Stress Management among School Teachers: An Empirical Study Using Structural Equation Modeling

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Abstract: *This research explores how schoolteachers manage their stress and examines the relationships between workload, workplace stress, work environment, stress management techniques, and wellbeing. Using a multistage stratified random selection technique, 384 educators from private and public educational institutions were randomly selected for this quantitative cross-sectional research. The researchers used a structured, standardised questionnaire that was modified from established tools to fit the educational setting. The reliability, descriptive statistics, and factor loadings of the primary data were examined using SPSS, and the variables were examined using AMOS (SEM) and (CFA) to evaluate the hypothesised relationships. The device accurately assessed workload according to the measurement model, which has high validity and reliability, job stress, stress management, work environment, and well-being. The findings showed that a heavier workload considerably increases job stress, which has a detrimental impact on teachers' general well-being. Effective stress management techniques lessen the negative impacts of stress on well-being, according to mediation analysis, whereas supportive work settings enhance the benefits of stress management techniques, according to moderation analysis. From the research findings, it is evident that organisational and work-related factors affect teachers' stress levels. Consequently, it is essential that various measures be adopted to ensure wellness within an organisation, creation of an enabling learning environment, provision of stress management, equitable distribution of workload, and good school leadership.*

Keywords: Teacher Stress, Stress Management, Workload, Work Stress, Work Environment, Well-Being

INTRODUCTION

Stress is described as a condition of psychological or emotional tension resulting from unfavourable or demanding situations. Teaching is acknowledged as a high-pressure and demanding vocation globally. The concept of "teacher stress", initially articulated by Kyriacou and Sutcliffe (1978), denotes the experience of adverse emotional states (such as anger or depression) in educators, typically accompanied by potentially harmful physiological or biochemical alterations. This phenomenon arises from aspects of the teaching profession, influenced by the perception that the demands placed on the teacher pose a threat to their self-esteem or well-being, alongside the coping strategies employed to mitigate the perceived threat. A recent scoping analysis indicated that the incidence of chronic stress among teachers varied between 8.3% and 87.1%, while moderate to severe burnout between teachers ranged from 25.1% to 74.0%. Teachers' stress and burnout are claimed to be affected by several variables, including organisational and work-related elements such as years of teaching, class size, job satisfaction, and subject matter, as well as socio-demographic characteristics such as gender, age, and marital status. In recent years, the stress faced by teachers has intensified owing to the COVID-19 epidemic. Elevated occupational stress among teachers correlates with heightened absenteeism, staff turnover, and a variety of detrimental health effects, including exhaustion, sleep disturbances, hormone fluctuations, and higher incidences of burnout, anxiety, and depression. Teachers face several hurdles in facilitating online learning, including the need to proficiently navigate multiple online learning software, the requirement for evaluations to be conducted digitally, and the increased time commitment needed to reply to students. Increasing educational resources, increasing expenditure on internet data, in addition to instability obstacles to internet connectivity. Furthermore, teachers encounter daily family economic challenges that they often address after their teaching responsibilities at school. The existing teaching design in Brazilian institutions may expose individuals to stressful settings, thereby elevating the risk of mental problems. The many pressures pertain to teaching, research, and extension activities, characterised by rivalry for resources, endeavours for professional advancement, and the fulfilment of managerial roles. Teaching is adaptable and diverse. Academic activity, which has consistently been linked to the problems inherent in teaching-learning processes under the framework of capitalist social relations, has been marked by task overload, featuring a significant

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increase in responsibilities (planning and delivering classes, preparing and completing reports and forms, coordinating activities, attending meetings, overseeing departments/ coordination, preparing and managing research and extension projects, publishing work, seeking external funding, responding to institutional emails, mentoring students, serving on committees, providing consultancy, and participating in relevant events, among numerous other activities).

