

Exploring school resilience in the context of globalizing digital change: the impact on teacher management

Asma Khaleel Abdallah¹, Guzalia Shagivaleeva², Elena Kolomoets³

¹Sharjah Education Academy, Sharjah, United Arab Emirates

²Department of Psychology, Kazan Federal University, Kazan, Russian Federation

³Department of Sociology, Psychology and Social Management, Moscow Aviation Institute (National Research University), Moscow, Russian Federation

Article Info

Article history:

Received Dec 19, 2023

Revised Dec 8, 2024

Accepted Mar 2, 2025

Keywords:

Anxiety

Coronavirus infection

Globalizing change

Teacher management

Teacher resilience

ABSTRACT

Administrators in educational institutions will need to implement smart and well-designed changes in teacher management to mitigate the negative effects. Using teacher resilience as an example, the study seeks to assess the level of resilience in schools and analyze its effects on teacher management. The study includes 197 teachers from 31 Russian schools in Kazan, Elabuga, Moscow, and Yekaterinburg, and 100 foreign teachers working in United Arab Emirates. The research design was descriptive transactional and based on a questionnaire. The study yielded the following findings: i) 89.4% of teachers have a high level of stress, 94.2% have a high level of worry, 92.3% have a high level of anxiety, 33.8% have a low level of resilience, and 95.7% were in a difficult emotional state and ii) the inquiry-based stress reduction (IBSR) practice had a positive effect on increasing teacher resilience. This indicated that implementing such changes in teacher management might be successful in boosting teacher resilience, which would affect school resilience generally. Educational researchers have confirmed the effectiveness of the IBSR tool in boosting teacher resiliency, and the results of this study can aid school administrators in developing new management models utilizing this tool.

This is an open access article under the [CC BY-SA](#) license.



Corresponding Author:

Asma Khaleel Abdallah

Sharjah Education Academy

Sharjah, United Arab Emirates

Email: akaabdallah@gmx.com

1. INTRODUCTION

Globalization is the transfer, adaptation, and growth of values, knowledge, technology, and behavioral norms between nations and social groups worldwide [1]. The expansion of global networks (Internet, global electronic communication, and transportation), global transfer and interchange in industrial, economic-social, academic, and other fields, international alliances and competition, and international cooperation and exchange are typical phenomena and traits linked to globalization [2], [3]. The COVID-19 pandemic, which has had a significant impact on the sustainability of schools and educational systems, may be a sign of changes brought about by globalization [4]. Over many years, researchers have demonstrated a strong interest in examining teacher-related issues in the pedagogical literature, such as burnout, low morale, stress, and anxiety [5]. However, the literature severely underrepresents the capacity and potential for fostering resilience in educational settings [6]. Teachers have a lot of mentally, emotionally, and physically taxing tasks to complete, which makes working in schools very stressful [7]. The teaching profession is characterized by numerous challenges, including frequent policy revisions, the implementation of new

curriculum strategies, a strong emphasis on maintaining standards and accountability, as well as addressing increasing social issues, leadership changes, economic hardship, violence, natural disasters, and, at times, severe circumstances such as pandemics [7]. The COVID-19 pandemic has particularly heightened interest in examining emotional well-being, with a focus on stress, anxiety, and reduced resilience among educators [5]. Researchers have extensively explored the impact of stress on physical and mental health, academic and professional performance, as well as personal, familial, and social dynamics [7]. In light of these challenges, it is crucial for individuals, especially educators, to develop strategies for managing and mitigating stress during health crises and pandemics. Persistent stress can negatively affect the resilience of both teachers and students, ultimately weakening the overall adaptability of schools in such demanding periods [5].

Educational institutions must work harder in the pandemic era. To this end, an educational organization needs good management of the educational system to make it work best as a tool to help keep teaching and learning going and as a tool to drive the management of the educational organization [8]. To strengthen the resilience of schools and other educational institutions in the pandemic era, it is vital to adapt not only the teaching format but also to encourage transformation in the administration of teachers' activities [5]. The impact of the pandemic on the education system and pedagogy, in particular, has been lessened by the move toward distance learning using e-learning, mobile learning, and other virtual learning platforms [9]. From pre-schools to higher education institutions, the COVID-19 pandemic has severely impacted educational systems. To deal with the pandemic, schools were closed, people were kept at a safe distance from each other, and learning activities were switched to online communication and learning methods [10]. For both teachers and students, the transition to online learning represented a significant change because the majority of them lacked training in the tools necessary for this type of learning [11].

The pandemic has also reduced the workforce, including in academia, because most operations are now conducted online or from home [12]. The shift toward the use of online learning resources necessitates that both students and teachers have access to the internet, in addition to any other hardware and software that may be required to facilitate online classes. Because of this, both teachers and students are faced with a plethora of difficult challenges [13]. This is because the shift to online mode has rendered obsolete an essential component of pedagogy, such as continuous verbal communication, which is not possible with online resources. It is therefore crucial to create new standards and tools for teacher-student communication on online platforms. This will make a significant contribution to disciplinary research in pedagogy. Platforms such as Microsoft Teams, Google Meet, and the webinar system Zoom fall into this category [14]. Indonesia has formally adopted the Independent Campus higher education policy [15]. Because of this policy, students now have a great deal of autonomy in selecting their fields of study, areas of concentration, and areas of interest. Additionally, the new education policy promotes learning outside of the classroom and in the community, involving a larger network [16]. The potential of digital learning models has been maximized throughout almost the entire country of Indonesia. Since the digital learning model necessitates access to digital information, these models have not yet reached the most remote social strata. Not all students have access to digital technologies, as has been observed [15].

