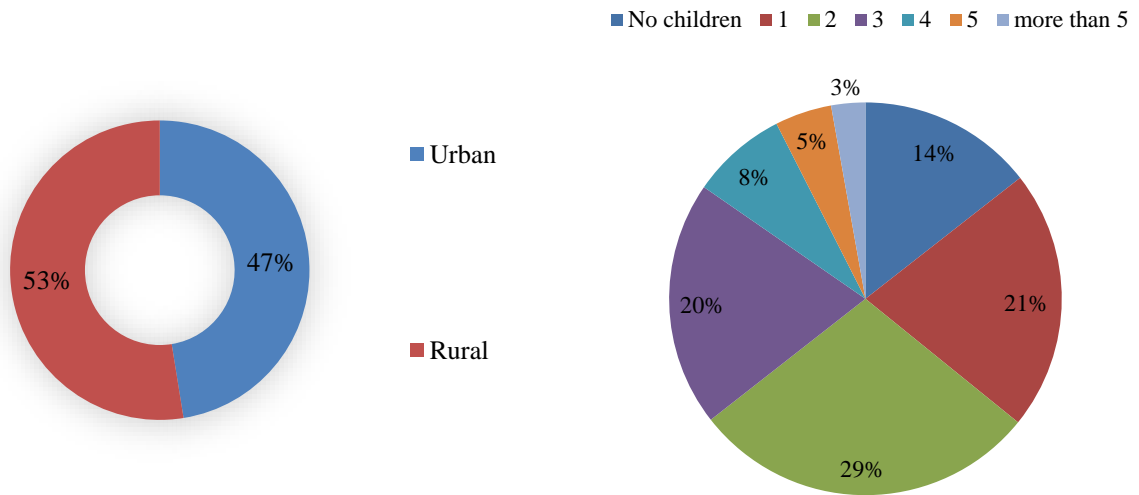


Figure 4. Distribution of respondents by residence

Figure 4-1. Distribution of respondents by the number of children in their families

The sample is almost equally representative of both urban (47.5%) and rural areas (52.5%). Almost all of the participants lived with their families (91.7%), with only few living alone (6.4%) or with their friends or roommates (1.9%).

Finally, 66.6% of those professionals had a separate room to work, while the rest of the participants worked in a shared room (29.9%) or had no special space for work (11.5%).

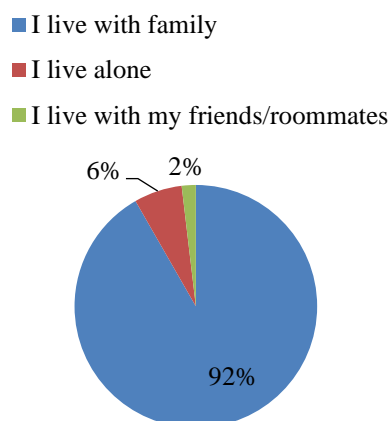


Figure 5. Living environment of respondents

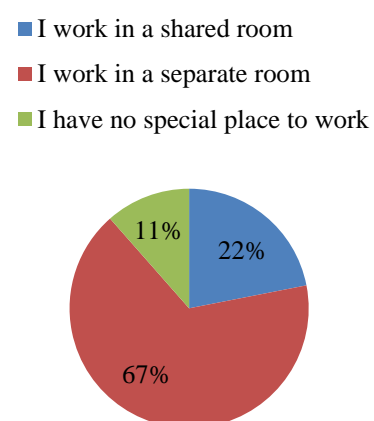


Figure 6. Working conditions of respondents

The majority in the sample had other family members contributing financially, whereas only 26.6% were the sole earners.

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■ I am the sole earner ■ Other family members also contribute financially

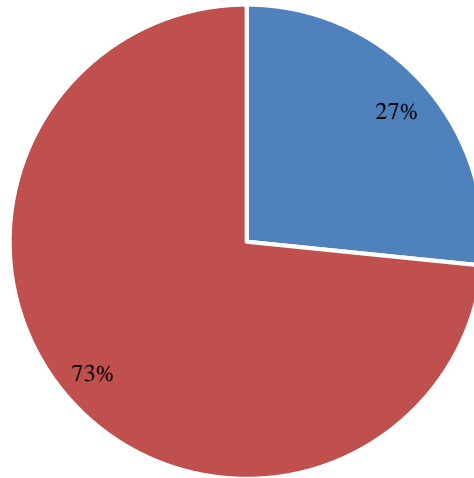


Figure 7. Distribution of respondents by income sources

2 PERCEIVED STRESS FACTORS

Reliability analysis was conducted to test the scales used in a questionnaire. The reliability coefficient **Cronbach's Alpha** for all blocks of the research instrument was between **8.861 - 0.904 (Cronbach $\alpha > 0.7$)**. Since this figure is higher than 7.0, the lowest acceptable rate for reliability, the adopted research scales are considered reliable.

The Results of Paired Samples T-Test (SCL, anxiety, depression): Before & During the Pandemic

Paired Samples T-Test was conducted to see whether there was a significant difference for anxiety and depression between before and during the pandemic (Table 1). Significant difference was found between anxiety and depression as a single scale before the pandemic ($M = 1.12$, $SD = 0.61$) and during the pandemic ($M = 1.38$, $SD = 0.74$), $t(747) = -15.02$, $p = .000$. With regards to anxiety and depression as separate scales, likewise significant differences were found both between anxiety before the pandemic ($M = 1.42$, $SD = 0.69$) and anxiety during the pandemic ($M = 1.74$, $SD = 0.85$), $t(747) = -15.68$, $p = .000$; as well as between depression before the pandemic ($M = 0.93$, $SD = 0.63$) and depression during the pandemic ($M = 1.15$, $SD = 0.74$), $t(747) = -13.12$, $p = .000$.

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Table 1. Paired Samples T-Test (SCL, anxiety, depression): before and during the pandemic
Before the Pandemic During the Pandemic

Variables	Mean	SD	Mean	SD	t-value	Sig (2-tailed)
Anxiety & Depression	1.12	0.61	1.38	0.74	-15.03	0.000*
Anxiety	1.42	0.69	1.74	0.85	-15.68	0.000*
Depression	0.93	0.63	1.15	0.74	-13.12	0.000*
*p<0.05						

RESULTS & FINDINGS №1

Having completed the reliability analysis to test the scales used in a questionnaire, the adopted research scales were considered reliable.

The Anxiety and Depression Scale was used to measure female teachers' perceptions of anxiety and depression. The questions were measured by 5-point Likert Scale (1-strongly disagree, 2-disagree, 3-neither agree nor disagree, 4-agree, 5-strongly agree) to rate the respondents' perceptions. Anxiety and Depression Scale includes two subscales defined as Anxiety and Depression. Each subscale is measured by separate items: six items for Anxiety, ten items for depression. Examples of the items for Anxiety include the following statements: "I feel often nervous", "I feel often fear". Examples of the items for Depression include the following statements: "I can cry easily", "I feel often lonely".

Paired Samples T-Test was conducted to see whether there was a significant difference for anxiety and depression between before and during the pandemic (Table 1). Significant difference was found between anxiety and depression as a single scale before the pandemic and during the pandemic. With regards to anxiety and depression as separate scales, likewise significant differences were found both between anxiety before the pandemic and anxiety during the pandemic; as well as between depression before the pandemic and depression during the pandemic. These results suggest that female teachers felt more depressed and anxious during the pandemic than before the pandemic.

The Results of Independent Samples T-Test (SCL, anxiety, depression): Urban and Rural Areas

To compare the scores for anxiety and depression for the residents of urban and rural areas, Independent Samples T-Test was used (Table 2). Although no significant difference ($t(746) = 1.47, p = .143$) was found for the scores of anxiety before the pandemic between urban ($M = 1.46, SD = 0.67$) and rural residents ($M = 1.39, SD = 0.71$), significant differences were found between the same two groups, urban area ($M = 1.91, SD = 0.87$) and rural area ($M = 1.59, SD = 0.81$), for the variable anxiety during the pandemic, $t(746) = 5.13, p = .000$. Similarly, significant differences were identified: (a) between urban ($M = 0.99, SD = 0.64$) and rural areas ($M = 0.88, SD = 0.62$) for the depression before the pandemic, $t(746) = 2.33, p = .020$; (b) between urban ($M = 1.27, SD = 0.76$) and rural areas ($M = 1.05, SD = 0.71$) for the depression during the pandemic, $t(746) = 4.14, p = .000$; (c) between urban ($M = 1.17, SD = 0.61$) and rural areas ($M = 1.07, SD = 0.61$) for anxiety and depression as a single scale before the pandemic, $t(746) = 2.14, p = .033$; (d) between urban ($M = 1.51, SD = 0.76$) and rural areas ($M = 1.25, SD = 0.70$) for anxiety and depression as a single scale during the pandemic, $t(746) = 4.83, p = .000$.