LITERATURE REVIEW

(Wang et al., 2024) explored the experiences of 375 Chinese middle school English teachers, using mixed-methods to highlight that teaching satisfaction and resilience moderate the relationship between self-efficacy and teacher well-being. The findings indicated that teaching satisfaction enhances job commitment, reduces stress, improves student relationships, and fosters professional development, whereas resilience aids in stress management and emotional regulation. The results underscored the significance of these factors in enhancing teachers' well-being and in developing foreign language teacher education. (Ahmad et al., 2022) investigated occupational stress among university educators using qualitative case study methodology, involving semi-structured interviews with 20 educators. Thematic analysis revealed that excessive workload, workspace conditions, job security, promotion delays, and work environment significantly contribute to stress. Creating a supportive work environment and providing opportunities for professional development are recommended to alleviate workplace stress. According to (Minihan et al., 2022) a survey, 82% of Irish educators reported moderate to severe personal burnout and 79% reported work-related burnout as a result of the COVID-19 epidemic. Furthermore, 67% reported reductions in mental health and 43% reported detrimental impacts on physical health. Low levels of comfort at work resulted in lower job satisfaction and higher levels of burnout, with 58% thinking about changing careers. This emphasised how urgently teacher well-being and instructional resources need to be improved. (da Silva et al., 2024) Research involving 243 public school teachers indicated that high workloads adversely impact quality of life and physical activity. An analysis using the SF-36 and Baecke questionnaires revealed that increased workloads led to worsened physical limitations, especially for inactive teachers, who also suffered declines in vitality, social functioning, and mental health. Active teachers did not experience these negative effects. While physical activity offered some relief, it was insufficient to completely counteract the physical limitations imposed by heavy workloads in both groups. (Acosta-enriquez et al., 2025) examined the effect of academic workload on AI adoption among 876 preservice teachers in Peru, finding that work stress and performance expectations serve as mediators. Data from online questionnaires indicated a positive correlation between workload and AI usage, with work stress notably mediating this relationship. The findings suggest that educational institutions should implement interventions such as mindfulness training and time management workshops to alleviate stress. (Fitriyanti et al., 2025) Investigated the impact of stress management on work effectiveness among civil servant teachers in State Elementary Schools, revealing a minimal, statistically insignificant effect. The key determinants were teaching motivation and readiness, while stress management was secondary. The study highlighted the need for enhancing professional competence and a supportive work environment, recommending qualitative research to explore psychological, professional, and environmental factors.(Alegre & Labajo, 2023) Examined the effects of work stress on the psychological well-being of 60 public elementary teachers in Barbo, Surigao del Sur. The study revealed that teachers perceived their jobs as relaxed mainly because of student behaviour and held a positive view of their teaching ambitions. Supportive relationships with administrators contributed to lower stress levels. While a strong positive correlation between work stress and psychological well-being was noted, regression analysis showed that work stress did not significantly predict teachers' psychological well-being. (Supriyanto et al., 2022) assessed the impact of work-related stress and effort on teacher performance at SMP Negeri Lempuing Jaya District during the Covid-19 epidemic. Conducted as a quantitative study involving 95 teachers, data were collected through observation, questionnaires, interviews, and documentation. The analysis included Normality, Multicollinearity, and Heteroscedasticity Tests using t-tests and multivariate linear regression. The results indicated a significant impact of work stress and workload factors, both individually and collectively, on teacher effectiveness. (Azlina et al., 2024) Analysis of 298 primary school teachers in Ayer Keroh, Melaka, revealed high emotional intelligence and quality, but moderate work stress. A positive correlation ($r = 0.231$, $p < 0.01$) between emotional intelligence and teacher quality was significant, while a negative correlation ($r = -0.187$, $p < 0.01$) indicated that higher work stress negatively impacted teacher quality. The findings suggest the necessity for schools to enhance emotional intelligence and mitigate work stress to improve teaching quality.