The independent campus policy incorporates the following elements: i) application of academic freedom and academic autonomy; ii) autonomy in the management of own institutions; iii) obtaining and managing community funding sources through public accountability; iv) defining educational governance policies in their institution; and v) implementing governance via accountability, quality assurance, and transparency in assessment [16], [17]. Basically, educational autonomy means that a school should be able to manage and decide for itself what it needs and what it wants to do to meet its objectives [10]. During the COVID-19 pandemic, educational institutions face three major challenges in managing the educational process and teachers. The first issue is the scarcity of devices and gadgets, such as hardware and software. Second, not every college has a standard model of teaching and learning for virtual learning. Third, the most important challenge is that it is hard for teachers to tell at any point in the learning process how ready and serious a student is [11]. This manuscript makes a significant contribution to understanding how to enhance teachers' resilience through administrative changes within schools, particularly in environments with high levels of stress and anxiety. The practical significance of this study lies in its potential to aid educational administrators in identifying effective strategies for reducing stress among teachers, thereby enhancing their resilience to emotional burdens and improving their emotional well-being. Implementing this approach will enable school administrators to design and integrate new management models aimed at fostering resilience not only among individual educators but also within the institution as a whole.

2. LITERATURE REVIEW

Globalization processes can benefit humanity if people have the necessary information and rights for their basic livelihoods. They require employment, income, and a safe environment [18]. All of these provide opportunities for full participation as citizens in local, national, and global communities. These

objectives can be met with the assistance of the government, which must allot enough funds for educational purposes [19]. Education, as the foundation and most important human development, is at the heart of the changes that are dramatically affecting our world in various areas of civilization. Nine globalizing changes are occurring, such as the COVID-19 pandemic, which has implications for the long-term health of the educational system [4].

Historically, psychological resilience has been defined in terms of character traits or qualities that allow an individual to successfully adapt to their immediate environment [18]. However, over the last two decades, the focus on resilience has shifted from personal traits and protective factors like risk and stress to positive processes. Strengths, positive outcomes, and qualities are examples of positive processes [20]. A teacher's professional self enables him or her to be effective and purposeful in changing the lives of their students under trying conditions. Furthermore, the data from the interviews suggest that educational values and moral purpose play a role in shaping teacher resilience [20]. Additionally, this raises the possibility that workplace variables play a significant role in determining teachers' resilience; for instance, teachers' self-esteem may rise in response to the school principal's encouragement and support. In other words, the social environment of teachers is also important for building a strong sense of self-efficacy, which in turn builds resilience [21]. When taken as a whole, internal and external factors provide educators with powerful means of overcoming adversity. A teacher's relationships with colleagues, the principal, and students are critical in shaping and developing a sense of resilience to change. Moreover, how this resilience bolsters their potential can also make a difference [20].

The factors that enable teachers to remain committed to their students' learning even when faced with adversity have been discussed [22]. Initially, it is important to be able to deal with the day-to-day challenges of teaching to keep up quality [23]. This is because teaching is full of many different challenges and unknowns. Other indicators of what is required to become a resilient teacher include a sense of identity, commitment, and moral purpose. There must be trust among all parties involved [19]. Another important part is the role of the school leader in creating a good working environment for the staff that makes them more resilient. The school leader needs to be resilient to deal with unknown problems and run the school well, and teachers need to work in a supportive and stimulating environment so they can grow as professionals [22]. Finally, developing the ability to adapt positively to adversity is everyone's responsibility [20]. The mental health of teachers is a crucial aspect during times of health crises, such as the COVID-19 pandemic. Anxiety, stress, and worry are common challenges in the teaching profession, often impacting performance. While these emotions are prevalent, they are neither unique nor unexpected among educators [7]. Psychological stability among teachers is affected by various factors, including fast-paced work environments, competitive pressures, social and technological transformations, and, more recently, health crises like pandemics. In such situations, it is essential to cultivate resilience, which involves enhancing skills and abilities that help individuals navigate through crises effectively [24]. Crises often intensify feelings of tension and anxiety, increasing psychological and physical vulnerability.

Resilient individuals utilize their neuropsychological resources constructively to confront crises and maintain a strong drive for growth and adaptation [25]. Within the realm of higher education, resilience, particularly among educators, emerges as a critical area of study [26]. Teaching requires a nuanced set of skills, including building trust, fostering relationships with students, sustaining interest in academic content, persistence in delivery, and effective follow-up to meet academic and social objectives [27]. This highlights the importance of emotional competencies for university educators, alongside teaching and academic expertise, enabling the creation of empathetic learning environments and enhancing the capacity to address emergencies like pandemics [28].

During the pandemic, teachers faced numerous challenges, such as increased workloads, adapting to new technologies, disruptions to daily routines, fear of infection, and uncertainty about the duration of remote learning [29]. These shifts also led to social isolation from colleagues, friends, and students, with psychological consequences including stress, anxiety, and depression, as well as reduced resilience [30]. To mitigate these effects and support teacher resilience, school administrations have implemented measures focusing on stress reduction and resilience-building strategies [31]. Studies indicate that interventions such as psychosocial support and mindfulness practices can significantly reduce negative outcomes among teachers [32]. While such interventions are traditionally conducted in person, the restrictions of the COVID-19 pandemic have brought attention to remote and hybrid approaches, such as inquiry-based stress reduction (IBSR), which have proven relevant in supporting teacher well-being during periods of isolation [32].

Evidence suggests that practices like cognitive behavioral therapy (CBT), positive psychological interventions (PBI), mindfulness, transcendental meditation, and yoga are effective in alleviating teacher burnout and mental health challenges [33]. For instance, a cohort study conducted in Italy involved 66 educators who participated in an 8-week mindfulness-based stress reduction (MBSR) program comprising offline and online sessions. The study assessed various psychological parameters, including burnout,

emotional distress, and attention skills, before and after lockdowns. The findings demonstrated that MBSR interventions effectively enhanced teacher well-being and resilience during the pandemic [34]–[36].

