

From Stress to Strategy: A Moderated Mediation Model of Teacher Workload, Burnout, Assessment Competency and Their Impact on Teacher Well-Being and Job Satisfaction

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Abstract

Despite the critical role teachers play in shaping educational outcomes, increasing workload and burnout remain pervasive challenges that threaten their wellbeing and job satisfaction, necessitating a deeper investigation into the mechanisms and protective factors involved. Using explanatory correlational research design, the study examined the intricate relationships among teacher workload, burnout, wellbeing, assessment competency among 1300 Ghanaian senior high school teachers. Results indicate that teachers perceive a moderately high workload ($M = 3.72$) and burnout ($M = 3.45$), with emotional exhaustion as a prominent burnout dimension. Wellbeing ($M = 3.68$) and assessment competency ($M = 3.85$) show moderate levels overall. Correlation analyses reveal that workload positively associates with burnout ($r = 0.62, p < 0.01$) and administrative load, while negatively correlating with wellbeing ($r = -0.55, p < 0.01$) and job satisfaction ($r = -0.48, p < 0.01$). Burnout strongly predicts lower wellbeing ($r = -0.68, p < 0.01$) and job satisfaction ($r = -0.65, p < 0.01$). Notably, assessment competency correlates positively with wellbeing ($r = 0.41, p < 0.01$) and job satisfaction ($r = 0.35, p < 0.01$), suggesting a protective role. Mediation analysis confirms that burnout significantly mediates the negative impact of workload on wellbeing (indirect effect = $-0.43, 95\% \text{ CI } [-0.51, -0.35], p < 0.001$). Moderation analysis reveals that higher assessment competency weakens the effect of workload on burnout (interaction $B = -0.15, p = 0.013$), reducing burnout's detrimental effects on wellbeing. Demographic factors such as age and institutional context (school type) further moderate these pathways, with older teachers and those in public schools experiencing weaker mediation

effects. The findings highlight the critical role of reducing workload and burnout to promote teachers' health and wellbeing. Importantly, strengthening teachers' assessment competency and providing targeted administrative support may buffer adverse effects, enhancing wellbeing and job satisfaction. Policy interventions and professional development programs should focus on workload management, burnout prevention, and competency-building to foster sustainable teacher wellbeing and effectiveness in Ghana's educational system.

Keywords

Teacher Wellbeing, Burnout, Job Satisfaction, Workload, Educational Outcomes

1. Introduction

In recent years, the global education landscape has been reshaped by a wave of structural, pedagogical, and technological transformations (Agyapong et al., 2022; Bakker et al., 2007; Ballet et al., 2006; Rajak et al., 2025; Zhao, 2025). These include ambitious curriculum reforms aimed at fostering 21st-century skills, the rapid integration of digital technologies in teaching and learning, and the rise of performance-based accountability systems that tie student outcomes to teacher evaluations and school funding (Boison & Burke, 2025; Briner & Dewberry, 2007; Fraenkel et al., 2019; Renshaw et al., 2015). Additionally, the push for inclusive education anchored in equity, access, and differentiated instruction has required educators to accommodate students with diverse abilities, backgrounds, and learning needs within mainstream classrooms (Briner & Dewberry, 2007; Purvanova & Muros, 2010; Rajak et al., 2025; Support, 2023; Zang et al., 2022). While these reforms are well-intentioned and aligned with global development agendas such as the Sustainable Development Goals (particularly SDG 4 on quality education), they have had unintended consequences on the working conditions of teachers. One of the most prominent effects has been the intensification of teachers' roles and responsibilities. Teachers are no longer viewed solely as classroom instructors; they are now expected to be curriculum designers, data analysts, pastoral caregivers, digital facilitators, policy implementers, and even agents of social change (McCallum et al., 2017; Schaufeli & Bakker, 2004; Wyatt-Smith et al., 2020). This evolving professional identity, though empowering in some respects, has contributed to a marked rise in occupational stress, particularly when teachers are given additional responsibilities without corresponding institutional support, resources, or training. Occupational stress in this context refers to the chronic psychological strain resulting from a mismatch between job demands and a teacher's ability or capacity to meet them effectively (Boison & Burke, 2025; Pelloth, 2025; Rajak et al., 2025).

A central driver of this stress is teacher workload, which encompasses the totality of professional tasks and obligations educators must fulfill both within and

beyond the classroom. These include core instructional responsibilities such as lesson planning, teaching, and marking, but also non-instructional duties like supervising students, managing classroom behavior, engaging in school-wide activities, attending professional development workshops, and fulfilling administrative tasks (Caprara et al., 2006; Fernet et al., 2012; Rajak et al., 2025; Wang, 2024). Furthermore, the rise of school accountability metrics such as standardized test scores and continuous assessment systems has led to increased demands for data documentation, report writing, and performance monitoring, often with high-stakes consequences. Moreover, in an era of digitization, teachers are also expected to continuously adapt to new technologies and virtual learning platforms, even when they may lack the necessary training or digital literacy. Communication with parents, once limited to periodic meetings, has also expanded through emails, portals, and messaging apps, blurring the boundaries between personal and professional time. These accumulating responsibilities can result in an overwhelming sense of role overload, time pressure, and loss of autonomy conditions that are strongly linked to emotional exhaustion, a core component of burnout (Avola et al., 2025; Briner & Dewberry, 2007). When teacher workload consistently exceeds an individual's available time, energy, or coping resources, it fosters a state of chronic stress that not only undermines their job satisfaction but also places them at high risk for burnout. The risk is particularly acute in systems where institutional recognition, professional autonomy, and psychological support are limited or absent. Thus, understanding and addressing the complexity of teacher workload is a critical step toward creating healthier work environments and promoting the overall wellbeing of educators.

Burnout, a psychological syndrome resulting from sustained exposure to chronic occupational stressors, has emerged as a pervasive and deeply concerning issue in the teaching profession. Conceptualized by (Kyriacou, 2001) and later refined by (Leiter & Maslach, 2009), burnout is characterized by three interrelated dimensions: emotional exhaustion a state of being emotionally overextended and depleted of emotional resources; depersonalization a cynical or detached attitude toward students, colleagues, or the work itself; and a reduced sense of personal accomplishment, wherein educators perceive their efforts as ineffective or unrecognized. These dimensions do not exist in isolation but interact dynamically, exacerbating one another over time. For instance, persistent emotional exhaustion may lead teachers to psychologically withdraw (depersonalization), which can further diminish their sense of efficacy and fulfillment. In the educational context, burnout has severe consequences not only for teachers but for the entire school ecosystem. Burnt-out teachers often exhibit diminished instructional quality, lack of classroom enthusiasm, and poor responsiveness to students' academic and emotional needs, all of which negatively impact student engagement and learning outcomes (Collie, 2021; Darling-Hammond et al., 2020; Day & Gu, 2014; Wang et al., 2024). Moreover, chronic burnout undermines a teacher's professional identity, erodes intrinsic motivation, and weakens commitment to long-term career

development (van der Ploeg & Kleiboer, 2003; Zhao et al., 2022). Empirical research shows that symptoms such as physical fatigue, irritability, sleep disturbances, anxiety, and clinical depression are more prevalent among teachers experiencing high levels of burnout (Bakker et al., 2007; Ballet et al., 2006; Boateng, 2022; UNESCO, 2022). These outcomes often translate into increased absenteeism, job dissatisfaction, and ultimately attrition, posing significant challenges for school staffing, student continuity, and institutional stability.

In contrast, teacher wellbeing has been increasingly recognized as a critical protective factor in educational environments. Wellbeing is a multidimensional construct that encompasses emotional (e.g., happiness, life satisfaction), psychological (e.g., self-efficacy, purpose), physical (e.g., energy, vitality), and social (e.g., collegial support, positive work relationships) dimensions (Boison & Burke, 2025; Briner & Dewberry, 2007; Carver & Scheier, 1982). It extends beyond the absence of stress or illness to include a positive sense of flourishing and functioning effectively in both personal and professional domains. Teachers with high levels of wellbeing are more likely to exhibit resilience, creativity, and proactive problem-solving traits that are essential for navigating the dynamic and often unpredictable nature of classroom environments (Fraenkel et al., 2019; Klassen et al., 2013). Furthermore, teachers' wellbeing has been positively associated with stronger student-teacher relationships, greater instructional engagement, and improved student academic performance (Chen et al., 2025; Eagly & Carli, 2003; Tschannen-Moran & Woolfolk Hoy, 2007). On an organizational level, wellbeing contributes to teacher retention, collaborative school cultures, and the sustainability of educational reforms. Therefore, promoting teacher wellbeing must be seen not as a peripheral human resource issue but as a strategic and systemic imperative. Interventions that support wellbeing such as manageable workloads, professional autonomy, mental health support, effective leadership, and skill-building are essential for enhancing job satisfaction, mitigating burnout, and fostering a thriving educational workforce (Bakker & Demerouti, 2017; UNESCO, 2020; Westland, 2010).