METHODOLOGY

This study adopted a quantitative research approach to study stress management among schoolteachers and to empirically analyse the relationships among workload (WL), Work Stress (WS), Stress Management (SM), well-being (WB), and Work Environment (WE). Primary data were collected using a structured questionnaire with a five-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree." The final sample consisted of 384 schoolteachers. The adequacy of this sample was statistically supported using Cochran's sample-size determination approach, which indicated a minimum sample of approximately 384 respondents for a large population at a 95% confidence level, 5% margin of error, and maximum population variability ($p = 0.50$). Thus, the achieved sample size of 384 respondents was considered statistically adequate for the study and also provided an adequate number of observations for conducting the Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM). The researcher used SPSS (Statistical Package for the Social Sciences) to conduct descriptive statistical analysis, reliability analysis, and preliminary evaluation of the measurement variables, while CFA and SEM were conducted using AMOS to evaluate the measurement model and test the hypothesised structural relationships among the study variables. School teachers employed in both public and

private institutions formed the target population. Improved sample representativeness resulted from the adoption of a multistage stratified sampling procedure. Educational institutions were identified, and the required permission from the authority was obtained. Across institution type, age group, academic qualification, teaching experience, and teacher category, teachers were selected within the demographic and professional strata. This method included instructors with various demographics, professional backgrounds, and career stages. Male and female instructors, varied age groups and educational levels, teachers with five to 20 years of teaching experience, and teachers from different institutional and professional categories were respondents. The results contain a complete demographic and professional profile of respondents with frequencies and percentages to show sample composition and representativeness. For the school-teacher scenario, working circumstances, job stress, stress management, well-being, and work environment were changed from previous research. Before data collection, participants were informed of the study's purpose to obtain informed consent. Data were kept private and utilised academically. Teachers had time to complete the digital questionnaires and paperwork. After data collection, screening and analysis were performed. The dataset was evaluated for reliability, validity, measurement model compatibility, and construct linkages using CFA and SEM.

Conceptual framework

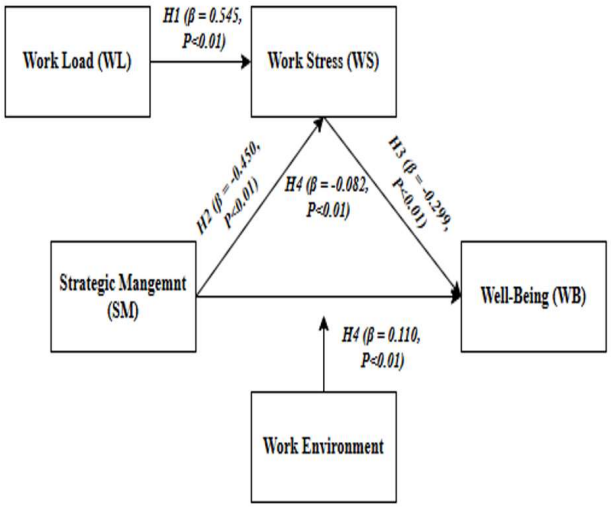


Figure 1 Hypothesis results conceptual diagram

Objectives of the Study

AIM

This study aimed to examine the structural relationships among occupational stressors, stress management and coping strategies, work stress, and psychological well-being among teachers.

OBJECTIVES

1.To assess the level of occupational workload stressors, work environment conditions, stress management practices, work stress, and psychological well-being of teachers.

2.To examine the direct effect of occupational stressors (workload and work environment) on teachers' work stress levels.

3.To determine the direct effect of stress management and coping strategies on teachers' work stress levels.

4.To investigate the direct effect of work stress on teachers' psychological well-being

5.To evaluate the mediating role of stress management and coping strategies in the relationship between occupational stressors and teachers' psychological well-being.

6.To explore the moderating role of perceived institutional support (work environment) in the effectiveness of stress management strategies for improving teacher well-being.

Hypotheses of the Study

H1. Work Load (WL) has a significant positive effect on Work Stress (WS) among schoolteachers.

H2. Stress Management (SM) has a significant negative effect on Work Stress (WS) among schoolteachers.

H3. Work Stress (WS) has a significant negative effect on Well-Being (WB) among schoolteachers.

H4. Stress Management (SM) significantly mediates the relationship between Work Stress (WS) and Well-Being (WB) among schoolteachers.

H5. Work Environment (WE) significantly moderates the relationship between Stress Management (SM) and Well-Being (WB) among schoolteachers, such that a supportive work environment strengthens the positive effect of stress management on well-being.