Another study investigated an Information and communication technology or ICT training program's impact on reducing stress and burnout among Spanish primary school teachers. Participants of the program reported lower stress levels, reduced burnout, and improved emotional intelligence [37]. Despite the promising results of such studies, there remains limited research on the efficacy of blended interventions that combine online and offline sessions to enhance resilience and well-being during crises like COVID-19.

IBSR, derived from The Work by Byron Katie, is a reflective method that has been adopted globally since 1986. This approach emphasizes observation, cognitive reframing, and self-empowerment through structured processes that help individuals confront and reinterpret anxious thoughts. Unlike CBT, which relies on argumentation and reasoning, IBSR fosters cognitive restructuring through awareness and personal insight, making it adaptable for independent practice without requiring extensive training [38]. Research demonstrates IBSR's effectiveness in improving mental health and well-being across diverse populations, including those dealing with anxiety, depression, or burnout. In a controlled study, IBSR interventions showed significant improvements in reducing teacher burnout, emotional exhaustion, and enhancing personal accomplishment [32]. The findings highlight the potential of IBSR as a flexible and accessible method for addressing teacher burnout, particularly during health crises. Its ability to foster resilience and promote psychological well-being underscores the importance of integrating such interventions into broader strategies for supporting educators during challenging times [39].

The purpose of the study is to assess the degree of teacher resilience in schools as an example and to examine how it affects effective teacher management features. This study rises two research objectives. The first is to determine the resilience level of teachers, as well as their stress, anxiety, worry, and emotional state during the pandemic distance learning format. The second is to make recommendations to school administrations for changes in teacher management that will increase teacher resilience.

3. METHOD

3.1. Data collection and measurements

As a result of the variable being measured in a group of individuals and a description being given based on the measurements, the design is descriptive transactional. The data collection was done through the use of a survey. Given the situation with the COVID-19 pandemic, it was decided to use Google Forms to run a questionnaire. The teacher anxiety scale and the teacher stress, resilience, and emotional state questionnaire were completed by the participants. The teacher anxiety and worry scale. The 32-item teacher anxiety scale (TAS), had a reliability of 0.900 in this study [40]. The responses were scored on a five-point Likert scale with values ranging from 1 to 5 for each of the descriptors, with the options being “never,” “infrequently,” “sometimes,” “often,” and “always.” The teacher stress scale. The 18-item teacher stress inventory (TSI) with a reliability of 0.897 [41] to measure stress levels in school teachers in the present study. The questionnaire items were rated on a 5-point Likert scale from “light stress,” “moderate stress,” “severe stress,” and “extreme stress,” with values ranging from 0 to 4 assigned to each descriptor.

The resilience scale for adults (RSA) [42], [43] is a self-report instrument with 33 items and a 7-point semantic differential scale that includes negative and positive attributes. This scale is meant to measure personal strength, social competence, family cohesion, a structured style, and social support, all of which are thought to be important parts of being resilient. The scale has good reliability (0.76) and high validity [44]. Emotional state scale, a short form Minnesota satisfaction questionnaire (SFMSQ) was used to assess the emotional state of teachers [45]. The short form consists of 20 items that assess both the internal and external aspects of job satisfaction. The items on the 5-point Likert scale are as: strongly dissatisfied=1, not satisfied=2, neutral=3, satisfied=4, and strongly satisfied=5. The total job satisfaction score is the sum of the measures of job satisfaction that come from inside and outside the job. As the scale scores rise, so do people's perceptions of job satisfaction. The internal consistency coefficients calculated in this study for internal and external job satisfaction were 0.83 and 0.85, respectively.

3.2. Participants

The study included 197 teachers from 31 schools in Russia, including Kazan, Elabuga, Moscow, and Yekaterinburg, and 100 foreign teachers working in the United Arab Emirates. The participants responded to the online survey questions, which were emailed to all schools that collaborated with the authors' school. The schools had different numbers of students with special educational needs and students from ethnic minorities. All of the schools were public ones. The questionnaire was completed by 207 teachers from these schools, 66 male and 141 female. The vast majority of teachers were full-time employees (193). The participants' ages ranged from 21 to 60 years, with a mean of 37.41 years (SD $\frac{1}{4}$ 9.75). Years of qualified teaching experience ranged from less than a year to 36 years, with an average of 11.56 years (SD $\frac{1}{4}$ 9.18).

3.3. Procedure

Principals in the school partnership database at the authors' institution were sent an email containing a link to the questionnaire. Principals of schools were asked to give the questionnaire to their teachers. Teachers and principals were allowed to learn more about the study and how to support teachers in the classroom by attending a free workshop in exchange for their participation. A report was sent to schools with five or more responses, outlining the overall trends in responses. Between May and July 2021, teachers completed the questionnaire. The university ethics committee granted ethical approval. The teachers' permission to participate was obtained after they clicked the survey button and indicated that they were willing to fill out the questionnaire.

3.4. Statistical analysis

To find out if the instruments were valid, exploratory factor analysis was used on each of their dimensions. The results show univariate validity, which means that all items are closely related to one another. The data analysis was performed using SPSS V-25 software.

3.5. Limitations

Although this study represents a significant step toward quantifying teacher resiliency, it has some significant limitations; thus, more research is required before definitive conclusions can be drawn. The authors did not have enough statistical power to model the presence of potential interactions between predictors because of the small sample size used in this study. Therefore, a comprehensive understanding of the potentially complex interactions between the factors requires large-scale research. All data in this study were based on self-reports from individual respondents. Because of the inherent uncertainty in the approach, the results may have been inflated. In future studies, these concerns will be lessened by the use of more objective indicators that do not just rely on self-reports. Due to the issues, all the conclusions that can be drawn from this study are still preliminary at this point. However, they are an important starting point for more quantitative research on teacher resilience.