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Table 2. Independent Samples T-Test (SCL, anxiety, depression): Urban and Rural areas
(2-tailed)

Variables	Women teachers from rural areas		Women teachers from urban areas		t-value	Sig
	Mean	SD	Mean	SD		
Anxiety & Depression	1.17	0.61	1.07	0.61	2.14	0.033*
Anxiety & Depression (during the pandemic)	1.51	0.76	1.25	0.70	4.83	0.000*
Anxiety (before the pandemic)	1.46	0.67	1.39	0.71	1.47	0.143
Anxiety (during the pandemic)	1.91	0.87	1.59	0.81	5.13	0.000*
	(before the pandemic)					
Depression (before the pandemic)	0.88	0.62	0.99	0.64	2.33	0.020*
Depression (during the pandemic)	1.05	0.71	1.27	0.76	4.14	0.000*
	*p<0.05					

RESULTS & FINDINGS №2

To compare the scores for anxiety and depression for the residents of urban and rural areas, Independent Samples T-Test was used (Table 2).

Although no significant difference was found for the scores of anxiety before the pandemic between urban and rural residents, significant differences were found between the same two groups, urban area and rural area with regards to anxiety during the pandemic. The results suggest that both teachers from the rural areas and teachers residing in the cities reported similar levels of anxiety they felt before the pandemic. On the contrary, the results between the participants from rural and urban areas were different. During the pandemic teachers that live in the cities reported higher levels of anxiety compared to the teachers residing in rural areas.

Similarly, significant differences were identified: (a) between urban and rural areas for the depression before the pandemic; (b) between urban and rural areas for the depression during the pandemic; (c) between urban and rural areas for anxiety and depression as a single scale before the pandemic; (d) between urban and rural areas for anxiety and depression as a single scale during the pandemic. These results suggest that female teachers from the cities experienced higher levels of depression compared to their colleagues residing in rural areas.

To sum up, teachers from the cities felt more anxious and depressed during the pandemic than teachers from rural areas. Before the pandemic the same trend was observed for depression, but not for anxiety. Teachers from rural and urban areas reported similar levels of anxiety before the pandemic.

The Results of Comparative Cross-Country Analysis between (SCL, anxiety, depression): Kazakhstan and Kyrgyzstan

To compare the scores for anxiety and depression for the residents of Kazakhstan and Kyrgyzstan, Independent Samples T-Test was used (Table 3). The results revealed significant differences between the two countries for all the scales: (a) scores for anxiety and depression as a single scale before the pandemic for the residents of Kazakhstan (M = 1.10, SD = 0.61) and Kyrgyzstan (M = 1.55, SD = 0.59), $t(743) = -3.48$, $p = .001$; (b) scores for anxiety and depression as a single scale during the pandemic for the residents of Kazakhstan (M = 1.35, SD = 0.73) and Kyrgyzstan (M = 2.07, SD = 0.68), $t(743) = -4.62$, $p = .000$; (c) scores for anxiety before the pandemic for the residents of Kazakhstan (M = 1.41, SD = 0.69) and Kyrgyzstan (M = 1.71, SD

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= 0.56), $t(743) = -2.04$, $p = .042$; (d) scores for anxiety during the pandemic for the residents of Kazakhstan ($M = 1.72$, $SD = 0.85$) and Kyrgyzstan ($M = 2.41$, $SD = 0.79$), $t(743) = -3.83$, $p = .000$; (e) scores for depression before the pandemic for the residents of Kazakhstan ($M = 0.92$, $SD = 0.62$) and Kyrgyzstan ($M = 1.46$, $SD = 0.66$), $t(743) = -4.05$, $p = .000$; (f) scores for depression during the pandemic for the residents of Kazakhstan ($M = 1.13$, $SD = 0.73$) and Kyrgyzstan ($M = 1.86$, $SD = 0.70$), $t(743) = -4.70$, $p = .000$.

Table 3. Comparative Cross-Country Analysis between Kazakhstan and Kyrgyzstan (SCL, anxiety, depression):

Variables	The case of Kazakhstan		The case of Kyrgyzstan		t-value	Sig (2-tailed)
	Mean	SD	Mean	SD		
Anxiety & Depression (before the pandemic)	1.10	0.61	1.55	0.59	-3.48	0.001*
Anxiety & Depression (during the pandemic)	1.35	0.73	2.07	0.68	-4.62	0.000*

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Anxiety (before the pandemic)	1.41	0.69	1.71	0.56	-2.04	0.042*
Anxiety (during the pandemic)	1.72	0.85	2.41	0.79	-3.83	0.000*

RESULTS & FINDINGS №3

To compare the scores for anxiety and depression for the residents of Kazakhstan and Kyrgyzstan, Independent Samples T-Test was used (Table 3). The results revealed significant differences between the two countries for all the scales: (a) scores for anxiety and depression as a single scale before the pandemic for the residents of Kazakhstan and Kyrgyzstan; (b) scores for anxiety and depression as a single scale during the pandemic for the residents of Kazakhstan and Kyrgyzstan; (c) scores for anxiety before the pandemic for the residents of Kazakhstan and Kyrgyzstan; (d) scores for anxiety during the pandemic for the residents of Kazakhstan and Kyrgyzstan; (e) scores for depression before the pandemic for the residents of Kazakhstan and Kyrgyzstan; (f) scores for depression during the pandemic for the residents of Kazakhstan and Kyrgyzstan.

In other words, the results suggest that anxiety and depression were stronger for the residents of Kyrgyzstan compared to the residents of Kazakhstan both before and during the pandemic.

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3 ANXIETY SCALES AMONG FEMALE SCHOOL & UNIVERSITY TEACHERS BEFORE & DURING THE PANDEMIC: COMPARATIVE REPRESENTATION

The diagrams below show the responses per each item of the scale for stress factors before the pandemic and the scale for stress factors during the pandemic.

In the Figure 8, we can observe that before the pandemic: 64% of the respondents claimed that they seldom feel nervous, 11% of them stated that they often feel nervous, and almost 25% said that they never feel nervous. Whereas, in Figure 9, during the pandemic, situation has changed: now only 52% of respondents said that they seldom feel nervous, 28% (compared to eleven percent before pandemic) claimed that they always feel nervous, and only 19% said that they never feel nervous.

Analysis also show that respondents were feeling fear, having tension and frightening thoughts more often during the pandemic than before it.

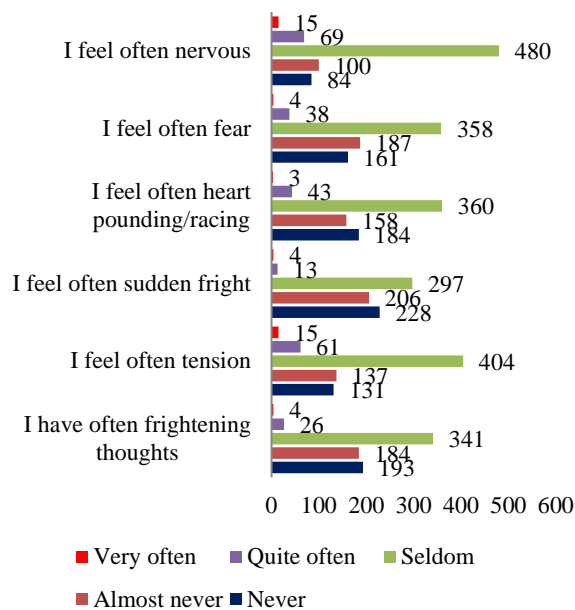


Figure 8. Perceived Anxiety among Female Teachers before the pandemic

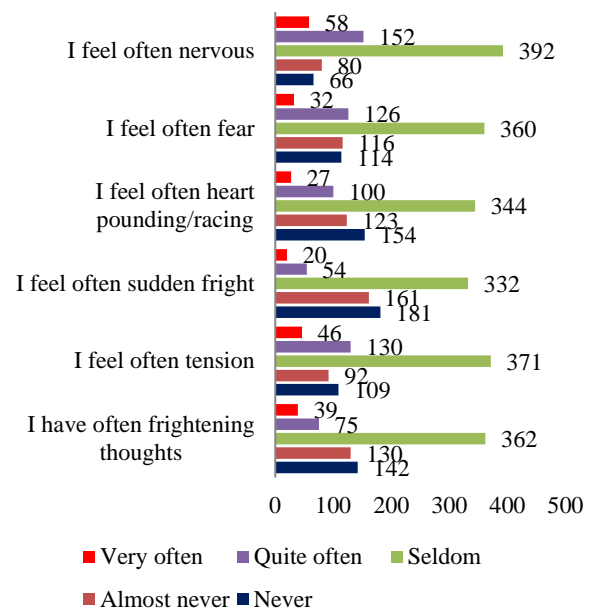


Figure 9. Perceived Anxiety among Female Teachers during the pandemic

Further data analysis shows that school & university women teachers had more depression after the pandemic has occurred (Figures 10 and 11) than before it: respondents were more often feeling lonely, had no interest in things that were happening in their lives, feeling trapped and depressed, and having low level of energy.

