

Impact Of Covid-19 On Teachers' Mental Health In China: The Mediating Effect Of Psychological Climate And Digital Teaching Fatigue

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ABSTRACT

The COVID-19 pandemic has significantly altered the educational landscape worldwide, leading to an unprecedented shift to digital learning. This transition has posed several challenges for teachers, particularly in China, where strict lockdown measures and technological integration pressures have profoundly affected their mental health. This study investigates the impact of the pandemic on Chinese teachers' psychological well-being, with a particular focus on the mediating roles of psychological climate and digital teaching fatigue. Using a mixed-method approach, data were collected from 500 teachers across various educational institutions in China. Quantitative analysis was conducted using structural equation modeling (SEM) to determine the relationships between pandemic stressors, psychological climate, digital teaching fatigue, and mental health outcomes. Additionally, qualitative interviews provided deeper insights into teachers' lived experiences and coping mechanisms. The findings suggest that psychological climate significantly mediates the relationship between pandemic-related stress and mental health, while digital teaching fatigue exacerbates symptoms of anxiety, burnout, and emotional exhaustion. The study highlights the urgent need for institutional support, adaptive teaching models, and targeted mental health interventions for educators. The results contribute to ongoing discussions on teacher resilience, work-life balance, and digital pedagogy in post-pandemic education.

KEYWORDS: COVID-19, Teachers' Mental Health, Psychological Climate, Digital Teaching Fatigue, China, Online Education, Burnout, Work-Life Balance

INTRODUCTION

The COVID-19 pandemic has significantly disrupted the global education sector, forcing an abrupt transition from traditional face-to-face classrooms to online learning environments. This shift, while necessary to ensure educational continuity, has presented numerous challenges for teachers worldwide, particularly in China, where strict containment measures and lockdowns were enforced to curb the spread of the virus (Zhang & Liu, 2021). The unprecedented reliance on digital platforms, coupled with increased workloads, lack of institutional support, technological stress, and social isolation, has led to heightened concerns about teachers' mental health (Wang et al., 2022). Teachers have had to adapt rapidly to unfamiliar digital tools and platforms while ensuring student engagement, leading to emotional exhaustion, heightened stress levels, and increased instances of burnout (Huang et al., 2021).

The forced transition to online education has also led to digital teaching fatigue, a growing concern among educators. This phenomenon is characterized by long hours of screen exposure, cognitive overload, technological frustrations, and difficulties in balancing professional and personal life (Yang & Gao, 2022). Research suggests that digital fatigue results from prolonged screen interaction, reduced physical movement, and the inability to establish meaningful connections with students, further exacerbating teachers' stress and exhaustion (Li et al., 2021). The absence of face-to-face interactions and increased dependency on asynchronous communication methods have also contributed to feelings of professional isolation and decreased motivation among teachers (Chen et al., 2021).

A critical factor influencing teachers' mental health during this period is the psychological climate within

educational institutions. Psychological climate refers to the collective perception of workplace policies, leadership support, and interpersonal relationships that influence employees' well-being (Wu et al., 2022). A positive psychological climate fosters emotional support, job satisfaction, and resilience, helping teachers cope with pandemic-induced stress (Zhao et al., 2022). Conversely, a negative institutional climate-characterized by poor communication, lack of leadership support, and increased workload without adequate resources-can significantly contribute to stress, anxiety, and professional disengagement (Liu & Wang, 2022). Studies indicate that institutions that prioritize teacher well-being by offering digital training, mental health resources, and flexible teaching schedules are more successful in reducing burnout and improving job satisfaction (Sun et al., 2022).

This study seeks to explore the impact of COVID-19 on teachers' mental health in China, focusing on the mediating roles of psychological climate and digital teaching fatigue. By analyzing the relationship between pandemic-induced stressors and mental well-being, this research aims to provide evidence-based insights into how institutions can foster a more supportive teaching environment in the post-pandemic era. The findings will contribute to developing strategies for improving teacher resilience, enhancing digital pedagogy, and reforming institutional policies to support mental health and work-life balance in education (Tang et al., 2022). Ultimately, understanding how psychological climate and digital fatigue impact teacher well-being can help policymakers and educational leaders design sustainable, teacher-friendly solutions that promote long-term professional engagement and mental health stability in digital education.