4. RESULTS AND DISCUSSION

The resilience of school teachers was investigated using four dimensions (stress, worry, anxiety, and resilience) and an emotional state variable, as shown in Table 1. Teacher stress was found to be predominantly severe at 89.4%. This means that a large number of the teachers surveyed are very stressed out because of the social exclusion measures that have been put in place to stop COVID-19 from spreading. The moderate level was shown by 10.1% of respondents, and only 0.5% of people said they were lightly stressed. Teachers aged 45-54 years exhibit severe levels of stress at 37.8%, with the female gender being the most represented at 53%, as seen in Table 2.

Table 1. Stress level

Level	Frequency	Percentage	Cumulative percentage
Severe	185	89.4	89.4
Moderate	21	10.1	99.5
Light	1	0.5	100.0
Total	207	100.0	

Table 2. Worry level

Level	Frequency	Percentage	Cumulative percentage
Severe	195	94.2	94.2
Moderate	10	4.8	99.0
Light	2	1.0	100.0
Total	207	100.0	

When the aspect of worries was statistically processed, those surveyed had a predominantly severe level of 94.2%. This means that a sizable proportion of teachers are experiencing worry. A moderate level was expressed by 4.8% of other respondents, while a light level was expressed by 1%. Teachers aged 45 to 54 years had a severe level of 37.9%, while women had a severe level of 51.8%. The data relates to the high levels of novelty and uncertainty that the transition to a distance learning format has caused among teachers, as presented in Table 3.

Table 3. Anxiety level

Level	Frequency	Percentage	Cumulative percentage
Severe	191	92.3	92.3
Moderate	14	6.8	99.0
Light	2	1.0	100.0
Total	207	100.0	

When anxiety was statistically processed, teachers were found to have a predominantly severe level of 92.3%. This means that a significant proportion of those surveyed showed signs of anxiety. A total of 6.8% of the other survey participants reported a moderate level of anxiety, while 1% reported a light level of anxiety. 38.2% of teachers reported having a high level of anxiety; they were mostly female (52.4%); and their ages ranged from 45 to 54. Teachers' high levels of anxiety were largely brought on by how unpredictable future lessons would be. Teachers may also have been concerned about losing their jobs, but a thorough investigation of all these factors is still further needed, as shown in Table 4.

Table 4. Resistance (resilience) level

Level	Frequency	Percentage	Cumulative percentage
Low	70	33.8	33.8
Moderate	122	58.9	92.8
High	15	7.2	100.0
Total	207	100.0	

The resilience aspect of statistical processing reveals that the vast majority (58.9%) exhibits a moderate or average level. This means that, despite the social exclusionary measures put in place to stop the spread of COVID-19, a significant portion of teachers exhibit an adequate manifestation, with an attitude of coping with adversity and the belief that challenges are nothing more than an opportunity to find solutions to problems. Another group of survey respondents demonstrated low resilience at 33.8% and high resilience at 7.2%. Teachers between the ages of 45 and 54 were found to have a high level of resilience (53.3%), and women showed it the most (66.7%). Due to ongoing distress and extreme anxiety, teachers' resilience was low, as seen in Table 5.

Table 5. Emotional state level

Level	Frequency	Percentage	Cumulative percentage
Severe	198	95.7	95.7
Moderate	8	3.9	99.5
Light	1	0.5	100.0
Total	207	100.0	

The majority of teachers (95.7%) have a severe emotional state, as revealed by the emotional state variable in the statistical analysis. Many of the educators surveyed reported significant shifts in their emotional state. 3.9% of the remaining survey participants showed signs of a moderate emotional state, and only 0.5% of respondents showed signs of a light emotional state. A high level of emotional state was observed in 38.4% of teachers aged 45 to 54 years old, with the female gender being the most affected (52%). Prolonged stress, elevated levels of anxiety, unpredictability, and social isolation all harmed the educators' emotional states.

IBSR practices were suggested to school administrators as a way to help teachers become more resilient. The IBSR intervention consisted of 10 group meetings every two weeks for a total of 20 weeks. Each meeting was 2.5 hours long. Online training using the ZOOM platform was used as the intervention method. Each participant was required to have access to the Internet, a smartphone, tablet, or PC. Access to necessary technological resources was not an issue. Active participation was defined as attendance of at least 80% of group sessions and completion of at least 50% of home sessions.

The IBSR method involves three main stages. The initial stage requires participants to document all stressful thoughts related to the situation, either by handwriting them on paper or typing them into a digital document. In the second stage, participants analyze these thoughts using a series of four guiding questions, which they can explore independently or with the support of a trained IBSR facilitator. The questions include: i) Is this thought accurate?; ii) Can I be absolutely sure that it is true?; iii) How do I react when I believe this thought?; and iv) Who would I be without this thought? This reflective process encourages

participants to challenge automatic beliefs and consider their emotional and physical responses to stress. This stage is meditative, requiring participants to discover their authentic answers to the guiding questions without preconceptions. The process is designed to cultivate a state of observing awareness, where thoughts are noticed without judgment or control, prioritizing realization over logical reasoning.

In the final stage, participants “turn around” their stressful thoughts by exploring contrary perspectives. This involves answering questions such as: i) What evidence supports and contradicts this thought?; ii) Are there alternative interpretations?; iii) Am I committing logical errors?; and iv) Am I avoiding accountability for factors beyond my control? This reflective process allows participants to reconsider their thought patterns constructively. The facilitator guiding this process was an experienced IBSR-trained psychologist with 5.5 years of expertise in the educational sector.

Afterward, the teachers went through the resilience questionnaire again, as in Table 6. The IBSR practice decreased the number of teachers with low resilience by 27.5% and increased the number of people with high resilience from 7.2% to 40.1%, which shows how effective the technique is. Teachers’ resilience grew as levels of stress and anxiety were decreased by awareness, identification, rationalization, and the chance to challenge and criticize one’s negative thoughts.