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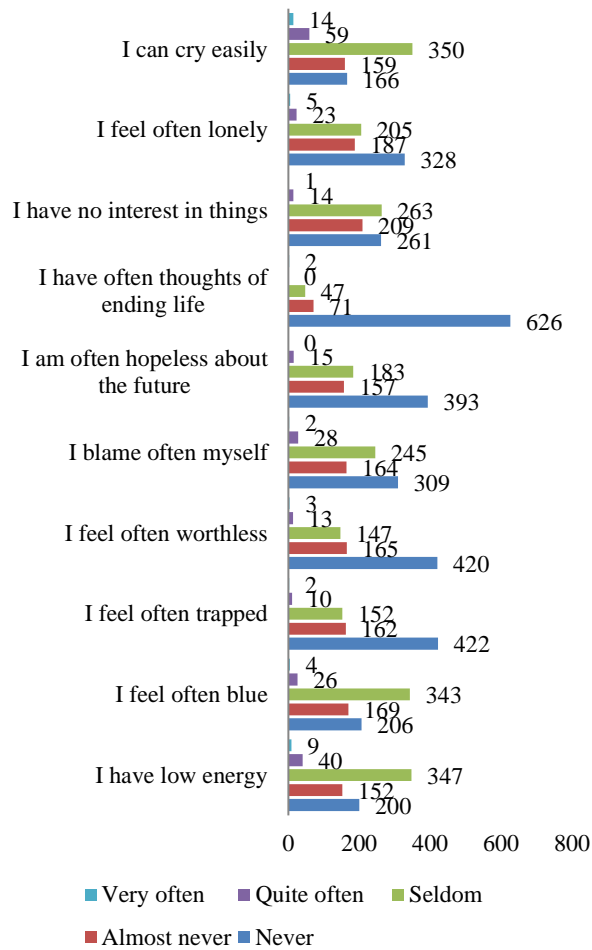


Figure 10. Depression among Female Teachers before the pandemic

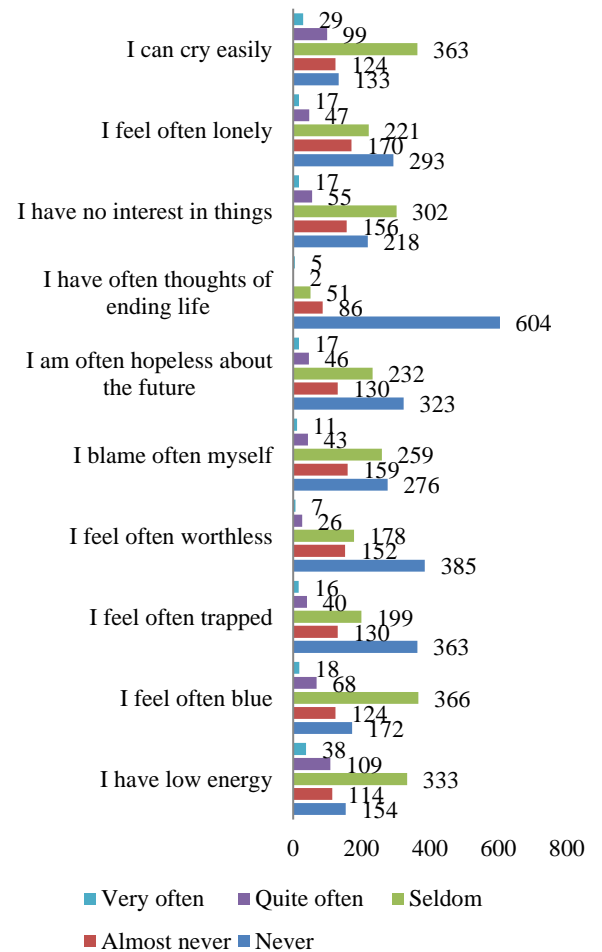


Figure 11. Depression among Female Teachers during the pandemic

The analysis of the perceived stress (Figures 12 and 13) show that, after the pandemic has occurred, women teachers were more often feeling that they are unable to control important issues in their lives (before pandemic eight percent of respondents were often feeling this, and after it has occurred, eighteen percent claimed this); also female educators were less confident in their ability to handle personal problems; and they were also more often struggling with accumulation of the difficulties that were hard to overcome during the pandemic.

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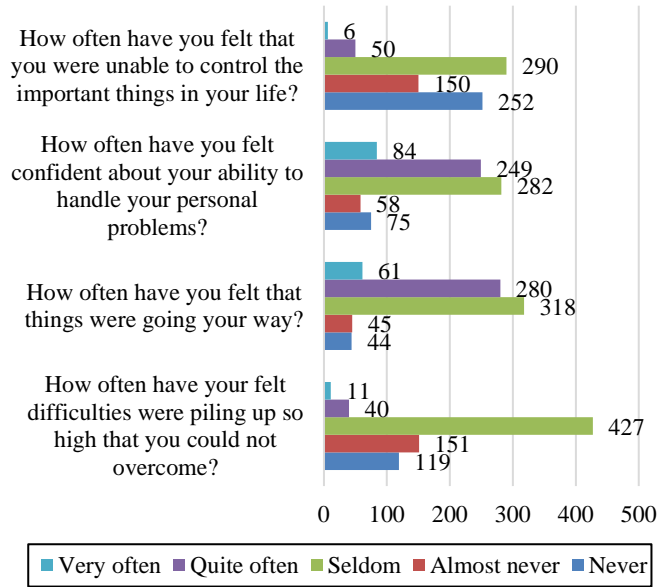


Figure 12. Perceived Stress among Female Teachers before the pandemic

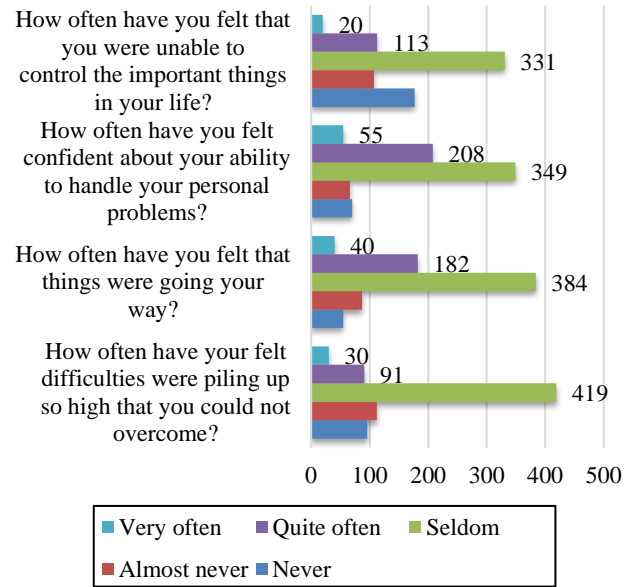


Figure 13. Perceived Stress among Female Teachers during the pandemic

4 QUALITY-WORK COMPETENCE (QWC) SCALE

The Quality-Work-Competence Scale (QWC – adopted version) was used to measure female teachers' perceptions of psychological climate at their schools and universities. The questions were measured by 5-point Likert Scale (1-strongly disagree, 2- disagree, 3-neither agree nor disagree, 4-agree, 5-strongly agree) to rate the respondents' perceptions. QWC scale indicates 4 factors defined as **Social Climate, Participatory Management, Goal Clarity and Performance Feedback**. Each factor is measured by separate items: by five items for social climate, three items for participation, four items for goals and objectives clarity and three items for performance feedback.

The Results of Independent Samples T-Test (SCL, Social Climate): Urban and Rural Areas.