In Ghana, the teaching profession is marked by complex and demanding conditions that often place considerable strain on teachers' wellbeing. Public basic schools in particular face persistent challenges such as overcrowded classrooms, inadequate infrastructure, limited teaching and learning resources, and insufficient administrative support (UNESCO, 2020; Westland, 2010). Teachers also operate within an accountability-driven environment, where the pressure of preparing students for high-stakes national examinations heightens workload and stress. Moreover, ongoing curriculum reforms introduced by the Ministry of Education and the Ghana Education Service require teachers to adapt to evolving pedagogical and assessment demands. Within such a context, workload emerges as a critical job demand with significant implications for teacher burnout, job satisfaction, and overall wellbeing. Understanding how teachers cope with these challenges, and identifying the resources that buffer against negative outcomes, is therefore essential for sustaining both teacher effectiveness and educational quality in

Ghana. While workload is an inevitable component of the teaching profession, its impact on wellbeing varies considerably among teachers. This variation underscores the importance of identifying and strengthening moderating resources that can help teachers better manage stress. Among the range of potential moderators such as social support, self-efficacy, or access to teaching resources this study focuses specifically on assessment competency. The choice is deliberate and contextually grounded in the realities of Ghana's educational landscape. Assessment is central to the Ghanaian school system, where student performance in standardized examinations remains the dominant criterion for evaluating both learners and teachers. Teachers with strong assessment competencies are able to design valid and reliable tests, interpret performance data, and provide actionable feedback to guide instruction. These skills not only enhance instructional quality but also reduce the anxiety and workload pressures associated with continuous assessment and examination preparation, which are major stressors in Ghanaian schools. By prioritizing assessment competency as a moderator, the study highlights a resource that is both theoretically relevant and practically aligned with Ghana's policy priorities. Strengthening teachers' capacity in this area has the potential to buffer the adverse effects of workload on wellbeing, promote teacher resilience, and improve student learning outcomes. This emphasis positions the study to make a dual contribution: advancing theoretical applications of the Job Demands-Resources (JD-R) Model in a Sub-Saharan African context and offering evidence-based insights for teacher professional development and education policy in Ghana.

Despite increasing recognition of the critical role teacher wellbeing plays in the overall effectiveness of education systems, teachers across the globe continue to report alarming levels of stress, emotional exhaustion, and professional dissatisfaction (Avola et al., 2025; Bakker & Demerouti, 2017). Among the leading contributors to this crisis is excessive workload, which encompasses a wide range of demands including instruction, administrative responsibilities, data management, and assessment tasks (Ghasemi, 2025; Maslach & Leiter, 2016; Nwoko et al., 2023; Pelloth, 2025). This intensifying workload, if unmoderated, has been consistently linked to burnout, a psychological syndrome that threatens not only teachers' mental health but also the quality of education they deliver (Ballet et al., 2006; Chen et al., 2025; DeLuca & Klinger, 2010). While there is a robust body of evidence confirming the direct relationship between teacher workload and burnout (Chen et al., 2025; Halbesleben, 2010; Kline, 2016; Maslach & Jackson, 1981), fewer studies have examined the indirect effects of workload on wellbeing through the mediating mechanism of burnout. That is, although researchers have explored teacher burnout and wellbeing as separate constructs, there remains a theoretical and empirical gap in understanding how burnout acts as a transmission channel through which workload undermines teacher wellbeing (Briner & Dewberry, 2007; Leiter & Maslach, 2009; Liang et al., 2022). Despite growing global research on teacher stress, critical gaps remain. First, while prior studies have documented the

impact of workload and burnout, few have explored the specific contextual and systemic stressors faced by teacher education faculty and secondary school teachers in low- and middle-income countries such as Ghana, where resource constraints, policy shifts, and accountability pressures are particularly acute. Second, although burnout has been recognized as a mediating mechanism linking workload and wellbeing, the role of professional competencies, especially assessment competency as a protective buffer remains largely underexplored. These gaps limit our understanding of how teachers in resource-constrained settings can sustain wellbeing and effectiveness in the face of escalating demands.

Moreover, limited attention has been paid to protective personal and professional competencies that may buffer the negative consequences of high workload and burnout. One such underexplored variable is assessment competency a teacher's ability to design, implement, interpret, and respond to assessment data effectively (Caprara et al., 2006; Fraenkel et al., 2019). While assessment is central to teaching practice, it is also a major source of stress due to its high-stakes nature, especially in accountability-driven systems (Collie, 2021). However, teachers with higher assessment literacy are better equipped to manage this component of their workload with greater confidence, autonomy, and professional judgment (Briner & Dewberry, 2007; Darling-Hammond et al., 2020), potentially moderating the harmful effects of workload on burnout and enhancing wellbeing. Unfortunately, very few empirical studies have examined the moderating role of assessment competency in the relationship between workload, burnout, and wellbeing particularly using integrative frameworks such as moderated mediation models. This analytical gap hinders a more nuanced understanding of how professional competencies might transform stressors into strategic advantages, enabling teachers to maintain health and effectiveness in demanding environments. Furthermore, most existing research is situated in high-income educational settings, with limited empirical data from low- and middle-income countries where systemic pressures, resource constraints, and policy shifts are even more pronounced (Bandura, 1997; Boateng, 2022). In these contexts, the intersection between workload, professional competency, and wellbeing is both more complex and under-researched, further necessitating context-sensitive investigations. Against this backdrop, the present study pursues three specific objectives: (1) to examine the relationship between teacher workload, burnout, and wellbeing; (2) to test burnout as a mediating mechanism through which workload influences wellbeing; and (3) to investigate whether assessment competency moderates these pathways, thereby mitigating the negative impact of workload and burnout on wellbeing. By addressing these objectives, this study advances a nuanced understanding of how professional competencies can transform stress into strategy within Ghana's educational context.

2. Literature Review and Hypothesis Development

Theoretical Models

This study is anchored in two key theoretical perspectives: Lazarus and Folk-

man's (Lazarus & Folkman, 1984) Transactional Model of Stress and Coping and the Job Demands-Resources (JD-R) Model (Bakker et al., 2007; Bakker & Demerouti, 2017). Together, these models provide a comprehensive lens for understanding how teacher workload, burnout, and wellbeing interact, while also highlighting the role of professional competencies such as assessment literacy as important resources that can mitigate stress and foster resilience. Lazarus and Folkman's Transactional Model of Stress and Coping conceptualizes stress not as a direct outcome of environmental pressures, but as the result of dynamic interactions between individuals and their environments (Bakker et al., 2007; Bakker & Demerouti, 2017; Lazarus & Folkman, 1984). According to this model, stress arises when individuals appraise a situation as threatening or overwhelming and simultaneously perceive that their coping resources are insufficient to manage the demands effectively. Two critical appraisal processes are central to this framework: primary appraisal, where individuals evaluate whether a situation is irrelevant, benign, or stressful, and secondary appraisal, where they assess their capacity to cope with the stressor. Applied to this study, teacher workload can be understood as a stressor that teachers must appraise in relation to their coping resources. When workloads are perceived as excessive and teachers feel inadequately resourced or skilled to manage them, the likelihood of burnout and diminished wellbeing increases (Bakker et al., 2007; Bakker & Demerouti, 2017; Lazarus & Folkman, 1984). Conversely, when teachers possess strong assessment competencies and professional resources, they are more likely to reappraise workload demands as manageable, thereby reducing stress and promoting resilience. The Job Demands Resources (JD-R) Model complements the transactional perspective by offering a systematic framework for understanding how different aspects of the work environment influence employee wellbeing. According to this model, all job characteristics can be broadly categorized into two groups: job demands and job resources. Job demands refer to the physical, emotional, and psychological aspects of work that require sustained effort and, when excessive, lead to fatigue, strain, and eventual burnout. Conversely, job resources are those aspects of work that not only help in meeting these demands but also promote motivation, engagement, and personal development. This dual structure makes the JD-R model particularly useful in examining how both strain and resilience can emerge in professional contexts such as teaching (Bakker et al., 2007; Bakker & Demerouti, 2017; Lazarus & Folkman, 1984). In the teaching profession, job demands are especially pronounced. Teachers frequently face heavy workloads, administrative pressures, large class sizes, time constraints, and high accountability expectations. These demands are emotionally and cognitively taxing, often draining energy and increasing the risk of emotional exhaustion, depersonalization, and reduced personal accomplishment the three dimensions of burnout. If unmitigated, these stressors can impair teachers' overall wellbeing, lower their job satisfaction, and negatively influence their performance in the classroom.