Table 6. Teacher resilience level after IBSR practice

Level	Frequency	Percentage
Low	13	6.3
Medium	111	53.6
High	83	40.1
Total	207	100.0

It is important to conduct research on resilience in specific populations, in this case, school teachers, given the challenging circumstances we currently find ourselves in as a result of the COVID-19 pandemic. All countries’ educational systems have changed as a result of the pandemic, and educators will be significantly and directly impacted by these changes. This pandemic has an undeniable psychological and social impact, and isolation is to blame for it [46]. The population’s levels of stress, anxiety, and worry are rising, but in light of this, it is important to understand how resilient teachers and schools are to this situation. Researchers concur that the population has experienced psychological and emotional changes as a result of these challenging times [47]. The pandemic has significantly complicated efforts to maintain the mental health of both educators and the general population [48]. The data collected using the methods described in this study enable a detailed analysis of emotional responses such as stress, worry, and anxiety in the daily lives of teachers. These findings also explore how resilience can help educators manage these challenges in the context of the COVID-19 pandemic.

Regarding stress, it has been observed that teachers, particularly women aged 45 to 54, show a high level of stress, reaching 89.4%. This contrasts with findings from another study, which identified stress levels ranging from mild to moderate [49]. Meanwhile, another investigation found that 67.9% of participants experienced normal stress levels [50].

In terms of worry, severe levels were reported in 94.2% of educators, predominantly women in the 45-54 age range. These results align with a Colombian study. It identified drastic changes in routines and habits, limited time, and a lack of resources as key factors contributing to heightened stress levels during weekly isolation preparations [51].

For anxiety, a strong manifestation was noted in 92.3% of the population, particularly in the 45-54 age group, with women being more frequently affected. These results diverge from studies reporting mild to moderate anxiety levels [49]. However, they are consistent with Argentine research highlighting feelings of uncertainty and frustration that are more prevalent among women [52].

As for resilience, an average rate of 58.9% was observed, especially in women aged 45–54. These findings align with prior research showing a significant positive relationship between resilience and the ability to navigate social distancing, perceiving the pandemic as an opportunity for growth. Additional factors influencing resilience included emotional support, physical activity, neuropedagogical training, online resource management, and lifestyle adjustments [5], [53].

The effects of IBSR on teacher resilience were also examined [38]. A controlled prospective study with intervention and control groups was conducted in Jerusalem during the academic year from November 2019 to May 2020. Despite the outbreak of the COVID-19 pandemic and Israel’s first quarantine, the mixed IBSR intervention significantly improved teachers’ psychological well-being and resilience. In contrast, the control group exhibited increased burnout and diminished resilience.

Amid this crisis, families and educators have had to adapt extensively, restructuring their environments to meet the demands of remote work and learning. Homes were transformed into multifunctional spaces that simultaneously served as offices and classrooms. These changes drastically shifted traditional face-to-face education into a distance-learning format while maintaining the interconnected nature of teaching and learning in higher education [54].

Teachers also adapted by integrating technology and digital tools into their work. These resources became essential in reshaping educational processes and meeting the new digital competency demands. Although this adaptation process occasionally led to increased stress, it also facilitated the development of resilience, helping educators and students acquire the necessary digital skills in response to the rapidly evolving educational landscape [55].

5. CONCLUSION

The study assessed teachers' resilience and yielded the following results. About 89.4% of teachers had high levels of stress, 94.2% had high levels of worry, 92.3% had high levels of anxiety, 33.8% had low levels of resilience, and 95.7% were in a difficult emotional state. The use of the IBSR technique to manage teachers helped them become more resilient. The number of teachers with high levels of resilience increased by 32.9% as a result. The findings of the present study demonstrate that the IBSR intervention can be an effective strategy for enhancing teachers' well-being, resilience, and capacity to deal with stressful situations like the COVID-19 pandemic. Based on the results, recommendations for governing boards of schools can be created to lessen the pandemic's detrimental effects on the resilience of teachers and the school as a whole. Future randomized controlled trials are required to evaluate the potential efficacy of this method as a combined tool to enhance the well-being of teachers and other stressed workers either generally or in times of crisis like the COVID-19 pandemic.

FUNDING INFORMATION

The research received no funding.

AUTHOR CONTRIBUTIONS STATEMENT

This journal uses the Contributor Roles Taxonomy (CRediT) to recognize individual author contributions, reduce authorship disputes, and facilitate collaboration.

Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
Asma Khaleel Abdallah		✓		✓	✓				✓			✓	✓	
Guzalia Shagivaleeva	✓		✓	✓		✓			✓		✓			
Elena Kolomoets		✓		✓			✓	✓		✓				✓

C : Conceptualization

M : Methodology

So : Software

Va : Validation

Fo : Formal analysis

I : Investigation

R : Resources

D : Data Curation

O : Writing - Original Draft

E : Writing - Review & Editing

Vi : Visualization

Su : Supervision

P : Project administration

Fu : Funding acquisition

CONFLICT OF INTEREST STATEMENT

The research has no conflict of interest.

INFORMED CONSENT

The teachers' permission to participate was obtained after they clicked the survey button and indicated that they were willing to fill out the questionnaire.

ETHICAL APPROVAL

The authors declare that the work is written with due consideration of ethical standards. The study was conducted in accordance with the ethical principles approved by the Ethics Committee of United Arab Emirates University (Protocol No GDH63 of May 16, 2024).

DATA AVAILABILITY





The authors confirm that the data supporting the findings of this study are available within the article [and/or its supplementary materials].