To compare the scores for social climate for the residents of urban and rural areas, Independent Samples T-Test was used. The result suggests that there is no significant difference found for social climate scale between urban and rural women teachers. As p-value found as $p=0.384$ ($\alpha > 0.05$), it is considered that the variances are not significantly different as shown in Table 4.

Table 4. Independent Samples T-test for Social Climate scale: Urban and Rural areas

Variables	Urban areas		Rural areas		t-value	Sig (2-tailed)
	Mean	SD	Mean	SD		
Social Climate	2.38	0.82	2.43	0.86	-0.872	0.384
*p<0.05						

The Results of Comparative Cross-Country Analysis between (SCL, Social Climate): Kazakhstan and Kyrgyzstan

The result of Independent Samples T-test suggests that there is no significant difference found for Social Climate scale between Kazakhstan and Kyrgyzstan. As p-value found as $p=0.690$, ($\alpha > 0.05$), it is considered that the variances are not significantly different as shown in Table 5.

Table 5. Comparative Cross-Country Analysis between Kazakhstan and Kyrgyzstan: (SCL, Social Climate)

Variables	Kazakhstan		Kyrgyzstan		t-value	Sig (2-tailed)
	Mean	SD	Mean	SD		
Social Climate	2.40	0.84	2.47	0.86	-0.398	0.690
*p<0.05						

The Results of Independent Samples T-Test (SCL, Participatory Management): Urban and Rural Areas

To compare the scores for Participatory Management for the residents of urban and rural areas, Independent Samples T-Test was used. The result suggests that there is significant difference found for Participatory Management scale between urban and rural women teachers.

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As p-value found as $p=0.038$, while ($\alpha < 0.05$), it is considered that the variances are significantly different as shown in the Table 6. The results suggest that participation of female teachers in decision making process was higher in rural areas compared to the residents of urban areas.

Table 6. Independent Samples T-test for Participatory Management scale: Urban and Rural areas

Variables	Urban areas		Rural areas		t-value	Sig (2-tailed)
	Mean	SD	Mean	SD		
Participation	2.17	0.87	2.30	0.86	-2.084	0.038*
*p<0.05						

The Results of Comparative Cross-Country Analysis between (SCL, Participatory Management): Kazakhstan and Kyrgyzstan

The result of Independent Samples T-test suggests that there is no significant difference found for Participatory Management scale between Kazakhstan and Kyrgyzstan. As p-value found is $p=0.366$, while ($\alpha > 0.05$), it is considered that the variances are not significantly different as shown in the Table 7.

Table 7. Comparative Cross-Country Analysis (SCL, Participatory Management) between Kazakhstan and Kyrgyzstan

Variables	Kazakhstan		Kyrgyzstan		t-value	Sig (2-tailed)
	Mean	SD	Mean	SD		
Participation	2.23	0.86	2.40	0.89	-0.905	0.366
*p<0.05						

RESULTS & FINDINGS №4

Social Climate subscale consisted of five items. The participants had to read each item and for each statement choose one of the five options: “strongly disagree”, “disagree”, “neither agree nor disagree”, “agree”, “strongly agree”. Examples of the statements for Social Climate include the following statements: “There is a pleasant atmosphere at my workplace”, “There is a unity and good relationship among my colleagues”.

To compare the scores for social climate for the residents of urban and rural areas, Independent Samples T-Test was used. No significant difference for social climate scale was found between urban and rural female teachers. The variances are not significantly different as shown in Table 4. Thus, the results suggest that teachers from rural and urban areas perceived Social Climate at their schools similarly.

Independent Samples T-test found no significant difference for Social Climate scale between Kazakhstan and Kyrgyzstan.

Independent Samples T-test found no significant difference for Participatory Management scale between Kazakhstan and Kyrgyzstan. The variances are not significantly different as

shown in Table 5. Thus, the results suggest that both teachers in Kazakhstan and Kyrgyzstan had similar perceptions of Social Climate at their schools.

The Results of Independent Samples T-Test (SCL, Participatory Management): Urban and Rural Areas. Participatory Management subscale consisted of three items. The participants had to read each item and for each statement choose one of the five options: “strongly disagree”, “disagree”, “neither agree nor disagree”, “agree”, “strongly agree”. Examples of the statements for Participatory Management include the following statements: “I have an opportunity to influence workplace decisions”, “Management consults with us for decision making”.

To compare the scores for Participatory Management for the residents of urban and rural areas, Independent Samples T-Test was used. Significant difference was found for Participatory Management scale between urban and rural female teachers. The variances were significantly different as shown in Table 6. The results suggest that participation of female teachers in the decision making process was higher in rural areas compared to the participation of residents of urban areas.

Independent Samples T-test found no significant difference for Participatory Management scale between Kazakhstan and Kyrgyzstan. The variances are not significantly different as shown in Table 7. The results suggest that female teachers from urban and rural areas perceived a similar level of participation in terms of management.

The Results of Independent Samples T-Test (SCL, Goals Clarity): Urban and Rural Areas.

To compare the scores for Goals Clarity for the residents of urban and rural areas, Independent Samples T-Test was used. The result suggests that there is significant difference found for Goals Clarity scale between urban and rural women teachers. As p-value found is $p=0.003$, ($\alpha < 0.5$), it is considered that the variances are significantly different as shown in the Table 8.

Table 8. Independent Samples T-test for Goals Clarity scale: Urban and Rural areas

Variables	Urban areas		Rural areas		t-value	Sig (2-tailed)
	Mean	SD	Mean	SD		
Goals Clarity	2.23	0.83	2.41	0.83	-2.958	0.003*
*$p < 0.05$						

The Results of Comparative Cross-Country Analysis between (SCL, Goals Clarity): Kazakhstan and Kyrgyzstan.

The result of Independent T-test below suggests that there is no significant difference found for Goals Clarity scale between Kazakhstan and Kyrgyzstan residents. As p-value found is $p=0.996$, ($\alpha > 0.5$), it is considered that the variances are not significantly different as shown in the Table 9.

Table 9. Comparative Cross-Country Analysis between Kazakhstan and Kyrgyzstan (SCL, Goals Clarity)

Variables	Kazakhstan		Kyrgyzstan		t-value	Sig (2-tailed)
	Mean	SD	Mean	SD		

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Goals Clarity	2,32	0.83	2.32	0.83	-0.005	0.996
*p<0.05						

RESULTS & FINDINGS №5

Goals Clarity subscale consisted of four items. The participants had to read each item and for each statement choose one of the five options: “strongly disagree”, “disagree”, “neither agree nor disagree”, “agree”, “strongly agree”. Examples of the statements for Goals Clarity include the following statements: “Work objectives are well-defined”, “We have a clear plan that guides our activities”.

To compare the scores for Goals Clarity for the residents of urban and rural areas, Independent Samples T-Test was used. The result suggests that there is significant difference found for Goals Clarity scale between urban and rural female teachers. The variances are significantly different as shown in Table 8. The results suggest that work objectives were perceived as more clear by female teachers working in rural schools. Female teachers working in urban schools had less clear understanding of their work objectives.

Independent T-test found no significant difference for Goals Clarity scale between Kazakhstan and Kyrgyzstan residents. The variances are not significantly different as shown in Table 9. The results suggest that in terms of clarity female teachers in Kazakhstan and Kyrgyzstan perceived their work objectives similarly.

The Results of Independent Samples T-Test (SCL, Performance Feedback): Urban and Rural Areas.

To compare the scores for Performance Feedback for the residents of urban and rural areas, Independent Samples T-Test was used. As the estimated alpha=0.05, the p-value for the performance feedback is p=0.012, therefore the result suggests that the variances are significantly different as shown in the Table 10, which means that female teachers in rural areas receive Performance Feedback from their management more frequently than female teachers living and working in urban areas.

Table 10. Independent Samples T-test for Performance Feedback scale: Urban and Rural areas

Variables	Urban areas		Rural areas		t-value	Sig (2-tailed)
	Mean	SD	Mean	SD		
Performance feedback	2.25	0.87	2.41	0.84	-2.524	0.012*
*p<0.05						

The Results of Comparative Cross-Country Analysis between (SCL, Performance Feedback): Kazakhstan and Kyrgyzstan.

The result of Independent Samples T-test suggests that there is no significant difference found for Performance Feedback scale between Kazakhstan and Kyrgyzstan. As p-value found is p=0.609, (alpha > 0.05), it is considered that the variances are not significantly different as shown in the Table 11.