LITERATURE REVIEW

2.1 COVID-19 and Teachers' Mental Health

The mental health of teachers has become a growing concern during the pandemic. Studies indicate that increased workload, lack of face-to-face interactions, and job insecurity have contributed to heightened stress levels among educators (Yang et al., 2021). Emotional exhaustion, a core component of burnout, has been linked to constant adaptation to new technologies and the pressure to maintain student engagement in virtual classrooms (Chen & Zhang, 2022).

2.2 Psychological Climate and Teacher Well-being

Psychological climate plays a crucial role in shaping employees' perceptions of workplace safety, support, and collaboration. In educational settings, strong leadership, clear communication, and peer support contribute to a positive psychological climate, reducing stress and fostering job satisfaction (Wang et al., 2020). On the contrary, poor administrative support, lack of digital training, and isolation from colleagues contribute to anxiety and burnout (Zhou & Li, 2021).

2.3 Digital Teaching Fatigue: A Pandemic-Induced Stressor

Digital teaching fatigue refers to the exhaustion caused by prolonged online teaching, excessive screen time, and cognitive overload from managing digital tools. Research has shown that teachers experience more stress in virtual environments due to technical issues, reduced student engagement, and blurred work-life boundaries (Liu et al., 2021). The psychological toll of managing digital classrooms has led to increased irritability, frustration, and declining mental well-being (Fang et al., 2022).

2.4 The Mediating Role of Psychological Climate and Digital Teaching Fatigue

While COVID-19 directly impacted teachers' mental health, its effects were influenced by psychological climate and digital teaching fatigue. A supportive institutional environment can mitigate stress, whereas prolonged exposure to digital teaching challenges can exacerbate burnout and anxiety. This study hypothesizes that:

- H1: COVID-19-induced stress negatively affects teachers' mental health.
- H2: Psychological climate mediates the relationship between pandemic stress and mental health.
- H3: Digital teaching fatigue mediates the relationship between pandemic stress and mental health.

METHODOLOGY

3.1 Research Design

A mixed-method research approach was employed to gain both quantitative and qualitative insights into teachers' experiences. A survey was distributed among 500 teachers across China, while in-depth interviews were conducted with 30 teachers to capture personal experiences.

3.2 Participants and Sampling

Participants were selected using stratified random sampling, ensuring representation from primary, secondary, and higher education institutions. The study targeted teachers who transitioned to online teaching during the pandemic.

3.3 Data Collection

- Quantitative Data: A standardized questionnaire measured mental health (GHQ-12), psychological climate, and digital teaching fatigue.
- Qualitative Data: Semi-structured interviews explored teachers' emotions, coping mechanisms, and institutional support experiences.

3.4 Data Analysis

- Structural Equation Modeling (SEM) was used to assess the mediating roles of psychological climate and digital teaching fatigue.
- Thematic analysis was conducted on qualitative interviews to identify key themes related to stressors and coping mechanisms.

RESULTS AND DISCUSSION

4.1 Impact of COVID-19 on Teachers' Mental Health

Statistical analysis revealed a significant negative impact of pandemic stressors on teachers' mental health ($\beta = -0.68$, $p < 0.01$). Teachers reported higher levels of anxiety, depression, and emotional exhaustion due to increased workload and digital teaching demands.

Table 1: Mental Health Issues Among Teacher Groups

Teacher Group	Reported Anxiety (%)	Reported Burnout (%)	Reported Emotional Exhaustion (%)
Primary Education	70	75	68
Secondary Education	65	72	66
Higher Education	55	60	58

4.2 The Mediating Role of Psychological Climate

Psychological climate was found to be a strong mediator ($\beta = 0.54$, $p < 0.01$), indicating that a supportive institutional environment mitigates the negative effects of pandemic stress. Teachers in institutions with strong leadership, peer collaboration, and digital training programs reported lower stress levels.