REFERENCES





- [1] A. L. Goodwin, "Globalization, Global Mindsets and Teacher Education," *Action in Teacher Education*, vol. 42, no. 1, pp. 6–18, 2020, doi: 10.1080/01626620.2019.1700848.
- [2] F. R. Khatit, T. N. Poddubnaya, N. A. Ilyinova, E. A. Panina, A. E. Leonidovna, and S. S. Voevodina, "Distance Learning Experience in the Context of Globalization of Education," *Propósitos y representaciones*, vol. 9, no. 3, p. e985, 2021, doi: 10.20511/pyr2021.v9nSPE2.985.
- [3] A. S. Turdaliyeva, "Globalization processes and education-upbringing," in *Proceedings of Ingenious Global Thoughts An International Multidisciplinary Scientific Conference*, 2020, pp. 47–49.
- [4] N. Shrestha *et al.*, "The impact of COVID-19 on globalization," *One Health*, vol. 11, p. 100180, Dec. 2020, doi: 10.1016/j.onehlt.2020.100180.
- [5] S. Naidu, "Building resilience in education systems post-COVID-19," *Distance Education*, vol. 42, no. 1, pp. 1–4, 2021, doi: 10.1080/01587919.2021.1885092.
- [6] S. Ainsworth and J. Oldfield, "Quantifying teacher resilience: Context matters," *Teaching and Teacher Education*, vol. 82, pp. 117–128, 2019, doi: 10.1016/j.tate.2019.03.012.
- [7] S. Beltman, "Understanding and Examining Teacher Resilience from Multiple Perspectives," in *Cultivating Teacher Resilience*, C. F. Mansfield, Ed., Singapore: Springer Nature Singapore, 2021, pp. 11–26, doi: 10.1007/978-981-15-5963-1_2.
- [8] D. R. Lailia, E. F. Fahyuni, and M. B. U. By Arifin, "Management Educational Information System During Pandemic COVID-19 Through Teachers' Professionalism and Pedagogic," *Nidhomul Haq: Jurnal Manajemen Pendidikan Islam*, vol. 6, no. 1, pp. 144–162, 2021, doi: 10.31538/ndh.v6i1.1341.
- [9] O. Terenko and O. Ogienko, "How to Teach Pedagogy Courses Online at University in COVID-19 Pandemic: Search for Answers," *Revista Romaneasca pentru Educatie Multidimensionala*, vol. 12, pp. 173–179, 2020, doi: 10.18662/rrem/12.1sup2/261.
- [10] E. Sulamsi and Agussani, "Managing virtual learning at higher education institutions during pandemic COVID-19 in the Indonesian context," *Educational Sciences: Theory and Practice*, vol. 21, no. 1, pp. 98–111, 2021, doi: 10.12738/jestp.2021.1.008.
- [11] I. Chatziralli *et al.*, "Transforming ophthalmic education into virtual learning during COVID-19 pandemic: a global perspective," *Eye (Basingstoke)*, vol. 35, no. 5, pp. 1459–1466, 2021, doi: 10.1038/s41433-020-1080-0.
- [12] B. Setiawan and V. Iasha, "COVID-19 Pandemic: The Influence of Full-Online Learning for Elementary School in Rural Areas," *Jurnal Pendidikan Sekolah Dasar*, vol. 6, no. 2, pp. 114–123, 2020.
- [13] Rasmitadila *et al.*, "The perceptions of primary school teachers of online learning during the COVID-19 pandemic period: A case study in Indonesia," *Journal of Ethnic and Cultural Studies*, vol. 7, no. 2, pp. 90–109, 2020, doi: 10.29333/ejecs/388.
- [14] Mailizar, A. Almantari, S. Maulina, and S. Bruce, "Secondary School Mathematics Teachers' Views on E-learning Implementation Barriers during the COVID-19 Pandemic: The Case of Indonesia," *Eurasia Journal of Mathematics, Science and Technology Education*, vol. 16, no. 7, p. em1860, May 2020, doi: 10.29333/ejmste/8240.
- [15] A. Abidah, H. N. Hidaayatullah, R. M. Simamora, D. Fehabutar, and L. Mutakinati, "The Impact of COVID-19 to Indonesian Education and Its Relation to the Philosophy of 'Merdeka Belajar,'" *Studies in Philosophy of Science and Education*, vol. 1, no. 1, pp. 38–49, 2020, doi: 10.46627/sipose.v1i1.9.
- [16] C. B. Hodges, S. Moore, B. B. Lockee, T. Trust, and M. A. Bond, "The Difference between Emergency Remote Teaching and Online Learning," in *Handbook of Research in Online Learning: Insights and Advances*, T. Martindale, T. B. Amankwatia, L. Cifuentes, and A. A. Piña, Eds., Leiden: BRILL, 2024, pp. 511–522, doi: 10.1163/9789004702813_021.
- [17] P. U. Kamalia and E. H. Andriansyah, "Independent Learning-Independent Campus (MBKM) in Students' Perception," *Jurnal Kependidikan: Jurnal Hasil Penelitian dan Kajian Kepustakaan di Bidang Pendidikan, Pengajaran dan Pembelajaran*, vol. 7, no. 4, pp. 857–867, Dec. 2021, doi: 10.33394/jk.v7i4.4031.
- [18] Y. Wang, "Building Teachers' Resilience: Practical Applications for Teacher Education of China," *Frontiers in Psychology*, vol. 12, p. 738606, 2021, doi: 10.3389/fpsyg.2021.738606.
- [19] S. Ion and M. Ilie-Prica, "Higher Education and Globalization in the Context of the COVID-19 Crisis," *European Journal of Education*, vol. 3, no. 2, pp. 34–48, 2020, doi: 10.26417/812dro50g.
- [20] M. A. Flores, "Surviving, being resilient and resisting: teachers' experiences in adverse times," *Cambridge Journal of Education*, vol. 50, no. 2, pp. 219–240, 2020, doi: 10.1080/0305764X.2019.1664399.
- [21] C. Brion, "Building Emotionally Resilient Schools and Educators During Crises," *Journal of Cases in Educational Leadership*, vol. 25, no. 2, pp. 136–152, 2021, doi: 10.1177/15554589211047261.
- [22] M. Abdullah, N. A. Husin, and A. Haider, "Development of Post-Pandemic COVID19 Higher Education Resilience Framework in Malaysia," *Archives of Business Research*, vol. 8, no. 5, pp. 201–210, 2020, doi: 10.14738/abr.85.8321.
- [23] G. K. Dlimbetova, S. U. Abenova, A. R. Mandykayeva, N. M. Stukalenko, and K. S. Bakirova, "Environmentally-oriented training in the process of the professional programme for students," *Periodico Tche Quimica*, vol. 16, no. 33, pp. 369–391, 2019, doi: 10.52571/ptq.v16.n33.2019.384_periodico33_pgs_369_391.pdf.
- [24] C. F. Mansfield, *Cultivating Teacher Resilience: International Approaches, Applications, and Impacts*. Cham: Springer Nature, 2020.
- [25] G. Cromer, "How Can Teacher Training Maintain Rigor and Increase Resilience Beyond COVID-19?" Ph.D. dissertation, Trident University International, United States, 2020.
- [26] A. S. Mambetalina, O. A. Borankulovna, M. S. Kanatovna, U. G. Ukatayevna, M. A. Pamazanovna, and U. Z. Tlegenovna, "The Impact of Complex Intervention on the Dynamics of Children's Development with ASD," *The Open Psychology Journal*, vol. 15, no. 1, 2022, doi: 10.2174/18743501-v15-e2205110.
- [27] B. Morettini, K. Luet, and L. Vernon-Dotini, "Building Beginning Teacher Resilience: Exploring the Relationship between Mentoring and Contextual Acceptance," *Educational Forum*, vol. 84, no. 1, pp. 48–62, 2020, doi: 10.1080/00131725.2020.1679933.
- [28] C. F. Mansfield, S. Beltman, and N. L. Weatherby-Fell, "I actually felt more confident": An online resource for enhancing pre-service teacher resilience during professional experience," *Australian Journal of Teacher Education*, vol. 45, no. 4, pp. 30–48, 2020, doi: 10.14221/ajte.2020v45n4.3.