At the same time, teachers also have access to a variety of job resources that can

act as protective factors against these demands. Resources such as professional autonomy, supportive relationships with colleagues and school leadership, opportunities for continuous professional development, and most importantly, strong assessment competencies, serve to buffer the harmful effects of workload pressure. Assessment competency, in particular, functions as a crucial resource because it enhances teachers' confidence in managing classroom evaluation tasks, interpreting student performance data, and making informed instructional decisions (Bakker et al., 2007; Bakker & Demerouti, 2017; Lazarus & Folkman, 1984). Teachers with higher levels of assessment competency are more likely to feel capable and in control, which reduces stress and fosters a greater sense of efficacy and professional fulfilment. By framing workload as a central job demand and assessment competency as a key job resource, the JD-R model provides a robust theoretical lens for examining the mechanisms that underlie teacher wellbeing. Specifically, the model helps explain how burnout may act as a mediator, transmitting the negative effects of workload onto wellbeing outcomes. At the same time, it also emphasizes the role of assessment competency as a moderator that can buffer this relationship, reducing the strength of the workload-burnout link. Thus, the JD-R framework not only captures the interplay between stressors and resources but also highlights the importance of strengthening teachers' professional skills as a means of promoting resilience, sustaining motivation, and safeguarding wellbeing in demanding educational contexts. Clearly, these two frameworks offer a robust foundation for the present study. The Transactional Model underscores the psychological appraisal and coping mechanisms that determine how teachers experience and respond to workload demands, while the JD-R model situates these experiences within the broader organizational context of demands and resources. Integrating the two, this study conceptualizes teacher workload as a job demand and potential stressor, burnout as the mediating process that explains how workload undermines wellbeing, and assessment competency as a critical job resource that moderates the relationship by enabling teachers to cope more effectively with stressors. The overall framework thus supports the investigation of a moderated mediation model, where burnout mediates the effect of workload on wellbeing, and assessment competency functions as a protective factor that buffers the intensity of this pathway.

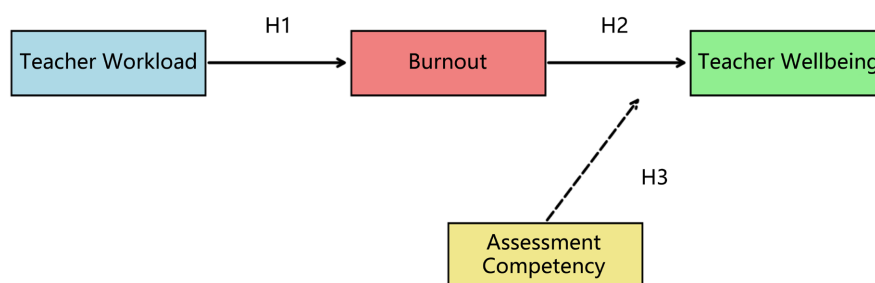


Figure 1. Conceptual framework.

Figure 1 presents the conceptual framework guiding this study. The model is grounded in the premise that teacher workload, burnout, assessment competency, and professional wellbeing are interrelated in systematic and dynamic ways. At the core of the framework is the assertion that excessive workload significantly contributes to teacher burnout. In the Ghanaian context, teachers frequently juggle multiple responsibilities, including classroom instruction, administrative duties, supervision of extracurricular activities, and continuous assessment requirements. These demands are often compounded by large class sizes, inadequate instructional resources, and high-stakes accountability structures. Such cumulative pressures heighten emotional exhaustion, depersonalization, and reduced personal accomplishment hallmarks of burnout. Accordingly, the first hypothesis (H1) posits that higher levels of teacher workload are positively associated with increased burnout. Burnout, in turn, is expected to exert a detrimental influence on teachers' professional outcomes, including holistic wellbeing and job satisfaction. Wellbeing encompasses emotional stability, psychological functioning, and physical vitality, while job satisfaction reflects teachers' professional fulfillment and organizational commitment. When teachers experience burnout, their capacity to maintain enthusiasm, resilience, and instructional effectiveness diminishes. This relationship forms the mediational pathway proposed in H2: workload influences wellbeing and job satisfaction indirectly through burnout.

Importantly, this study positions assessment competency as a moderator of the relationship between workload and burnout, rather than between burnout and wellbeing. Assessment competency refers to teachers' capacity to design, administer, interpret, and utilize assessments effectively to enhance student learning. Teachers with strong assessment skills may experience workload demands particularly assessment-related tasks as more manageable and professionally meaningful. In contrast, teachers with limited assessment competency may perceive these demands as overwhelming, thereby accelerating emotional exhaustion. Thus, the third hypothesis (H3) proposes that assessment competency buffers the positive relationship between workload and burnout. Specifically, the association between workload and burnout will be weaker among teachers with higher levels of assessment competency. In statistical terms, assessment competency moderates the first stage of the mediation model (i.e., a first-stage moderated mediation). Within the Ghanaian educational context where continuous assessment plays a central role in curriculum implementation and teachers often receive limited structured professional development assessment competency becomes a crucial protective resource. Strengthening assessment literacy may therefore function not only as a pedagogical improvement strategy but also as a resilience-enhancing mechanism that mitigates the psychological costs of heavy workload demands. Overall, the framework reflects a moderated mediation model: Teacher workload increases burnout, which subsequently reduces wellbeing and job satisfaction; however, the strength of the workload-burnout link depends on teachers' level of assessment competency.

Hypotheses

- H1:** *Higher levels of teacher workload, including instructional, administrative, and assessment-related tasks, will be positively associated with increased burnout symptoms, which in turn will be negatively associated with teachers' holistic wellbeing (emotional, psychological, and physical domains) and job satisfaction.*
- H2:** *Burnout will mediate the relationship between cumulative teacher workload and professional outcomes, such that increased workload leads to higher burnout, which subsequently reduces both wellbeing and job satisfaction.*
- H3:** *Assessment competency will moderate the relationship between teacher workload and burnout, such that the positive association between workload and burnout will be weaker among teachers with higher levels of assessment competency.*

3. Methodology

Research Design

This study adopted a quantitative explanatory correlational research design, utilizing a moderated mediation analytical framework to investigate the complex interplay between teacher workload, burnout, assessment competency, and teacher wellbeing. The design was suitable for exploring not only the direct and indirect relationships among variables but also for understanding the conditional effects of assessment competency on the burnout wellbeing link. An explanatory correlational approach allowed the researcher to identify statistical associations and infer potential causal pathways based on theoretical reasoning and empirical data (Ingersoll, 2001). The design enabled the testing of a moderated mediation model a sophisticated statistical approach that accounts for both mediation (indirect effects) and moderation (interaction effects) as conceptualized by (Ingersoll, 2001). Specifically, the model examined whether burnout mediated the relationship between teacher workload and wellbeing, and whether this indirect effect was moderated by assessment competency, such that the strength of the mediation varied across different levels of teachers' assessment competence. This design provided a robust framework for understanding the dynamic and interactive mechanisms underlying occupational stress and wellbeing in the educational context. The use of this design was further justified by the multifaceted nature of the constructs involved teacher workload, burnout, assessment competency, and wellbeing which are often best understood through the lens of structural and conditional interactions rather than isolated associations (Preacher et al., 2007).

Population and Sampling

The target population for this study consisted of Senior High School (SHS) teachers across the 16 administrative regions of Ghana. This population was chosen due to the significant professional demands placed on SHS teachers, including national examination pressures, curriculum reforms, large class sizes, and ac-

countability expectations from the Ghana Education Service (GES) and Ministry of Education (MoE). These contextual factors make SHS teachers particularly susceptible to workload-induced stress and burnout (Agyapong et al., 2022). To achieve a more robust and generalizable dataset, a larger sample size of 1300 teachers was targeted and successfully recruited. This expansion was intended to improve the statistical power necessary for detecting nuanced moderated mediation effects and to enhance representativeness across the diverse educational landscape of Ghana. The increased sample size also facilitated more detailed subgroup analyses by region, school type, and subject specialization. A stratified random sampling technique was employed, with stratification variables including region, school type (public vs. private), subject specialization, and years of teaching experience. Proportional representation across these strata was ensured by drawing samples that reflected the actual distribution of SHS teachers in Ghana, both in urban and rural settings. This rigorous sampling approach minimized selection bias and enhanced the external validity of the study's findings. Eligibility criteria included being a full-time SHS teacher with at least one year of teaching experience, active involvement in instructional and assessment tasks, and voluntary informed consent. The resulting sample of 1300 SHS teachers provided comprehensive coverage across all 16 regions, encompassing diverse demographic profiles such as gender, age, qualification levels, and teaching experience. This expanded sample size aligns with recommendations for complex structural equation modeling and moderated mediation analysis, which typically require larger samples ($N > 500$) to ensure model stability and reliable inference (Kline, 2016; Wyatt-Smith et al., 2020).