Ethical Considerations

This study focuses on stress management among schoolteachers, emphasising strict ethical standards to safeguard participants' rights and dignity. Informed consent will be obtained by clearly outlining the purpose and procedures of the study, allowing the participants the right to withdraw at any time. The study ensures confidentiality and anonymity through coding responses and will only use data for academic purposes, storing it securely. The questions will be designed to be non-intrusive to mitigate psychological discomfort. Additionally, it avoids coercion from school authorities, ensuring that participation does not affect teachers' professional standing or workplace relationships.

RESULT

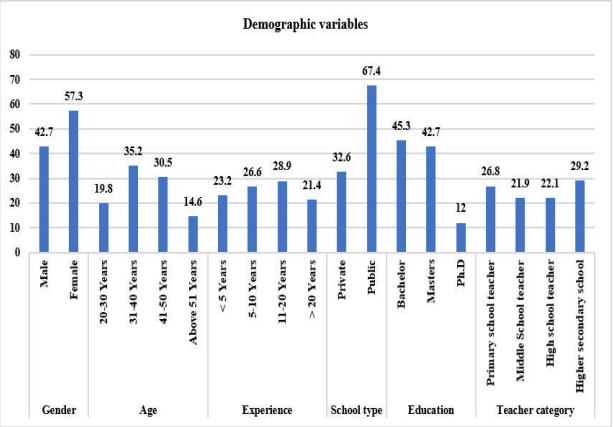
This research investigates stress management among schoolteachers, focusing on the interplay between workload, work stress, coping strategies, and well-being through structural modelling. Involving 384 teachers, it employed various analyses to confirm the reliability and validity of the measurement model in the SEM analysis. Key findings revealed that increased workload increased work stress, while effective stress management mitigated it, negatively impacting teachers' well-being.

Table 1 Demographic variables

		Frequency	Percentage
Gender	Male	164	42.7
	Female	220	57.3
	Total	384	100
Age	20-30 Years	76	19.8
	31-40 Years	135	35.2
	41-50 Years	117	30.5
	Above 51 Years	56	14.6
	Total	384	100
Experience	< 5 Years	89	23.2
	5-10 Years	102	26.6
	11-20 Years	111	28.9
	> 20 Years	82	21.4
	Total	384	100
School type	Private	125	32.6
	Public	259	67.4
	Total	384	100
Education	Bachelor	174	45.3
	Masters	164	42.7
	Ph.D.	46	12
	Total	384	100
Teacher category	Primary school teacher	103	26.8
	Middle School teacher	84	21.9
	High school teacher	85	22.1
	Higher secondary school	112	29.2
	Total	384	100

Source: self-data

Of the 384 responders, 57.3% were female and 42.7% were male. Largest age group was 31–40 (35.2%), followed by 41–50 (30.5%), 20–30 (19.8%), and 51+ (14.6%). 28.9% had 11–20 years of teaching experience, 26.6% had 5–10 years, 23.2% had less than 5 years, and 21.4% had more than 20 years. The majority (67.4%) worked in public schools, while 32.6% worked in private schools. A total of 45.3% had bachelor's degrees, 42.7% had master's degrees, and 12% had Ph.Ds. The largest teacher type was upper secondary (29.2%), followed by elementary (26.8%), high (22.1%), and middle (21.9%). The teachers in the sample had various demographics, educational backgrounds, teaching experience, and professional backgrounds.