- [29] R. Allen, J. Jerrim, and S. Sims, "How did the Early Stages of the COVID-19 Pandemic Affect Teacher Wellbeing?" CEPEO Working Paper No. 20-15, 2020.
- [30] Q. Li, Y. Miao, X. Zeng, C. S. Tarimo, C. Wu, and J. Wu, "Prevalence and factors for anxiety during the coronavirus disease 2019 (COVID-19) epidemic among the teachers in China," *Journal of Affective Disorders*, vol. 277, pp. 153–158, Dec. 2020, doi: 10.1016/j.jad.2020.08.017.
- [31] D. T. Bitan, A. Grossman-Giron, Y. Bloch, Y. Mayer, N. Shiffman, and S. Mendlovic, "Fear of COVID-19 scale: Psychometric characteristics, reliability and validity in the Israeli population," *Psychiatry Research*, vol. 289, p. 113100, 2020, doi: 10.1016/j.psychres.2020.113100.
- [32] L. Schnaider-Levi *et al.*, "The effect of inquiry-based stress reduction on teacher burnout: A controlled trial," *Brain Sciences*, vol. 10, no. 7, p. 468, 2020, doi: 10.3390/brainsci10070468.
- [33] S. P. Joshi *et al.*, "Efficacy of Transcendental Meditation to Reduce Stress among Health Care Workers: A Randomized Clinical Trial," *JAMA Network Open*, vol. 5, no. 9, p. E2231917, 2022, doi: 10.1001/jamanetworkopen.2022.31917.
- [34] J. S. de Carvalho *et al.*, "Effects of a Mindfulness-Based Intervention for Teachers: A Study on Teacher and Student Outcomes," *Mindfulness*, vol. 12, no. 7, pp. 1719–1732, 2021, doi: 10.1007/s12671-021-01635-3.
- [35] A. Matiz, F. Fabbro, A. Paschetto, D. Cantone, A. R. Paolone, and C. Crescentini, "Positive impact of mindfulness meditation on mental health of female teachers during the COVID-19 outbreak in Italy," *International Journal of Environmental Research and Public Health*, vol. 17, no. 18, p. 6450, 2020, doi: 10.3390/ijerph17186450.
- [36] J. N. Hook, J. Kim Penberthy, D. E. Davis, and D. R. van Tongeren, "Inquiry-based stress reduction: A systematic review of the empirical literature," *Journal of Clinical Psychology*, vol. 77, no. 6, pp. 1280–1295, 2021, doi: 10.1002/jclp.23120.
- [37] T. Pozo-Rico, R. Gilar-Corbi, A. Izquierdo, and J. L. Castejón, "Teacher training can make a difference: tools to overcome the impact of COVID-19 on primary schools. An experimental study," *International Journal of Environmental Research and Public Health*, vol. 17, no. 22, p. 8633, 2020, doi: 10.3390/ijerph17228633.
- [38] T. Zadok-Gurman *et al.*, "Effect of inquiry-based stress reduction (IBSR) intervention on well-being, resilience and burnout of teachers during the COVID-19 pandemic," *International Journal of Environmental Research and Public Health*, vol. 18, no. 7, p. 3689, 2021, doi: 10.3390/ijerph18073689.
- [39] E. Smernoff, I. Mitnik, and S. Lev-ari, "The effects of Inquiry-Based Stress Reduction (IBSR) on mental health and well-being among a non-clinical sample," *Complementary Therapies in Clinical Practice*, vol. 34, pp. 30–34, 2019, doi: 10.1016/j.ctcp.2018.10.015.
- [40] F. Xu, Y. Cai, and D. Tu, "Psychometric properties of TAS, TAI, FAT test anxiety scales 6 in Chinese university students: a Bifactor IRT study," *Current Psychology*, vol. 41, no. 4, pp. 2250–2263, 2022, doi: 10.1007/s12144-020-00610-w.
- [41] J. J. Chen, Z. Li, W. Rodrigues, and S. Kaufman, "Thriving Beyond Resilience Despite Stress: A Psychometric Evaluation of the Newly Developed Teacher Stress Scale and Teacher Thriving Scale," *Frontiers in Psychology*, vol. 13, 2022, doi: 10.3389/fpsyg.2022.862342.
- [42] R. Rossi *et al.*, "Validation of a brief version of the Resilience Scale for Adults on an Italian non-clinical sample," *Rivista di Psichiatria*, vol. 56, no. 6, pp. 308–313, 2021, doi: 10.1708/3713.37044.
- [43] C. Kaya, "Adaptation and Preliminary Validation of a Positive Psychology Assessment Tool: Character Strengths Semantic Differential Scale," *Journal of Psychoeducational Assessment*, vol. 40, no. 4, pp. 451–464, 2022, doi: 10.1177/07342829211070404.