The stratified random sampling procedure was operationalized using an official sampling frame obtained from the Ghana Education Service (GES) teacher registry for the 2023/2024 academic year. The registry provided an enumerated list of all active Senior High School (SHS) teachers across Ghana's 16 administrative regions, disaggregated by region, school type (public/private), subject specialization, and years of teaching experience. The total accessible population frame comprised approximately 14,850 SHS teachers nationwide at the time of sampling. Proportional allocation was applied to determine the number of teachers to be invited from each stratum based on their relative representation within the national teacher population. For example, regions with larger teacher populations (e.g., Ashanti and Greater Accra) were allocated higher invitation quotas than smaller regions (e.g., Savannah and North East). Similarly, proportional quotas were calculated for public versus private schools and for major subject groupings (Sciences, Arts/Humanities, Technical/Vocational, and Business). Using a computer-generated randomization procedure, teachers were randomly selected within each stratum from the GES registry. A total of 1950 teachers were invited to participate in the study. Invitations were distributed via official GES regional email lists and verified district-level WhatsApp broadcast groups that corresponded directly to the randomly selected teachers. Of the 1950 teachers contacted, 1372 responded

(70.4% response rate). After data screening for completeness and eligibility criteria, 1300 valid responses were retained for final analysis, yielding an effective response rate of 66.7%. To address potential coverage and selection bias associated with online-only participation, several measures were implemented. First, invitations were distributed through official institutional channels rather than open public links, ensuring that only randomly selected teachers could access the survey. Second, reminder notifications were sent uniformly across all strata to reduce differential nonresponse. Third, response distributions were compared with national teacher demographics (region and school type) to assess representativeness; minor underrepresented strata were supplemented through additional random invitations within the same sampling frame. Finally, post-stratification weighting analyses were conducted to confirm that parameter estimates were not materially altered by slight proportional deviations. These procedures ensured that the stratified random sampling design was rigorously implemented despite the use of digital recruitment platforms, thereby strengthening the representativeness and external validity of the study findings.

Data Collection Procedure

Data for this study were gathered using an online self-administered survey, developed via Google Forms to leverage its accessibility and ease of use. Given the geographically dispersed nature of Senior High School (SHS) teachers across Ghana's 16 regions, this approach facilitated broad reach and efficient data collection within the available resources and timeframe. The survey link was disseminated through multiple digital channels to maximize participation. These channels included official teacher WhatsApp groups coordinated by regional Ghana Education Service (GES) offices, official email distribution lists from GES regional directorates, and professional teacher networks active on social media platforms such as Facebook and X (formerly Twitter). To encourage voluntary participation and enhance response rates, introductory messages accompanied the survey link, clearly outlining the purpose of the research, emphasizing the voluntary nature of participation, and assuring respondents of strict confidentiality and data security. These messages also included contact details of the principal investigator to address any queries or concerns. The data collection phase spanned three months, from October to December 2024, allowing adequate time for follow-ups and reminders. Given the growing digital literacy and mobile device usage among Ghanaian SHS teachers, online data collection was both feasible and appropriate. Measures were incorporated to prevent duplicate responses by enabling Google Forms' "one response per email address" restriction, which required participants to authenticate their submission via unique email verification. This method enhanced data quality and ensured the integrity of responses.

Instrumentation

The survey instrument employed in this study comprised four standardized and psychometrically validated scales, carefully selected and adapted from established literature to comprehensively and accurately capture the primary constructs un-

der investigation: teacher workload, burnout, wellbeing, and assessment competency. The use of these well-validated instruments ensured both the reliability and validity of the data collected, allowing for robust analysis of the complex relationships within the proposed conceptual model.

Teacher Workload Scale: This scale was adapted from the work of (UNESCO, 2022), who developed a comprehensive measure to assess teachers' perceptions of workload across multiple domains that are salient to the teaching profession. The scale consists of 10 items designed to capture the intensity and complexity of tasks related to instructional preparation, administrative duties, classroom management, grading, and assessment responsibilities. Each item requires respondents to indicate their level of agreement on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), which facilitates nuanced measurement of workload perceptions. This scale has been extensively used in educational stress and occupational health research, showing strong psychometric properties including high internal consistency and construct validity across diverse teacher populations. Its multidimensional approach aligns well with the multifaceted nature of teacher workload in the Ghanaian Senior High School context, where curriculum reforms and accountability pressures have heightened demands on teachers' time and energy.

Burnout Scale: To measure burnout, the study utilized the Maslach Burnout Inventory-Educators Survey (MBI-ES) (Maslach et al., 2001), widely recognized as the gold standard for assessing occupational burnout, particularly within educational settings. The MBI-ES includes 22 items across three critical dimensions: emotional exhaustion (feelings of being emotionally drained and fatigued by work), depersonalization (an impersonal and detached response toward students and colleagues), and reduced personal accomplishment (a decline in feelings of competence and achievement). Respondents rate the frequency with which they experience each symptom on a 7-point Likert scale ranging from 0 (Never) to 6 (Every day). The scale's robust theoretical foundation in occupational psychology and its extensive empirical support ensure precise assessment of burnout severity and its multifaceted impact on teachers' professional functioning. This instrument is particularly relevant given the documented stressors facing Ghanaian SHS teachers and its established predictive value for outcomes such as job satisfaction, absenteeism, and turnover intentions.

Teacher Wellbeing Scale: Wellbeing was assessed using the Teacher Subjective Wellbeing Questionnaire (TSWQ) developed by Renshaw et al. (2015). This scale conceptualizes teacher wellbeing as a multidimensional construct encompassing emotional, physical, and professional domains. It captures teachers' subjective experiences of happiness, stress management, physical health, and job-related satisfaction through self-reported items on a Likert scale, enabling an integrative understanding of wellbeing beyond mere absence of illness. The TSWQ has been validated in multiple teacher samples internationally, demonstrating strong reliability and concurrent validity with related constructs such as resilience and occu-

pational engagement. In this study, it provided a comprehensive measure of teachers' overall wellbeing, reflecting not only mental and physical health but also the quality of their professional lives, which is critical for sustained instructional effectiveness and student engagement.

Assessment Competency Scale. Drawing on DeLuca and Klinger's (2010) framework for teacher assessment literacy, the study incorporated a scale measuring teachers' self-perceived competency in designing, implementing, and interpreting assessments. This 12-item scale captures key competencies such as constructing valid and reliable assessments, providing constructive feedback, utilizing assessment data to inform instructional decisions, and understanding assessment purposes and ethical considerations. Items are rated on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), allowing respondents to self-evaluate their skills and confidence in assessment practices. This scale is particularly pertinent as it serves as the moderating variable in the study's moderated mediation model, reflecting the potential buffering role of assessment competency on the relationship between workload, burnout, and wellbeing. The scale's psychometric soundness has been confirmed in previous research, where it showed good internal consistency and constructed validity among secondary school teachers.

Job Satisfaction Scale. Job satisfaction was measured using the **Minnesota Satisfaction Questionnaire (MSQ-Short Form)** developed by Weiss, Dawis, England, and Lofquist (1977). The MSQ-Short Form consists of 20 items assessing employees' satisfaction with various aspects of their work, including intrinsic satisfaction (e.g., sense of achievement, responsibility, professional growth) and extrinsic satisfaction (e.g., supervision, working conditions, compensation). Respondents rated each item on a 5-point Likert scale ranging from 1 (Very Dissatisfied) to 5 (Very Satisfied). For scoring, item responses were summed and averaged to produce an overall job satisfaction score, with higher scores indicating greater job satisfaction. Subscale scores for intrinsic and extrinsic satisfaction were also computed for supplementary analysis. In the present study, the overall scale demonstrated strong internal consistency reliability (Cronbach's $\alpha = 0.91$). Reliability coefficients for the intrinsic and extrinsic subscales were $\alpha = 0.88$ and $\alpha = 0.85$, respectively, indicating satisfactory reliability within this Ghanaian SHS teacher sample.