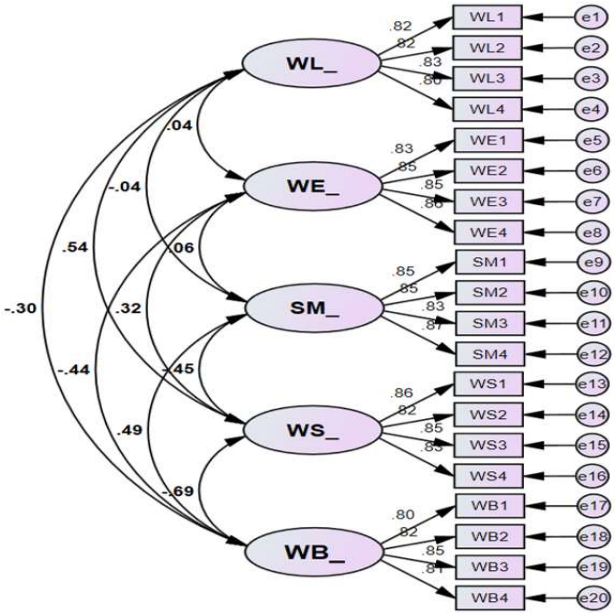


Figure 2 Structural model

Table 2CFA Model

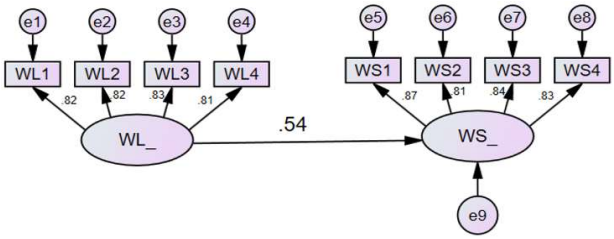
Relationship			Estimate	P-value	AVE	CR
WL1	<---	WL	0.819		0.818	0.842
WL2	<---	WL	0.816	P<0.01		
WL3	<---	WL	0.833	P<0.01		
WL4	<---	WL	0.804	P<0.01		
WE1	<---	WE	0.828		0.848	0.852
WE2	<---	WE	0.851	P<0.01		
WE3	<---	WE	0.848	P<0.01		
WE4	<---	WE	0.865	P<0.01		
SM1	<---	SM	0.846		0.848	0.852
SM2	<---	SM	0.848	P<0.01		
SM3	<---	SM	0.828	P<0.01		
SM4	<---	SM	0.872	P<0.01		
WS1	<---	WS	0.86		0.838	0.849
WS2	<---	WS	0.816	P<0.01		
WS3	<---	WS	0.849	P<0.01		
WS4	<---	WS	0.829	P<0.01		
WB1	<---	WB	0.798		0.817	0.842
WB2	<---	WB	0.816	P<0.01		
WB3	<---	WB	0.851	P<0.01		
WB4	<---	WB	0.805	P<0.01		

Source: self-data

The measurement model demonstrated satisfactory levels of convergent validity and reliability, in terms of internal consistency. The standardised factor loadings of all items ranged between 0.798 and 0.872, which were higher than the 0.70 value that was considered satisfactory. All factor loadings were statistically significant ($p<0.01$). The Average Variance values of all the constructs were within the range of 0.817 and 0.848, which meant that they showed satisfactory levels of convergent validity since all AVE values exceeded 0.50. Likewise, all Composite Reliability values were within the range of 0.842–0.852, which confirmed satisfactory levels of reliability.

Hypothesis Testing

H1. Work Load (WL) has a significant positive effect on Work Stress (WS) among schoolteachers.



Workload was shown to substantially raise job stress among schoolteachers, as indicated by the regression analysis (â = 0.545, p < 0.01). According to these findings, teachers' occupational stress levels increase considerably as their workload increases, thus corroborating H1.

H2. Stress Management (SM) has a significant negative effect on Work Stress (WS) among schoolteachers.

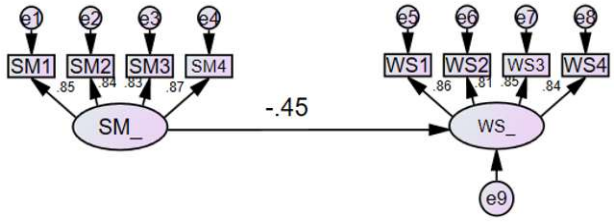


Table 3 Regression Weights: (Group number 1 - Default model)

Path			Standard Estimate	P	Remark
Strategic Management	→	Work Stress	-0.45	p<0.01	significant

Source Primary Data

The results indicate that stress management significantly reduces work-related stress in schoolteachers (â = -0.450, p < 0.01). This demonstrates that efficient stress management techniques decrease work-related stress levels, thus validating H2.

H3. Work Stress (WS) has a significant negative effect on Well-Being (WB) among schoolteachers.