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Table 11. Comparative Cross-Country Analysis between Kazakhstan and Kyrgyzstan (SCL, Performance Feedback)

Variables	Kazakhstan		Kyrgyzstan		t-value	Sig (2-tailed)
	Mean	SD	Mean	SD		
Performance feedback	2.33	0.85	2.24	0.98	0.511	0.609
*p<0.05						

RESULTS & FINDINGS №6

Performance Feedback subscale consisted of three items. The participants had to read each item and for each statement choose one of the five options: “strongly disagree”, “disagree”, “neither agree nor disagree”, “agree”, “strongly agree”. Examples of the statements for Performance Feedback include the following statements: “My manager makes clear what is expected of me in my work”, “We are recognized for our individual contributions”.

To compare the scores for Performance Feedback for the residents of urban and rural areas, Independent Samples T-Test was used. The analysis revealed that the variances were significantly different as shown in Table 10. These results suggest that female teachers in rural areas receive Performance Feedback from their management more frequently than female teachers living and working in urban areas.

Independent Samples T-test found no significant difference for Performance Feedback scale between Kazakhstan and Kyrgyzstan. The variances are not significantly different as shown in Table 11. These results suggest that female teachers in Kazakhstan and Kyrgyzstan have similar perceptions of Performance Feedback from their school administration.

Within the current study we have made assessment of social climate and participative management conditions, within the educational institutions during the pandemic. Analysis show that (Figure 14): fifty eight percent of women teachers stated that they feel comfortable working with their colleagues; forty four percent claimed that they have no pressure at workplace, whereas twenty three percent said that they have this pressure; and half of the respondents (49%) said that management supports them, whereas seventeen percent believe that their management is not supportive; also most of the respondents said that they have unity and good relationship with their colleagues and pleasant atmosphere at their workplace.

Data analysis in Figure 15 shows that almost half of the respondents (46%) believe that their manager/boss participate in project implementation, whereas eighteen percent says that management is not participative. Overall, survey participants believe that their administration involve them into the decision making process, and that they have opportunity to influence decision at their workplace.

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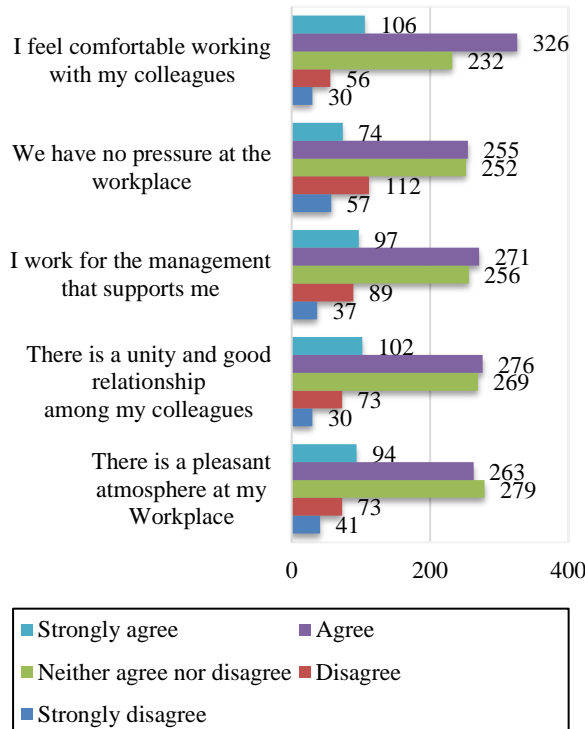


Figure 14. An assessment of Social Climate for Female Teachers

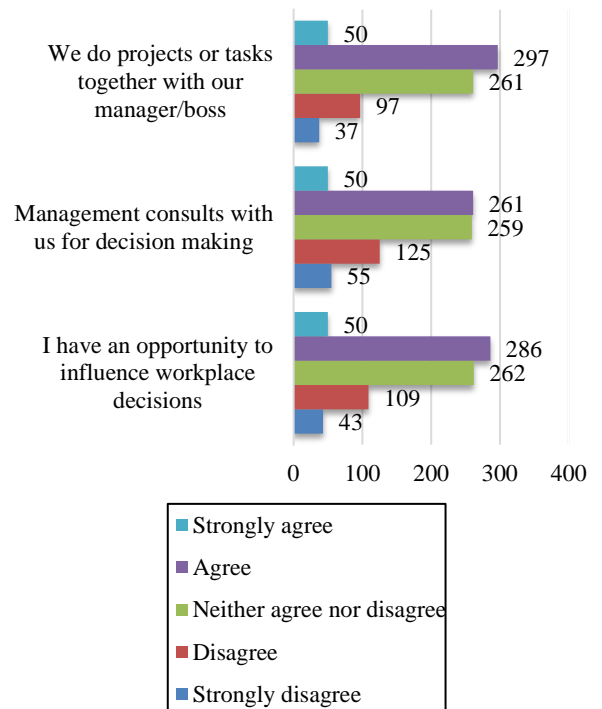


Figure 15. An assessment of Participative Management conditions for Female Teachers

Figure 16 below shows that most of the survey participants feel that tasks are properly distributed and that their potential is efficiently used. However, some of the teachers (20%) do not agree with this. Almost 31% of women teachers believe that there are inaccurate tasks and very strict deadlines at their workplace. On the other hand, most of the teachers agreed that future plans are clear and their work objectives are well defined. Additionally, most of the respondents, in Figure 17, agreed that they are provided with feedback on their work, and their management recognize individual contributions and clearly define expectations on the future work.

STRESS FACTORS FOR FEMALE TEACHERS AT DISTANCE LEARNING ENVIRONMENT IN CONDITIONS OF COVID-19

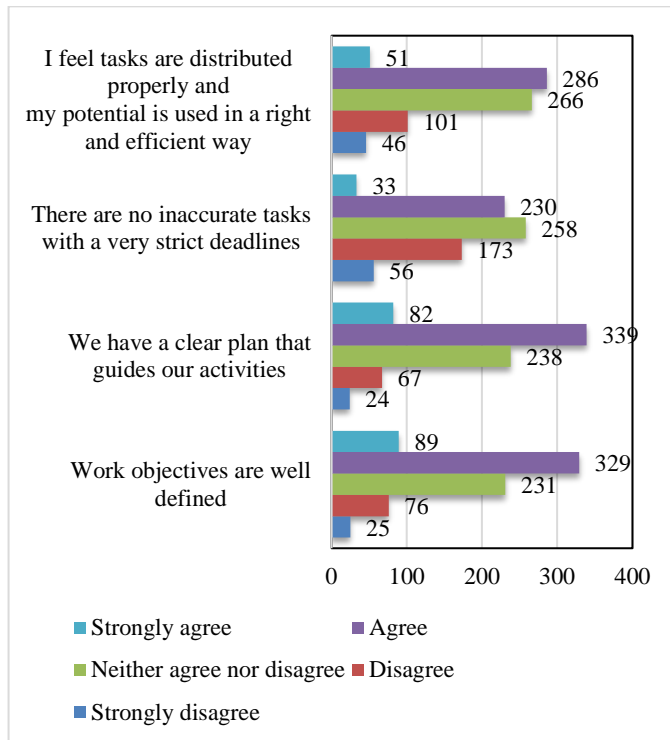


Figure 16. An assessment of Managerial Practices & Organizational Conditions ensuring Goals & Objectives Clarity for Female Teachers

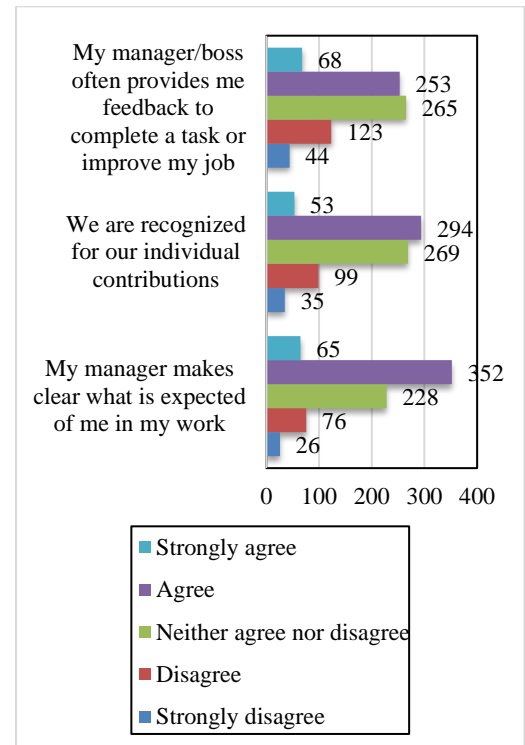


Figure 17. An assessment of Managerial Practices & Organizational Conditions ensuring Performance Feedback for Female Teachers

5 THE LEVEL OF MATERIAL & TECHNICAL SECURITY

To rate female teachers' perception of the level of Material and Technical Security, which was described by eight items in the questionnaire the five point Likert Scale (1-strongly disagree, 2-disagree, 3- neither agree nor disagree, 4- agree, 5- strongly agree) was used.