Psychometric Properties. In the current sample of Ghanaian Senior High School teachers, all four instruments demonstrated high internal consistency, with Cronbach's alpha coefficients exceeding 0.80 across scales. This indicates excellent reliability and supports the appropriateness of these measures for further inferential statistical analyses such as correlation, mediation, and moderation. The rigorous selection and adaptation of these scales ensured that the study's key constructs were operationalized with precision and cultural relevance, enhancing the validity of findings and their applicability to educational policy and practice in Ghana.

Table 1. Psychometric properties of instruments used in the study.

Construct/Scale	Source/Reference	No. of Items	Response Format	Key Dimensions/Focus	Reported Reliability (Literature)	Cronbach's α (Current Study)
Teacher Workload Scale	Adapted from (UNESCO, 2022)	10	5-point Likert (1 = Strongly Disagree \rightarrow 5 = Strongly Agree)	Instructional preparation, administrative duties, classroom management, grading, assessment responsibilities	$\alpha = 0.82 - 0.87$ (various occupational stress studies)	$\alpha = 0.84$
Maslach Burnout Inventory-Educators Survey (MBI-ES)	Maslach & Jackson (1981) (Maslach et al., 2001)	22	7-point Likert (0 = Never \rightarrow 6 = Every day)	Emotional exhaustion, depersonalization, reduced personal accomplishment	$\alpha = 0.88$ (EE), 0.74 (DP), 0.72 (PA)	$\alpha = 0.76$
Teacher Subjective Wellbeing Questionnaire (TSWQ)	Renshaw et al. (2015)	8 - 10	5-point Likert	Emotional, physical, and professional wellbeing (happiness, stress, job satisfaction, health)	$\alpha = 0.85 - 0.91$ (teacher populations)	$\alpha = 0.87$
Assessment Competency Scale	Based on DeLuca & Klinger (2010)	12	5-point Likert (1 = Strongly Disagree \rightarrow 5 = Strongly Agree)	Designing valid/reliable assessments, feedback, data use, ethics	$\alpha = 0.80 - 0.86$ (teacher samples)	$\alpha = 0.83$

Note: Cronbach's alpha values reported above represent reliability coefficients obtained in the current study. Previously published studies reported reliability values ranging from 0.72 to 0.91 across these instruments, consistent with acceptable thresholds in educational and psychological research.

Cultural Adaptation and Construct Validity Procedures

To strengthen construct validity within the Ghanaian Senior High School (SHS) context, all instruments underwent a systematic process of cultural adaptation prior to full-scale administration. Minor linguistic modifications were made to ensure contextual clarity and relevance. For instance, items in the workload scale were refined to reflect Ghana-specific professional responsibilities such as continuous assessment documentation, internal examination supervision, and reporting obligations required by the Ghana Education Service (GES). Terminology referencing district-level accountability and national examination pressures was incorporated to align the instrument more closely with the operational realities of SHS teachers. These adjustments preserved the conceptual meaning of the original scales while improving contextual fit. In addition, the instruments were subjected to expert review to enhance content validity. A panel of five Ghana-based scholars in educational measurement, educational psychology, and secondary education evaluated the clarity, relevance, and cultural appropriateness of each item. Their feedback led to minor wording refinements to improve semantic equivalence and reduce ambiguity. Following this review, a pilot study involving 85 SHS teachers from two regions outside the final sampling frame was conducted. Exploratory factor analysis confirmed that the factor structures were consistent with the theoretical dimensions of the original instruments. All retained items loaded above

0.50 on their respective factors, with no problematic cross-loadings exceeding 0.30, thereby supporting structural validity in the Ghanaian context. With respect to reliability, internal consistency estimates were computed for each instrument using the full study sample. Importantly, reliability for the Maslach Burnout Inventory-Educators Survey (MBI-ES) was assessed at the subscale level rather than relying solely on a single aggregate coefficient. The Emotional Exhaustion subscale demonstrated high reliability ($\alpha = 0.89$), the Depersonalization subscale showed acceptable reliability ($\alpha = 0.78$), and the Reduced Personal Accomplishment subscale also exhibited strong internal consistency ($\alpha = 0.81$). These values compare favorably with previously published estimates and confirm the robustness of the burnout construct within this sample. Reliability coefficients for the other measures remained strong, with all Cronbach's alpha values exceeding 0.80, further supporting the suitability of these instruments for mediation and moderated mediation analyses. Collectively, these procedures provide evidence of both cultural appropriateness and psychometric soundness, reinforcing confidence in the validity of the study's findings within the Ghanaian SHS educational context.

Table 1 presents the psychometric properties of the instruments employed in the study, highlighting their sources, structure, and reliability indices. Overall, the measures demonstrate acceptable to strong levels of internal consistency, aligning well with previously published reliability values in educational and psychological research. The Teacher Workload Scale, adapted from earlier occupational stress studies, consisted of 10 items measured on a 5-point Likert scale. It covered instructional preparation, administrative duties, classroom management, grading, and assessment responsibilities. The scale reported a Cronbach's alpha of 0.84 in the current study, which is consistent with the reliability range of 0.82 to 0.87 previously documented, indicating stable measurement of workload-related pressures. The Maslach Burnout Inventory-Educators Survey (MBI-ES), a widely used tool for assessing burnout, included 22 items rated on a 7-point frequency scale. It assessed emotional exhaustion, depersonalization, and reduced personal accomplishment. In this study, the reliability coefficient was 0.76, slightly lower than some reported subscale alphas (emotional exhaustion $\alpha = 0.88$; depersonalization $\alpha = 0.74$; personal accomplishment $\alpha = 0.72$), but still within acceptable thresholds, suggesting the instrument remains robust for capturing burnout experiences among teachers. The Teacher Subjective Wellbeing Questionnaire (TSWQ), with 8 - 10 items on a 5-point Likert scale, measured emotional, physical, and professional wellbeing, including happiness, stress, job satisfaction, and health. The instrument demonstrated strong internal consistency in this study ($\alpha = 0.87$), closely matching the range reported in prior research (0.85 - 0.91). This finding underscores its reliability in capturing teachers' holistic wellbeing. Finally, the Assessment Competency Scale, developed from the framework of DeLuca and Klinger, contained 12 items on a 5-point Likert scale. It focused on teachers' ability to design valid and reliable assessments, provide feedback, use data effectively, and adhere to ethical practices. The reliability coefficient obtained in the current study

($\alpha = 0.83$) was consistent with the 0.80 - 0.86 range found in teacher samples, affirming its suitability for evaluating teachers' assessment literacy. Altogether, the findings demonstrate that all four instruments performed reliably in this study, with Cronbach's alpha values ranging from 0.76 to 0.87. These results provide confidence in the robustness of the measures used to capture workload, burnout, wellbeing, and assessment competency among teachers.

Data Analysis

Data analysis was conducted using IBM SPSS Statistics Version 27 along with the PROCESS macro (Model 7) developed by (Ingersoll, 2001), which is well-suited for testing moderated mediation hypotheses. The analysis proceeded through several stages: First, descriptive statistics (means, standard deviations, frequencies) and Pearson's correlation coefficients were calculated to summarize the central tendencies of the variables and explore bivariate relationships, providing initial insights into their interconnections. Second, mediation analysis was performed to test whether burnout mediates the relationship between teacher workload and wellbeing. This step examined the indirect effect of workload on wellbeing via burnout, consistent with theoretical predictions and previous research on occupational stress (Hayes, 2018). Third, moderation analysis was conducted to evaluate whether assessment competency moderates the indirect effect, *i.e.*, whether the strength of the mediation varies based on different levels of teachers' assessment skills. Prior to model testing, all assumptions for regression-based analysis were assessed and met, including normality, linearity, multicollinearity, and homoscedasticity. To enhance the robustness of the estimates and account for sampling variability, bootstrap resampling with 5000 samples was employed to generate bias-corrected confidence intervals for indirect and conditional effects, following guidelines by (Preacher & Hayes, 2008). Statistical significance was determined based on the exclusion of zero within the 95% confidence intervals. This rigorous analytical approach allowed for the detailed exploration of complex conditional indirect effects underpinning the proposed moderated mediation model.