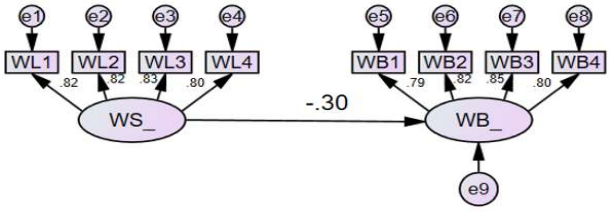


Table 4 Regression Weights: (Group number 1 - Default model)

Path			Standard Estimate	P	Remark
Work Stress	→	Well-Being	-0.299	p<0.01	significant

Source Primary Data

Stress at work has a substantial detrimental effect on schoolteachers' health, according to the regression study (â = -0.299, p < 0.01). This indicates that elevated work stress correlates with diminished psychological and emotional well-being, hence substantiating H3.

H4. Stress Management (SM) significantly mediates the relationship between Work Stress (WS) and Well-Being (WB) among schoolteachers.

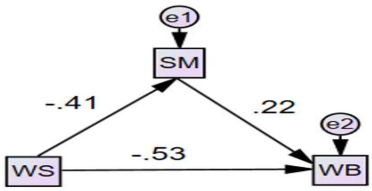


Table 5 Regression Weights: (Group number 1 - Default model)

Path			Standard Estimate	P	Remark
SM	<---	WS	-0.438	p<0.01	Partial Mediation
WB	<---	SM	0.188	p<0.01	
WB	<---	WS	-0.481	p<0.01	
Indirect effect	WS → SM → WB		-0.082	p<0.01	

Source: Primary Data

The mediation analysis verified that stress management substantially mediates the correlation between job stress and overall well-being among educators. There was a significant indirect influence (â = -0.082, p < 0.01) of occupational stress on both stress management (â = -0.438, p < 0.01) and well-being (â = 0.188, p < 0.01), indicating partial mediation, corroborating H4.

H5. Work Environment (WE) significantly moderates the relationship between Stress Management (SM) and Well-Being (WB) among school teachers, such that a supportive work environment strengthens the positive effect of stress management on well-being

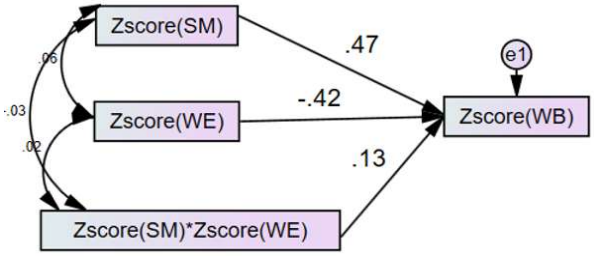


Table 6 Regression Weights: (Group number 1 - Default model)

Path			Standard Estimate	P	Remark
ZSM	<---	ZWB	0.468	p<0.01	significant
ZWE	<---	ZWB	-0.425	p<0.01	significant
Interaction	<---	ZWB	0.132	p<0.01	significant

Source: Primary Data

The moderation research found that schoolteachers' work settings substantially moderate stress management and

well-being. The statistical significance of the interaction effect (â = 0.132, $p < 0.01$) supports H5. Effective strategic management significantly decreased work-related stress (H2), whereas a higher workload significantly increased it (H1). Workplace stress harms health (H3). Mediation analysis (H4) suggests that strategic management mediates job stress and well-being. Work stress diminishes strategic management, which impacts well-being but also harms well-being directly. This significant indirect influence supports this theory. Health is highly impacted by stress management and occupational stress, according to moderation results (H5), indicating that stress reduction reduces the negative effects of stress.

CONCLUSION

The research used structural equation modelling to investigate schoolteachers' workload, job stress, stress management, and psychological well-being. The results showed that occupational demands and workplace resources greatly impacted teachers' well-being. The validity and reliability of the measurement model confirmed the study instrument's applicability. Structural analysis showed that increasing workload considerably increases work-related stress, which harms teachers' mental health. Stress management helps instructors manage job stress and mediates its effects on well-being. Moderation analysis also showed that a supportive workplace improves stress management and well-being. These data show that individual coping capacities, workload demands, and organisational factors affect teachers' stress. Thus, educational institutions should implement stress management measures, such as balanced task allocation, counselling, employee health policies, supportive leadership, and stress reduction programs. Such organisational activities may reduce work stress, promote mental health, and provide a friendlier teaching environment.

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