The Results of Independent Samples T-Test (SCL, Material and Technical Security): Urban and Rural Areas

To compare the scores for level of material and technical security/ for the residents of urban and rural areas, Independent Samples T-Test was used. The result suggests that the variances of two groups are significantly different, as found $p=0.000$ ($\alpha < 0.05$). The results suggest that the level of material and technical security of female teachers was lower in rural areas ($M = 1.87$, $SD = 0.78$) compared to the teachers of urban areas ($M = 2.22$, $SD = 0.76$) as shown in the Table 12.

Table 12. Independent Samples T-test for the Level of Material and Technical Security: Urban and Rural Areas

Variables	Urban		Rural		t-value	Sig (2-tailed)
	Mean	SD	Mean	SD		
Level of Material and Technical Security	2.22	0.76	1.87	0.78	6.15	0.000*
*p<0.05						

The Results of Comparative Cross-Country Analysis between (SCL, Level of Material and Technical Security): Kazakhstan and Kyrgyzstan

To compare the scores of the level of material and technical security scale between Kazakhstan and Kyrgyzstan, Independent Samples T-Test was used. The results revealed that there is no significant difference found between Kazakhstan and Kyrgyzstan women teachers. As p-value found is $p=0.251$ ($\alpha > 0.05$), it is considered that the variances are not significantly different as shown in the Table 13.

Table 13. Comparative Cross-Country Analysis between Kazakhstan and Kyrgyzstan (SCL, Level of Material and Technical Security)

Variables	Kazakhstan		Kyrgyzstan		t-value	Sig (2-tailed)
	Mean	SD	Mean	SD		
Level of Material and Technical Security	2.04	0.79	1.85	0.94	1.149	0.251
*p<0.05						

RESULTS & FINDINGS №7

To rate female teachers' perception of the level of Material and Technical Security, which was described by eight items in the questionnaire the five point Likert Scale (1-strongly disagree, 2-disagree, 3-neither agree nor disagree, 4-agree, 5-strongly agree) was used. Examples of the statements for Material and Technical Security include the following statements: "My

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university/school is well-equipped and fully prepared for online education”, “I was provided by technical and material support needed for online teaching by my university/school”.

To compare the scores for level of material and technical security/ for the residents of urban and rural areas, Independent Samples T-Test was used. Significant differences were found between the two abovementioned groups as shown in Table 12. The results suggest that the level of material and technical security of female teachers was lower in rural areas compared to the level of material and technical security in urban areas.

To compare the scores of the level of material and technical security scale between Kazakhstan and Kyrgyzstan, Independent Samples T-Test was used. The analysis revealed that there is no significant difference found between the perceptions of female educators in Kazakhstan and Kyrgyzstan. The variances are not significantly different as shown in Table 13. The results suggest that female teachers in both countries had similar perceptions with regards to the level of material and technical security of their schools.

SOCIAL & PSYCHOLOGICAL SUPPORT

Social and Psychological Support was measured by two items based on a 5-point Likert Scale (1-strongly disagree, 2-disagree, 3-neither agree nor disagree, 4-agree, 5- strongly agree) to rate the perceptions of female school and university teachers.

The Results of Independent Samples T-Test (SCL, Social and Psychological Support): Urban and Rural Areas

To compare the scores of the social and psychological support scale between female teachers working in urban and rural areas, Independent Samples T-Test was used. The results revealed that there is no significant difference ($p=0.435$; $\alpha > 0.05$) for social and psychological support between urban ($M=2.06$, $SD=0.90$) and rural residents ($M=2.01$, $SD=0.96$).

*Table 14. Independent Sample T-test for Social and Psychological Support scale:
Urban and Rural Areas*

Variables	Urban		Rural		t-value	Sig (2-tailed)
	Mean	SD	Mean	SD		
Social and psychological support	2.06	0.90	2.01	0.96	0.781	0.435

***p<0.05**

The Results of Comparative Cross-Country Analysis between (SCL, Social and Psychological Support): Kazakhstan and Kyrgyzstan

To compare the scores of the social and psychological support scale between the residents of Kazakhstan and Kyrgyzstan, Independent Samples T-Test was used. The results revealed that there is no significant difference ($p=0.146$, $\alpha > 0.05$) for social and psychological support between Kazakhstan ($M=2.05$, $SD=0.93$) and Kyrgyzstan residents ($M=1.76$, $SD=0.95$) as shown in the Table 15.

Table 15. Comparative Cross-Country Analysis between Kazakhstan and Kyrgyzstan

STRESS FACTORS FOR FEMALE TEACHERS AT DISTANCE LEARNING
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(SCL, Social and Psychological Support)

Variables	Kazakhstan		Kyrgyzstan		t-value	Sig (2-tailed)
	Mean	SD	Mean	SD		
Social and psychological support	2.05	0.93	1.76	0.95	1.456	0.146
*p<0.05						

Correlations between Stress Factors and the Level of Material and Technical Security

A Pearson product-moment correlation coefficient was computed to assess the relationship between Stress Factors the Level of Material and Technical Security. There was a modest negative correlation between the Level of Material and Technical Security and Anxiety and Depression during the pandemic ($r = -0.103^{**}$, $n = 748$, $p=0.005$). When looking at anxiety and depression separately, no correlation was found between the Level of Material and Technical Security and Anxiety during the pandemic ($r = -0.068$, $n = 748$, $p = 0.063$), and a modest negative correlation was found between the Level of Material and Technical Security and Depression during the pandemic ($r = -0.116^{**}$, $n = 748$, $p = 0.001$).

Overall, this means that the higher the Level of Material and Technical Security was for the teachers, the lower was the level of depression for the teachers. However, the changes in the Level of Material and Technical Security were not related to teachers' anxiety during the pandemic.

Table 16. Correlations between Stress Factors and the Level of Material and Technical Security

Variables		Level of Material and Technical Security	SCL(Anxiety & Depression) during the pandemic	SCL(Anxiety) during the pandemic	SCL(Depression) during the pandemic
Level of Material and Technical Security	Pearson Correlation Sig. (2-tailed) N	1 748	-.103** .005 748	-.068 .063 748	-.116** .001 748
SCL(Anxiety & Depression) during the pandemic	Pearson Correlation Sig. (2-tailed) N	-.103** .005 748	1 748	.913** .000 748	.960** .000 748
SCL(Anxiety) during the pandemic	Pearson Correlation Sig. (2-tailed) N	-.068 .063 748	.913** .000 748	1 748	.763** .000 748
SCL(Depression) during the pandemic	Pearson Correlation Sig. (2-tailed) N	-.116** .001 748	.960** .000 748	.763** .000 748	1 748

** . Correlation is significant at the 0.01 level (2-tailed).

RESULTS & FINDINGS №8

STRESS FACTORS FOR FEMALE TEACHERS AT DISTANCE LEARNING ENVIRONMENT IN CONDITIONS OF COVID-19

Social and Psychological Support was measured by two items based on a 5-point Likert Scale (1-strongly disagree, 2-disagree, 3-neither agree nor disagree, 4-agree, 5-strongly agree) to rate the perceptions of female school and university teachers. Examples of the statements for Psychological Support include the following statements: “I was provided by psychological support by my university/school during the pandemic”, “I was provided by additional trainings to help work/teaching during the pandemic”.

To compare the scores of the social and psychological support scale between female teachers working in urban and rural areas, Independent Samples T-Test was used. The analysis revealed that there was no significant difference for social and psychological support between urban and rural residents. The results suggest that educators from urban and rural areas perceived similar levels of social and psychological support from their administration.

To compare the scores of the social and psychological support scale between the residents of Kazakhstan and Kyrgyzstan, Independent Samples T-Test was used. The analysis revealed that there was no significant difference for social and psychological support between Kazakhstan and Kyrgyzstan residents as shown in Table 15. The results suggest that educators from Kazakhstan and Kyrgyzstan perceived similar levels of social and psychological support from their administration.

A Pearson product-moment correlation coefficient was computed to assess the relationship between Stress Factors the Level of Material and Technical Security. There was a modest negative correlation between the Level of Material and Technical Security and Anxiety and Depression during the pandemic. When looking at anxiety and depression separately, no correlation was found between the Level of Material and Technical Security and Anxiety during the pandemic, and a modest negative correlation was found between the Level of Material and Technical Security and Depression during the pandemic.