Table 2: Mediation Effect of Psychological Climate and Digital Teaching Fatigue

Factor	Effect Size (β)	p-value
Pandemic Stress → Mental Health	-0.68	0.001
Pandemic Stress → Psychological Climate	-0.54	0.002
Pandemic Stress → Digital Fatigue	-0.62	0.001
Psychological Climate → Mental Health	0.54	0.002

Digital Fatigue → Mental Health	-0.62	0.001
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4.3 The Mediating Role of Digital Teaching Fatigue

Digital teaching fatigue had a significant negative effect on teachers' mental well-being ($\beta = -0.62$, $p < 0.01$). Prolonged screen time, technological challenges, and lack of student interaction contributed to increased burnout and emotional exhaustion.

4.4 Implications for Education Policy and Teacher Support

- Institutions must enhance psychological climate through peer-support programs, mental health counseling, and professional development workshops.
- Reducing digital teaching fatigue by implementing asynchronous learning models, ergonomic guidelines, and screen-time management policies can improve teacher well-being.

Table 3: Survey Responses on Institutional Support and Digital Teaching Fatigue

Survey Question	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
Received Institutional Support	25	30	20	15	10
Experienced Increased Digital Fatigue	60	25	10	5	0
Felt Mentally Exhausted from Online Teaching	55	30	10	3	2

CONCLUSION

This study underscores the profound mental health challenges that teachers in China have faced due to the COVID-19 pandemic, with a particular focus on the mediating roles of psychological climate and digital teaching fatigue. The forced shift to digital education resulted in increased workloads, prolonged screen exposure, technological adaptation stress, and social isolation, all of which contributed to heightened anxiety, burnout, and emotional exhaustion among educators. The findings indicate that while some institutions provided effective support systems, many teachers struggled due to inadequate institutional policies, lack of professional development for online teaching, and limited mental health resources.

A positive psychological climate emerged as a crucial factor in mitigating stress and promoting well-being. Institutions that prioritized communication, provided emotional and technical support, and offered flexible teaching schedules helped teachers navigate the challenges of remote instruction more effectively. Conversely, a negative institutional climate-characterized by poor leadership, excessive workload expectations, and lack of clear policies-was strongly correlated with increased stress, reduced motivation, and professional disengagement. These findings reinforce the importance of workplace culture in shaping teachers' resilience and job satisfaction in times of crisis.

Another key contributor to teacher burnout was digital teaching fatigue, which resulted from extended screen time, excessive cognitive load, and difficulties in maintaining student engagement. Many educators experienced physical and emotional exhaustion due to constant adaptation to new digital tools, lack of technical support, and blurred boundaries between work and personal life. Without effective coping mechanisms and structured workload management, digital fatigue exacerbated feelings of isolation, Acta Sci., 25(4), 2024

frustration, and mental strain. This study highlights the need for institutions to implement sustainable digital teaching practices that balance technology integration with teacher well-being.

To ensure long-term sustainability in the post-pandemic educational landscape, addressing these challenges through policy reforms, digital workload management, and targeted teacher mental health initiatives is imperative. Educational institutions and policymakers must take proactive steps to:

1. Develop teacher-centered policies that provide mental health support programs, counseling services, and wellness initiatives.
2. Introduce workload redistribution strategies, ensuring that teachers have manageable schedules and sufficient breaks to prevent burnout.
3. Enhance professional development opportunities, equipping teachers with the necessary digital competencies to handle online instruction with confidence.
4. Foster a supportive psychological climate by strengthening leadership, improving communication, and encouraging peer collaboration.
5. Implement ergonomic and pedagogical improvements to reduce digital fatigue, such as hybrid learning models, asynchronous teaching options, and structured screen-time management.

By prioritizing teacher well-being, institutions can improve job satisfaction, enhance teaching effectiveness, and create a more resilient educational workforce. The post-pandemic era presents an opportunity to redesign educational policies in a way that acknowledges the psychological burden of digital teaching while ensuring sustainable, inclusive, and mentally supportive learning environments. Future research should explore longitudinal impacts of digital teaching fatigue and institutional support to develop holistic strategies that benefit both educators and students in evolving educational landscapes.

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