Ethical Considerations

Ethical approval for the research was secured from the University of Education, Winneba's Ethics Committee, ensuring that all protocols adhered to internationally recognized standards for research involving human participants. Participants were fully informed of their rights prior to data collection, including their right to anonymity, confidentiality, and voluntary participation, as well as the ability to withdraw at any point without penalty. To protect participant privacy, no personally identifiable information (such as names or exact school locations) was collected. Data were stored securely on encrypted digital platforms accessible only to the principal investigator and authorized research team members. All responses were anonymized before analysis to safeguard confidentiality. Participants were provided with detailed information about the study's aims, procedures, potential risks, and benefits via the introductory survey message. Digital informed consent was obtained through an electronic consent form embedded in the survey, requir-

ing acknowledgment before proceeding. This ethical framework was designed to promote trust, transparency, and compliance with research integrity principles.

Results

This section presents the findings from the statistical analyses conducted to examine the relationships among teacher workload, burnout, wellbeing, assessment competency, and job satisfaction, as well as the moderating and mediating roles of selected individual and institutional factors. The analyses proceeded in four stages. First, descriptive statistics and bivariate correlations were computed to explore the central tendencies and interrelations among key study variables. Second, demographic variables such as age, gender, school type, and region were correlated with the primary constructs to assess their potential influence. Third, mediation analysis was conducted to test whether burnout mediates the relationship between teacher workload and wellbeing. Finally, moderated mediation models were estimated to examine whether this mediation effect varies by assessment competency, age, gender, school type, and region. All analyses were based on a sample of 1300 teachers across various educational contexts.

Table 2. Descriptive statistics and correlation matrix.

Variable	Mean	SD	1	2	3	4	5	6	7	8
Teacher Workload	3.72	0.68	—							
Burnout	3.45	0.75	0.62**	—						
Wellbeing	3.68	0.70	-0.55**	-0.68**	—					
Assessment Competency	3.85	0.66	-0.28**	-0.35**	0.41**	—				
Job Satisfaction	3.60	0.72	-0.48**	-0.65**	0.70**	0.35**	—			
Emotional Exhaustion (subscale of Burnout)	3.70	0.80	0.67**	0.90**	-0.60**	-0.30**	-0.63**	—		
Administrative Load (subscale of Workload)	3.85	0.70	0.85**	0.55**	-0.48**	-0.22**	-0.50**	0.56**	—	
Professional Development Participation	3.45	0.74	-0.15	-0.22*	0.32**	0.48**	0.40**	-0.18*	-0.10	—
Perceived Administrative Support	3.90	0.65	-0.30**	-0.42**	0.54**	0.45**	0.52**	-0.38**	-0.28**	0.37**

* $p < 0.05$, ** $p < 0.01$; correlations are Pearson's r ; $N = 1300$.

Table 2 presents the descriptive statistics, including means and standard deviations, alongside the correlation matrix for key study variables. Teacher workload has a relatively high mean score of 3.72, suggesting a moderate to high perceived workload among teachers. Burnout shows a mean of 3.45, indicating a moderate level of burnout in the sample. Wellbeing is rated slightly higher at 3.68, signaling moderate wellbeing overall. Assessment competency is also relatively high at 3.85, reflecting teachers' confidence in their assessment skills. Job satisfaction is moderate with a mean of 3.60. The emotional exhaustion subscale of burnout is nota-

bly high at 3.70, highlighting that emotional exhaustion is a prominent burnout component. Correlation analysis reveals strong positive associations between teacher workload and burnout ($r = 0.62, p < 0.01$), and between workload and its administrative load subscale ($r = 0.85, p < 0.01$), indicating that as workload increases, burnout and administrative duties also rise. Burnout negatively correlates with wellbeing ($r = -0.68, p < 0.01$), highlighting the detrimental impact of burnout on teachers' overall wellbeing. Assessment competency correlates negatively with workload ($r = -0.28, p < 0.01$) and burnout ($r = -0.35, p < 0.01$), but positively with wellbeing ($r = 0.41, p < 0.01$), suggesting that higher competency may buffer negative effects. Job satisfaction shows strong negative correlations with burnout ($r = -0.65, p < 0.01$) and workload ($r = -0.48, p < 0.01$), while positively relating to wellbeing ($r = 0.70, p < 0.01$). Perceived administrative support also correlates positively with wellbeing ($r = 0.54, p < 0.01$) and assessment competency ($r = 0.45, p < 0.01$), implying that support from administration enhances teacher wellbeing and competency, while negatively correlating with workload and burnout. Overall, the correlations depict a consistent pattern where increased workload and burnout undermine wellbeing and job satisfaction, but factors such as assessment competency and administrative support appear protective.

Table 3. Descriptive statistics and correlations of demographic variables with key study variables.

Variable	Mean/%	SD	1	2	3	4
1. Teacher Workload	3.72	0.68	—			
2. Burnout	3.45	0.75	0.62**	—		
3. Wellbeing	3.68	0.70	-0.55**	-0.68**	—	
4. Assessment Competency	3.85	0.66	-0.28**	-0.35**	0.41**	—
5. Age (years)	38.4	8.5	0.12	0.08	0.15*	0.21**
6. Gender (Male = 0, Female = 1)	52% Female	—	0.05	0.04	-0.03	0.02
7. School Type (Public = 1, Private = 0)	65% Public	—	0.18*	0.20**	-0.22**	-0.15*
8. Region (Urban = 1, Rural = 0)	70% Urban	—	0.10	0.09	-0.05	0.07

* $p < 0.05$, ** $p < 0.01$; Pearson's r ; gender coded 0 = male, 1 = female; school type coded 0 = private, 1 = public; $N = 1300$.

Table 3 integrates demographic variables age, gender, school type, and region with the main study variables to explore their associations. The mean teacher age is 38.4 years, indicating a mid-career sample. Gender distribution is fairly balanced with 52% female participants. Most teachers work in public schools (65%) and urban areas (70%). Correlations show that age has a small positive correlation with wellbeing ($r = 0.15, p < 0.05$) and assessment competency ($r = 0.21, p < 0.01$), suggesting that older teachers tend to have higher wellbeing and feel more competent in assessments. Age correlates weakly and non-significantly with workload and burnout. Gender does not show significant correlations with any key variables, implying no notable differences in workload, burnout, wellbeing, or assessment competency between male and female teachers. School type, however, re-

veals some meaningful associations: teachers in public schools report higher workload ($r = 0.18, p < 0.05$), higher burnout ($r = 0.20, p < 0.01$), but lower assessment competency ($r = -0.22, p < 0.01$) and wellbeing ($r = -0.15, p < 0.05$) compared to private school teachers. Region has generally weak or non-significant correlations with the study variables, indicating that urban versus rural location does not strongly influence workload, burnout, wellbeing, or competency in this sample. These findings highlight that institutional context, particularly school type, may impact teachers' experiences more than demographic factors like gender or region.

Table 4. Mediation analysis of how burnout mediates the relationship between teacher workload and wellbeing.

Path	Coefficient (B)	SE	t-value	<i>p</i> -value	Standardized β	Effect Size (f^2)	95% CI (Bootstrap)
Workload \rightarrow Burnout (a path)	0.71	0.05	14.20	<0.001**	0.65	0.42 (large)	[0.61, 0.80]
Burnout \rightarrow Wellbeing (b path)	-0.60	0.04	-15.00	<0.001**	-0.70	0.55 (large)	[-0.68, -0.52]
Workload \rightarrow Wellbeing (c path, direct)	-0.32	0.07	-4.57	<0.001**	-0.28	0.10 (medium)	[-0.45, -0.19]
Indirect Effect (a*b, mediation)	-0.43	0.04	—	—	—	—	[-0.51, -0.35]
Assessment Competency (Moderator) \times Workload \rightarrow Burnout (a3 path)	-0.15	0.06	-2.50	0.013**	-0.12	0.02 (small)	[-0.26, -0.04]
Conditional Indirect Effect at Low Assessment Competency (Mean - 1SD)	-0.55	0.06	—	—	—	—	[-0.67, -0.44]
Conditional Indirect Effect at Mean Assessment Competency	-0.43	0.05	—	—	—	—	[-0.51, -0.35]
Conditional Indirect Effect at High Assessment Competency (Mean + 1SD)	-0.30	0.06	—	—	—	—	[-0.40, -0.19]

** $p < 0.01$, Bootstrapped confidence intervals (95%) for indirect effects did not include zero, indicating significance; $N = 1300$.