Overall, this means that the higher the Level of Material and Technical Security was for the teachers, the lower was the level of depression for the teachers. However, the changes in the Level of Material and Technical Security were not related to teachers’ anxiety during the pandemic.

In other words, the more equipped the teachers thought the school was, the less depressed they felt. And the less equipped the school was perceived, the more depressed the teachers felt.

A Pearson product-moment correlation coefficient was conducted to assess the relationship between Organizational Climate Factors and Level of Material and Technical Security. The analysis revealed that there was a strong and positive correlation between the two variables and the relationship was directly proportional as shown in Table 17. These results suggest that there is a relationship between Organizational Climate Factors and Level of Material and Technical Security. The more positive the teachers feel about the climate at their work, the more equipped they perceive their workplace. Similarly, the less equipped they viewed their workplace, the more negative they felt about the social climate at work.

The level of material & technical security: statistical representation

The diagram below shows eight items for level of material and technical security/access of respondents, based on a 5-point Likert Scale (1: strongly disagree, 2: disagree, 3: neither agree nor disagree, 4: agree, 5: strongly agree) to rate the respondents’ perceptions.

STRESS FACTORS FOR FEMALE TEACHERS AT DISTANCE LEARNING ENVIRONMENT IN CONDITIONS OF COVID-19

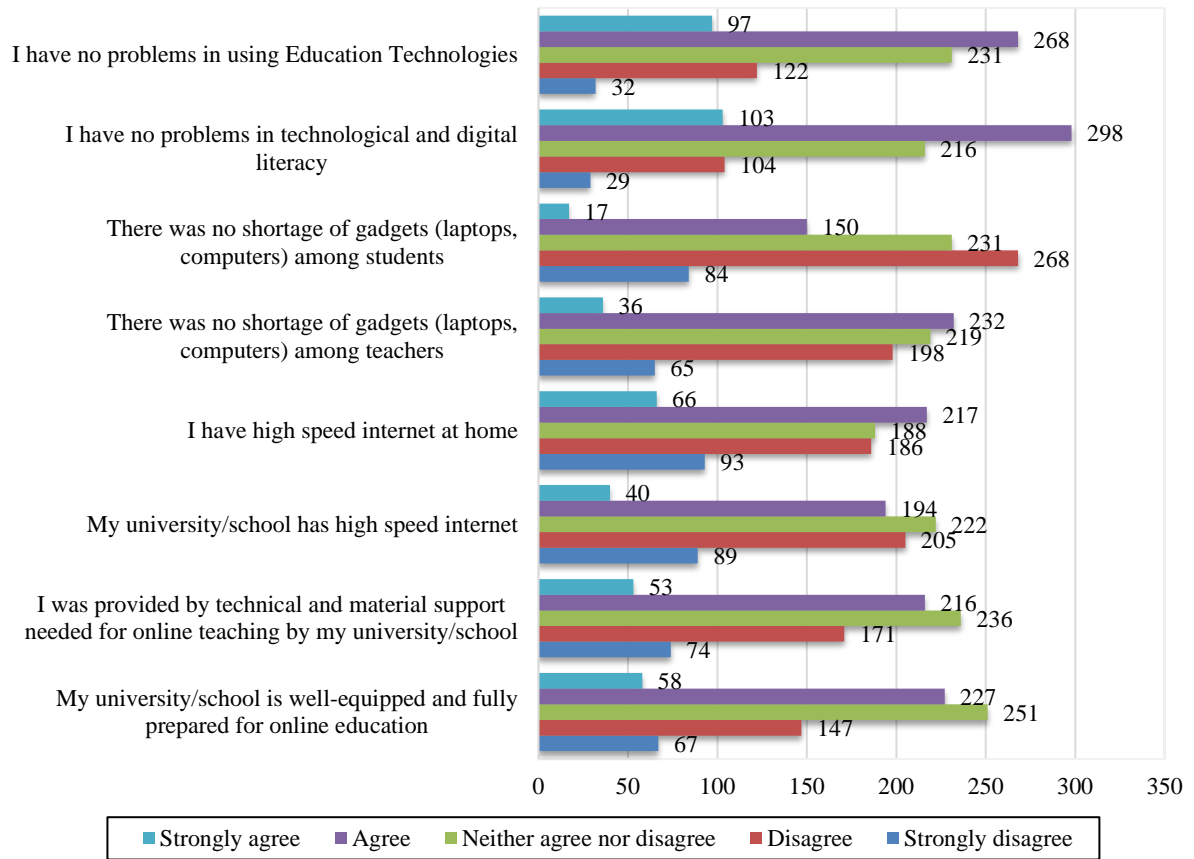


Figure 18. An assessment of Level of Material & Technical Security among Female Teachers

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**6 THE LEVEL OF SOCIAL & PSYCHOLOGICAL SUPPORT:
STATISTICAL REPRESENTATION**

The diagrams below shows two items for respondents' social and psychological support, based on a 5-point Likert Scale (1: strongly agree, 2: disagree, 3: neither agree nor disagree, 4: agree, 5: strongly disagree) (Figure 19). Almost one third of women teachers (28.5%) claimed that they were not provided with any trainings on improving their work/teaching during the pandemic. Moreover, almost forty percent (36%) of female educators stated that they were not provided by any psychological support by their university/school during the pandemic.

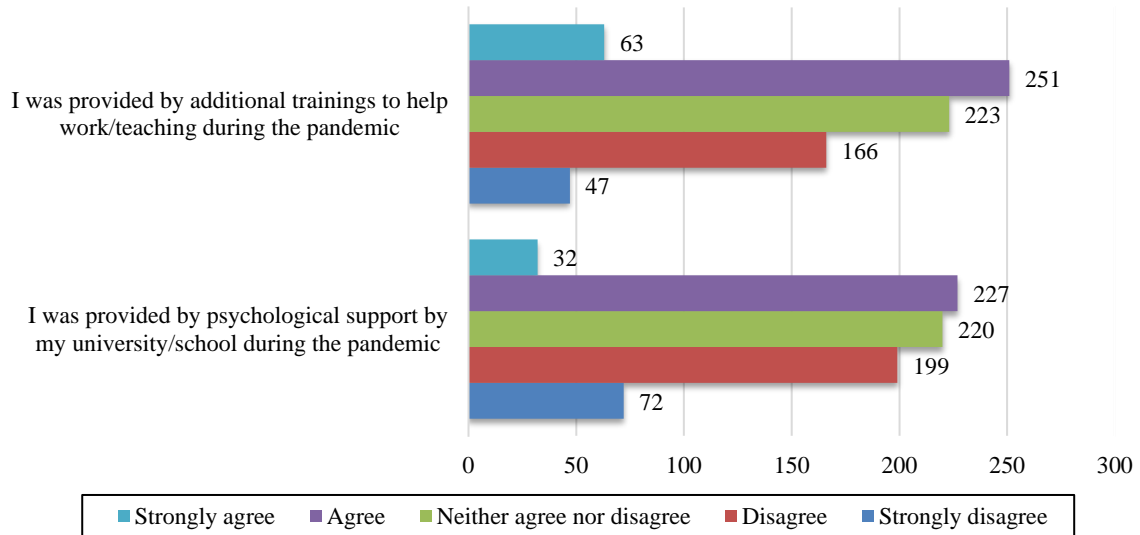


Figure 19. An assessment of Level of Social and Psychological Support provided for Female Teachers in conditions of an emergency transition to Distance Learning

CONCLUSION

Total number of respondents of the survey "Stress Factors for Female Teachers at Distance Learning Environment in Conditions of COVID-19" is 748 people: we have surveyed 722 women teachers from Kazakhstan and 26 teachers from Kyrgyzstan. The sample is almost equally representative in both urban (47.5%) and rural areas (52.5%). Age of majority of the respondents was between 31 and 40 years old (27.9%), and 41 and 50 years old (25.3%). Based on the data analysis, we found that the average age of female teachers in Central Asia ranges between 30 and 50 years old. Only few participants were older than 60 years old (2.9%). Most of the survey participants had, on average, up to 10 years of work experience: one fifth of the surveyed women teachers had less than 5 years of work experience (21%), and 17 percent had from 5 to 10 years of experience. In addition, there were almost 11 percent of those who had 25-30 years of professional experience, and 14 percent of respondents who had over than 30 years of employment history. Most of the respondents were teaching at secondary school level (62.2%), with fewer teaching at undergraduate (33.8%) and graduate (4.0%) university levels. The subject areas of the respondents were concentrated in Arts and Humanities (55.7%), STEM (Science, Technology, Engineering and Mathematics) (29.8%), Social Sciences (12.0%) and finally Business and Economics (2.4%). Almost all of the survey participants lived with their families (91.7%), with only few living alone (6.4%) or with their friends or roommates (1.9%). Most participants of the survey had one or three children in their families: 21.4 percent had one child, 28.6 percent had two children, and 20.2 percent had three children. Fewer people had no children (14.4%), and very few had more than five children (2.8%). The majority of the respondents had other family members contributing financially to their family budget, whereas 26.6 percent were the sole income earners in their households. Finally, 66.6 percent of the surveyed professional teachers had a separate room/space to work, while the rest of the participants worked in shared rooms (29.9%) or had no special space for work (11.5%).