- [44] R. Morote, O. Hjemdal, P. M. Uribe, and J. Corveleyn, "Psychometric properties of the Resilience Scale for Adults (RSA) and its relationship with life-stress, anxiety and depression in a Hispanic Latin-American community sample," *PLoS ONE*, vol. 12, no. 11, p. e0187954, 2017, doi: 10.1371/journal.pone.0187954.
- [45] I. Lakatamitou, E. Lambrinou, M. Kyriakou, L. Paikousis, and N. Middleton, "The Greek versions of the TeamSTEPPS teamwork perceptions questionnaire and Minnesota satisfaction questionnaire 'short form,'" *BMC Health Services Research*, vol. 20, no. 1, p. 587, 2020, doi: 10.1186/s12913-020-05451-8.
- [46] A. K. Arora, and R. Srinivasan, "Impact of pandemic COVID-19 on the teaching-learning process: A study of higher education teachers," *Prabandhan: Indian Journal of Management*, vol. 13, no. 4, pp. 43–56, 2020, doi: 10.17010/pijom%2F2020%2Fv13i4%2F151825.
- [47] G. Stankovska, I. Memedi, and D. Dimitrovski, "Coronavirus COVID-19 Disease, Mental Health and Psychosocial Support," *Society Register*, vol. 4, no. 2, pp. 33–48, 2020, doi: 10.14746/sr.2020.4.2.03.
- [48] Y. Wang *et al.*, "The impact of quarantine on mental health status among general population in China during the COVID-19 pandemic," *Molecular Psychiatry*, vol. 26, no. 9, pp. 4813–4822, 2021, doi: 10.1038/s41380-021-01019-y.
- [49] N. Ozamiz-Etxebarria, M. Dosil-Santamaria, M. Picaza-Gorrochategui, and N. Idoiaga-Mondragon, "Stress, anxiety, and depression levels in the initial stage of the COVID-19 outbreak in a population sample in the northern Spain," *Cadernos de Saude Publica*, vol. 36, no. 4, 2020, doi: 10.1590/0102-311X00054020.
- [50] X. Liu *et al.*, "Psychological status and behavior changes of the public during the COVID-19 epidemic in China," *Infectious Diseases of Poverty*, vol. 9, no. 1, p. 58, Dec. 2020, doi: 10.1186/s40249-020-00678-3.
- [51] L. Martínez, I. Valencia, and V. Trofimoff, "Subjective wellbeing and mental health during the COVID-19 pandemic: Data from three population groups in Colombia," *Data in Brief*, vol. 32, p. 106287, 2020, doi: 10.1016/j.dib.2020.106287.
- [52] M. C. Johnson, L. Saletti-Cuesta, and N. Tumas, "Emotions, concerns and reflections regarding the COVID-19 pandemic in Argentina," *Ciencia e Saude Coletiva*, vol. 25, pp. 2447–2456, 2020, doi: 10.1590/1413-81232020256.1.10472020.
- [53] F. Román *et al.*, "Teacher resilience in mandatory preventive social distancing during the COVID-19 pandemic," (in Spanish), *Journal of Neuroeducation*, vol. 1, no. 1, pp. 76–87, Jul. 2020, doi: 10.1344/joned.v1i1.31727.
- [54] M. T. Hebecci, Y. Bertiz, and S. Alan, "Investigation of Views of Students and Teachers on Distance Education Practices during the Coronavirus (COVID-19) Pandemic," *International Journal of Technology in Education and Science*, vol. 4, no. 4, pp. 267–282, 2020, doi: 10.46328/ijtes.v4i4.113.
- [55] E. M. Onyema *et al.*, "Impact of Coronavirus Pandemic on Education," *Journal of Education and Practice*, vol. 11, no. 13, pp. 108–121, May 2020, doi: 10.7176/jep/11-13-12.





BIOGRAPHIES OF AUTHORS

Asma Khaleel Abdallah     is a Ph.D. and assistant professor at the Sharjah Education Academy in Sharjah, United Arab Emirates University in Al-Ain, United Arab Emirates. Her research interests include the school resilience, teacher management and educational institutions. She can be contacted at email: akaabdallah@gmx.com.



Guzalia Shagivaleeva     is a candidate of sciences (Psychology) and associate professor at the Department of Psychology, Kazan Federal University in Kazan, Russia. Her research area consists of the management of the educational organizations, resilience of schools and other educational institutions and online learning resources. She can be contacted at email: gushagivaleeva@rambler.ru.



Elena Kolomoets     is a Ph.D., candidate of philosophy, and associate professor at the Department of Sociology, Psychology and Social Management, Moscow Aviation Institute (National Research University) in Moscow, Russia. Her research interests are teacher management and globalizing change. She can be contacted at email: el.kolomoets@rambler.ru.