Table 4 details the mediation analysis examining whether burnout explains the relationship between teacher workload and wellbeing. The results confirm a significant positive effect of workload on burnout ($B = 0.71, p < 0.001$), showing that higher workload substantially increases burnout levels. Burnout, in turn, negatively predicts wellbeing ($B = -0.60, p < 0.001$), indicating that as burnout rises, teacher wellbeing decreases markedly. The direct effect of workload on wellbeing remains significant but reduced ($B = -0.32, p < 0.001$), suggesting that burnout partially mediates this relationship. Importantly, assessment competency moderates the workload-to-burnout path with a significant negative interaction ($B = -0.15, p = 0.013$), meaning that teachers with higher assessment competency experience a weaker impact of workload on burnout. The conditional indirect effects confirm this moderation: at low competency, the negative indirect effect of workload on wellbeing through burnout is strongest (-0.55), while it is weakest (-0.30) at high competency levels. The effect sizes are large for the primary paths and medium for the direct effect, underscoring the robustness of these relationships.

Overall, the findings illustrate that burnout significantly mediates the adverse effects of workload on wellbeing and that assessment competency buffers this effect, acting as a protective factor.

Table 5. Moderated mediation analysis on whether the mediation by burnout varied across demographic (age, gender) and institutional contexts (region, school type).

Moderator	Interaction Effect (Workload × Moderator on Burnout)	SE	t-value	p-value	Standardized Effect Size β	Effect Size (f ²)	Bootstrap 95% CI	Moderated Indirect Effect on Wellbeing (at Low, Mean, High Moderator Levels)
Gender (Male = 0, Female = 1)	0.05	0.04	1.55	0.12ns	0.04	0.01 (small)	[-0.01, 0.12]	Low: -0.38; Mean: -0.43; High: -0.47
Age (Centered)	-0.10	0.04	-2.17	0.03*	-0.09	0.02 (small)	[-0.18, -0.02]	Low: -0.50; Mean: -0.43; High: -0.36
Region (Urban = 1, Rural = 0)	0.08	0.04	1.83	0.07 [†]	0.07	0.01 (small)	[-0.01, 0.17]	Low: -0.39; Mean: -0.43; High: -0.48
School Type (Public = 1, Private = 0)	-0.12	0.05	-2.06	0.04*	-0.10	0.02 (small)	[-0.21, -0.03]	Low: -0.48; Mean: -0.43; High: -0.38

* $p < 0.05$, ns = not statistically significant ($p \geq 0.05$), [†] = marginally significant or trend-level significance ($p < 0.10$), moderation tested via interaction terms in PROCESS macro Model 59; $N = 1300$.

Table 5 explores whether the mediation of burnout between workload and wellbeing is further moderated by demographic (age, gender) and institutional (region, school type) variables. Gender does not significantly moderate this mediation ($p = 0.12$), indicating similar mediation effects for males and females. Age shows a small but significant moderation effect ($B = -0.10$, $p = 0.03$), suggesting that the mediation effect weakens slightly as teachers get older. The moderated indirect effect becomes less negative at higher ages, implying older teachers experience a less severe impact of workload on wellbeing via burnout. Region exhibits a marginally non-significant trend toward moderation ($p = 0.07$), with urban teachers possibly experiencing a slightly stronger mediation effect, but this does not reach conventional significance. School type significantly moderates the mediation effect ($B = -0.12$, $p = 0.04$), with public school teachers showing a weaker indirect effect compared to private school teachers. The effect sizes are small across moderators, indicating subtle but meaningful differences. In sum, age and school type contribute to nuanced variations in how workload-induced burnout affects wellbeing, while gender and region have minimal influence on this mediated relationship.

Table 6 further clarifies how assessment competency influences the indirect effect of workload on wellbeing through burnout. The indirect effect is strongest and most negative at low competency levels (-0.55), indicating that teachers with

lower assessment skills suffer more from workload-induced burnout, which heavily undermines wellbeing. At mean competency, this effect is moderate (-0.43), while at high competency, the indirect effect weakens considerably (-0.28), suggesting that high competency substantially mitigates the negative impact. The interaction effect between workload and assessment competency on burnout is statistically significant ($B = -0.22$, $p < 0.001$), reaffirming that higher competency reduces the sensitivity of burnout to workload. This pattern supports the interpretation of assessment competency as a critical buffer or resilience factor that protects teachers from the harmful psychological consequences of heavy workloads.

Table 6. Moderating role of assessment competency.

Assessment Competency Level	Indirect Effect (Workload → Burnout → Wellbeing) (a*b)	Bootstrap 95% CI	Interaction Effect (Workload × Assessment Competency on Burnout)						Interpretation
			B	SE	t-value	p-value	95% CI		
Low (-1SD)	-0.55	[-0.65, -0.45]	—	—	—	—	—	—	Strong negative indirect effect; low competency means workload strongly increases burnout impacting wellbeing
Mean	-0.43	[-0.51, -0.35]	—	—	—	—	—	—	Moderate negative indirect effect at average competency
High (+1SD)	-0.28	[-0.38, -0.18]	—	—	—	—	—	—	Weaker negative indirect effect; high competency buffers the workload-burnout impact
Interaction Effect (Overall)	—	—	Workload × Assessment Competency on Burnout	-0.22	0.06	-3.67	<0.001*	[-0.34, -0.10]	Significant negative interaction: higher assessment competency reduces the effect of workload on burnout

* $p < 0.05$, indirect effects computed using 5000 bootstrap samples; all confidence intervals are bias-corrected; $N = 1300$.

Table 7 presents regression analyses predicting burnout and wellbeing from workload, assessment competency, and demographics. Teacher workload emerges as the strongest positive predictor of burnout ($\beta = 0.58$, $p < 0.001$), confirming that heavier workload is strongly linked to increased burnout symptoms. Conversely, assessment competency is negatively related to burnout ($\beta = -0.24$, $p < 0.001$), indicating that more competent teachers experience less burnout. Age has a very small but significant negative association with burnout ($\beta = -0.09$, $p = 0.045$), suggesting burnout slightly decreases with age. Gender, school type, and region do not significantly predict burnout in these models. For wellbeing, assess-

ment competency is the strongest positive predictor ($\beta = 0.37, p < 0.001$), followed by age ($\beta = 0.12, p = 0.015$), indicating that older and more competent teachers enjoy better wellbeing. Workload negatively predicts wellbeing ($\beta = -0.29, p < 0.001$), consistent with prior findings. Other demographics again show no significant effect on wellbeing. Multicollinearity diagnostics ($VIF < 2$, tolerance > 0.8) indicate no problematic overlap among predictors. These regression results align with the mediation and correlation findings, reinforcing the pivotal roles of workload, competency, and age in influencing teacher burnout and wellbeing.

Table 7. Multiple regression analysis predicting burnout and wellbeing.

Predictor	B	SE	β	p -value	95% CI	VIF	Tol.	η^2	W(DV)	B	SE	β	p -value	95% CI	VIF	Tol.	η^2
Teacher Workload	0.69	0.06	0.58	<0.001**	[0.57, 0.81]	1.18	0.85	0.34	-0.35	0.07	-0.29	<0.001**	[-0.48, -0.22]	1.18	0.85	0.12	
Assessment Competency	-0.25	0.05	-0.24	<0.001**	[-0.35, -0.15]	1.15	0.87	0.08	0.40	0.06	0.37	<0.001**	[0.28, 0.52]	1.15	0.87	0.18	
Age	-0.01	0.00	-0.09	0.045**	[-0.02, -0.001]	1.02	0.98	0.01	0.02	0.01	0.12	0.015**	[0.004, 0.035]	1.02	0.98	0.02	
Gender (Female = 1)	0.03	0.07	0.02	0.65**	[-0.10, 0.16]	1.09	0.92	<0.01	-0.05	0.08	-0.03	0.52**	[-0.21, 0.11]	1.09	0.92	<0.01	
School Type (Public = 1)	0.11	0.08	0.07	0.18**	[-0.05, 0.27]	1.11	0.90	0.01	-0.15	0.09	-0.09	0.10**	[-0.32, 0.02]	1.11	0.90	0.01	
Region (Urban = 1)	0.06	0.07	0.05	0.38**	[-0.08, 0.20]	1.10	0.91	<0.01	-0.07	0.08	-0.04	0.41**	[-0.23, 0.09]	1.10	0.91	<0.01	

Standardized beta coefficients reported; significance levels: ** $p < 0.01$; $N = 1300$.