Perceived stress factors analysis

The results of the responses on perceived stress factors were divided into two stages: pre-pandemic and post-pandemic. It was revealed that respondents felt inability to control important events in their lives: 39 percent of respondents said that they could not control the most important events in their lives in the pre-pandemic period, whereas almost 45 percent claimed that it was difficult to do so after the pandemic period. Post-pandemic stress response indicators showed a change in respondents' confidence in their ability to solve personal problems: with 252 cases (34%) of insecurity in the pre-pandemic period and 212 (28%) responses after the pandemic.

The analysis revealed no differences between the perceptions of Organizational Climate and the Levels of Material and Technical Security in Kazakhstan and Kyrgyzstan. However, significant differences were found between teachers' perceptions in Kazakhstan and Kyrgyzstan concerning the levels of anxiety and depression before and during the pandemic. Female teachers in Kyrgyzstan felt more anxious and depressed than female teachers in Kazakhstan during the pandemic. Similar trend was observed in comparing the levels of anxiety and depression before the pandemic: anxiety and depression were stronger for the residents of Kyrgyzstan compared to the residents of Kazakhstan before the pandemic.

Furthermore, we found differences in comparison of urban and rural areas. In a similar way as it was observed in the cross-country analysis, anxiety and depression levels are different for female teachers in rural and urban areas. Teachers in rural areas reported lower levels of anxiety and depression when compared to the teachers in urban areas. In addition, the same trend was observed with the level of depression before the pandemic: teachers in urban areas reported higher levels of depression than teachers in rural areas.

Quality - work - competence analysis

The Quality-Work-Competence Scale (QWC – adopted version) was used to measure female teachers' perceptions of psychological climate at their schools and universities. The questions are focused on four factors: Social Climate, Participatory Management, Goal Clarity and Performance Feedback.

We have observed a high level of teamwork and good relationship with colleagues among the respondents: 276 respondents (37%) claimed that their team is well organized and their colleagues are well behaved. Whereas, 232 respondents (31%) stated that they neither agree nor disagree (are indifferent) with the statement about whether they feel comfortable working with their colleagues.

According to our analysis, compared to the women teachers working in the cities, female teachers in rural areas were more involved in the decision making process, were able to clearly perceive goals at their workplace, and reported that they had higher engagement and received effective and frequent performance feedback at work. Therefore, we could say that management in rural educational institutions is more supportive in terms of ensuring more engagement in academic decision-making process, providing goal clarity conditions, feedback at work than in urban educational institutions.

Level of material and technical security

The Level of Material and Technical Security, on the other hand, was reported to be higher in urban areas. Teachers in rural areas felt that their workplaces were less equipped to support online education compared to the educational institutions located in the cities. Teachers in urban and rural areas similarly perceived the levels of Social and Psychological Support.

Our study also found that only around 35-40 percent of respondents agreed with the fact that their university/school is well equipped and fully prepared for online education, and that they were provided by technical and material support needed for online teaching. Only thirty-one percent of teachers claimed that their university/school has high-speed internet, and thirty-eight percent stated that they have high-speed internet at home. That is, our study revealed that respondents were not comfortable with online work during the pandemic.

Level of socio-psychological support

The last section of our survey on women teachers in Central Asian countries was aimed at determining what psychological or professional forms of support school and university teachers need.

Only thirty-five percent of respondents claimed that were provided by psychological support by their university/school during the pandemic, and thirty-six percent stated that they have not received support. Forty-two percent of women teachers agreed that they were provided by additional trainings on how to improve their work and teaching methods during the pandemic. Whereas twenty-eight percent of respondents answered that, they were not provided by any trainings or workshops. They have expressed the desire to participate in teambuilding, leadership, motivation, relaxation, time management trainings and professional psychologists' consultations. In this regard, it is necessary to organize additional trainings/workshops for teachers to help them to balance their work and life, especially within the transition to distance learning.

In conclusion, this study found that the stress response during a pandemic is high, according to which we make recommendations in the next section.

RECOMMENDATIONS

STRESS FACTORS FOR FEMALE TEACHERS AT DISTANCE LEARNING ENVIRONMENT IN CONDITIONS OF COVID-19

COVID-19 caused significant disruptions to education across the world. Pandemic affected not only lives of millions of students, but also of those who teach them. It has created many challenges and difficulties, due to sudden transition to online learning, and influenced professional, personal, social and economic spheres. It is more important than ever to ensure quality and equality in education process. Therefore, governments, including educational administration, need to do a lot to prevent consequences of the pandemic, and adopt measures that will positively affect students, educators, especially women teachers, in response to the crisis.

According to our findings, during the pandemic, educators had some mental pressures and uncertainties about their future. This situation caused tension among teacher and students in general, and we believe that they need get some support and help.

Recommendations for professional development and training of women teachers in a pandemic based on our research results:

- Participants in this study stated that, during the pandemic and transition to remote learning, they had little knowledge of Information and communications technologies (ICT). At the beginning, teachers were not able to effectively use the education platforms that were introduced in the market. Accordingly, there is a need to create, promote and disseminate ICT literacy videos/manuals among teachers at regional and national levels, both in Kazakh and Russian languages.

- Educators who work in the field of applied sciences feel the need to record good quality video tutorials and topic explanations. For this matter, they might need technical equipment and multimedia support that should be provided by educational institutions.

- Many female teachers reported that they have experienced stress and pressure because of the overtime work during the pandemic. Administration of education institutions should efficiently organize workweeks of women teachers, and productively set tasks and plan meetings, so that they have enough time for self-care and development.

- During the pandemic crisis, women were specifically vulnerable, because sectors in which they are mainly involved have been mostly affected. In addition to that, COVID-19 has increased the care burden of unpaid work for women within the households, which added extra duties and responsibilities. Women are also mostly contributing to the development of the education system in Central Asia. In this regard, within the further development of this system, we need to take into account the needs and demands of women who are mostly involved in this process. Further studies need to be done, in order to understand and resolve the deeper problems of women in education sphere.

Currently, further work and development of the educational institutions depend on the epidemiological situation. Taking into consideration the importance of reducing the spread of the virus, and, at the same time, allowing schools and universities to efficiently operate at regional and national levels, we recommend to the Central Asian authorities, particularly Ministries of Education and Science, to take the following steps to ensure social and psychological safety and support for women teachers:

- 1) Create a comfortable and safe environment for teachers in every educational institution, in accordance with the WHO (World Health Organization) requirement. Educational administration must provide schools and staff with all the necessary means to comply with the rules of physical distance, frequent wearing of masks and washing hands.

- 2) Develop courses on capacity building and acquiring new skills/qualifications for (women) teachers that will be applicable during and after distance learning.

- 3) Organize, within the educational institutions or outside of the organizations, individual working spaces/rooms, with Internet access, which can be used for conducting research and teaching.

- 4) Arrange rooms/spaces for relaxation and for maintaining mental health in every school and university to reduce psychological pressure before and after the pandemic.

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5) Appoint special representative (ombudsmen) who will protect the rights and interests of teachers, who are exposed during the difficult times.

6) Organize trainings/workshops, conducted by specialists, in order to provide psychological help for educators to prevent/cope with stress. Teachers who participate in such trainings can work with their colleagues based on the "peer to peer" principle and help them in difficult times.

7) Provide support through Crisis Centers & Hotlines for school and university teachers.

8) Appoint in each region/district a specialists who will help, support and train teachers.

9) Create digital textbooks on how to efficiently communicate online, and develop "teacher – student - parent" organic relationships during the pandemic.

10) Produce videos for teachers on ICT and media literacy.

Overall, to fully understand the impact of COVID-19 on women teachers, including social, economic and physiological impacts, and develop more substantive recommendations, the further research should be conducted.

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