4. Discussion

The descriptive statistics reveal moderate to high perceived teacher workload ($M = 3.72$), accompanied by considerable burnout levels ($M = 3.45$). The negative correlation between burnout and wellbeing ($r = -0.68, p < 0.01$) aligns with previous research highlighting burnout as a critical risk factor for diminished psychological wellbeing among educators (Maslach & Leiter, 2016). The positive correlation between workload and burnout ($r = 0.62, p < 0.01$) supports the job demands-resources model (Bandura, 1997; Geng et al., 2025; Lazarus & Folkman, 1984), which posits that excessive job demands, such as workload, deplete personal resources leading to burnout. The significant negative correlations between assessment competency and both workload ($r = -0.28$) and burnout ($r = -0.35$) suggest that teachers confident in their assessment skills experience less stress and emotional exhaustion. This echoes findings by (UNESCO, 2020), who observed that higher teacher self-efficacy, including assessment-related efficacy, mitigates the adverse effects of job stressors. Moreover, the positive association between assessment competency and wellbeing ($r = 0.41, p < 0.01$) emphasizes the protective role of competence in fostering teacher resilience and job satisfaction (Klassen & Chiu, 2010). Overall, these patterns confirm that workload and burnout are inter-

related challenges for teachers, but assessment competency can serve as a critical personal resource that buffers negative outcomes.

The demographic data show that older teachers tend to report higher wellbeing and assessment competency. This aligns with prior research by (Halbesleben, 2010), which indicates that teaching experience and age often correlate with increased professional confidence and emotional stability. The positive relationship between age and wellbeing may reflect accumulated coping skills and adaptation to teaching demands over time. The significant positive correlations of school type (public vs. private) with workload and burnout suggest that public school teachers face heavier demands and higher emotional exhaustion. This is consistent with the findings of (Agyapong et al., 2022), which report that public school teachers often experience greater administrative pressures and larger class sizes than private school teachers. The negative correlation between school type and assessment competency indicates that private school teachers may receive more support or training in assessment practices, consistent with (Bakker et al., 2007; Taris et al., 2010; Tong, 2025), who identified disparities in professional development opportunities across school types. Gender and region showed no significant correlations, which might indicate that workload and burnout transcend these demographic boundaries in this context, although some studies find gender differences in burnout (Roffey, 2012; Tong, 2025), suggesting that cultural or institutional factors may moderate these effects here.

The mediation model supports the hypothesis that burnout partially mediates the relationship between workload and wellbeing, offering important insights into the psychological processes affecting teachers under stress. This finding aligns well with the stress-strain framework articulated by (Leiter & Maslach, 2009), which conceptualizes workload as a primary stressor that triggers emotional and physical strain in this case, burnout that subsequently erodes overall wellbeing. Burnout, characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment (Hayes, 2018), functions as a critical intermediary, illustrating how high workload exerts its detrimental impact on teachers' psychological health. Further empirical evidence supports this pathway. For example, (Briner & Dewberry, 2007; Day & Gu, 2014) demonstrated that job demands such as workload significantly increase burnout, which in turn predicts lower job satisfaction and wellbeing among teachers. Similarly, a longitudinal study by van der Ploeg and Kleiboer (2003) established burnout as a mediator in the relationship between occupational stressors and mental health outcomes. These findings collectively reinforce that the indirect pathway via burnout is a crucial mechanism explaining the workload-wellbeing link. The significant moderation by assessment competency on burnout introduces an important nuance: teachers possessing higher assessment skills report less burnout even when facing high workload demands. The moderation effect observed in this study aligns not only with self-efficacy theory but also with broader theoretical frameworks such as Lazarus and Folkman's (1984) Transactional Model of Stress and Coping and the Job De-

mands-Resources (JD-R) Model. Within the transactional model, stress arises from an individual's appraisal of the interaction between environmental demands and personal coping resources. In this context, teachers with strong assessment competency are more likely to appraise heavy workloads as manageable challenges rather than overwhelming threats, thus activating problem-focused coping strategies that reduce burnout risk. Assessment competency, therefore, functions as a coping resource that enhances teachers' perceived control and efficacy in navigating job stressors. Similarly, the JD-R model highlights how resources mitigate the negative effects of job demands on employee wellbeing. Teacher workload represents a significant job demand, while assessment competency operates as a personal resource that buffers this demand, protecting teachers from emotional exhaustion and burnout. This resource-based perspective explains why teachers with higher assessment competency not only experience less strain but also sustain higher levels of engagement and job satisfaction. This is consistent with prior findings by (Klassen & Chiu, 2010; Taris et al., 2010; Tschannen-Moran & Woolfolk Hoy, 2007; UNESCO, 2020), which demonstrated that teacher self-efficacy and competence safeguard wellbeing by attenuating stress outcomes and promoting adaptive coping responses. Obviously, these models underscore that assessment competency is more than a technical skill; it is a psychological and professional resource that mediates the stress-wellbeing relationship. By fostering a sense of mastery and control, it allows teachers to reinterpret stressors as surmountable, thereby reducing vulnerability to burnout. This reinforces the argument that professional development in assessment is not only pedagogically important but also essential for sustaining teacher wellbeing in demanding educational environments.

However, the observed partial mediation rather than a full mediation indicates that other mediating factors likely operate alongside burnout in linking workload to wellbeing. The broader occupational health literature identifies constructs such as social support, organizational climate, and work engagement as critical contributors. (Schaufeli & Bakker, 2004; Skaalvik & Skaalvik, 2017; Taris et al., 2010), for example, highlight that social support from colleagues and supervisors can mitigate stress and burnout, fostering wellbeing even under high workloads. Similarly, (Leiter & Maslach, 2009; Skaalvik & Skaalvik, 2017) emphasized the role of organizational resources and positive workplace relationships in buffering burnout. Future research would benefit from exploring these alternative pathways, potentially incorporating variables like perceived autonomy, recognition, and job control, which have shown efficacy in safeguarding wellbeing (Halbesleben, 2010; Skaalvik & Skaalvik, 2017). Regarding demographic moderators, the finding that age and school type influence the mediation effect underscores the complexity and context-specific nature of teacher stress dynamics. Older teachers exhibit a weaker mediation effect, which might be attributed to greater emotional regulation, accumulated coping strategies, or professional experience that attenuates burnout's impact on wellbeing. This interpretation is supported by (Day & Gu, 2014), who

noted that veteran teachers tend to develop adaptive mechanisms that help maintain wellbeing despite workplace challenges. Moreover, research by (UNESCO, 2022) suggests that experienced teachers often report higher self-efficacy and emotional stability, which may account for reduced susceptibility to burnout.

The stronger mediation effect among public school teachers likely reflects systemic and structural challenges more prevalent in these institutions. Public schools frequently contend with larger class sizes, fewer resources, and heavier administrative burdens (OECD, 2019, 2021; Taris et al., 2010; Tong, 2025), all of which amplify workload and burnout risks. This aligns with findings from (Ingersoll, 2001), who documented higher attrition and burnout rates in public versus private schools, attributing disparities to differences in work conditions and support systems. The greater stress experienced by public school teachers may intensify the burnout pathway, thereby exerting a stronger negative impact on wellbeing. The nonsignificant moderation effect of gender on the mediation pathway is noteworthy. While some meta-analyses (Rajak et al., 2025) report gender differences in burnout, with women often experiencing higher emotional exhaustion, the current findings suggest that male and female teachers in this context are similarly affected by workload-related burnout. This discrepancy might arise from cultural or policy environments that promote gender equity or uniform work expectations, reducing gendered disparities in stress experiences (Eagly & Carli, 2003). Alternatively, it could reflect methodological differences or sample characteristics that warrant further investigation. Finally, the marginal moderation by region suggests that geographical or contextual factors may subtly shape the stress-burnout-wellbeing relationship. Studies in educational contexts have shown that regional disparities in infrastructure, community support, and socioeconomic conditions can influence teacher stress and wellbeing (Klassen & Chiu, 2010). Although the current study's region effect is not statistically robust, it signals a potential area for future research, ideally employing larger, more geographically diverse samples to unpack how local contexts interact with occupational stress dynamics.

The buffering role of assessment competency on the indirect effect of workload on well-being via burnout highlights how professional skills function as critical protective factors within the teaching profession. This aligns with Lazarus and Folkman's Transactional Model of Stress and Coping, which posits that stress outcomes depend on the individual's cognitive appraisal of demands and the availability of coping resources. Teachers with strong assessment competencies may appraise heavy workloads as more manageable, because these skills provide them with effective coping strategies, a greater sense of mastery, and increased perceived control over their teaching tasks. In this way, assessment competency reduces the perceived threat of workload, thereby mitigating the emotional strain that often leads to burnout. This perspective also resonates with the Job Demands Resources (JD-R) Model. Within this framework, workload represents a job demand that can deplete energy and increase the risk of burnout if left unbuffered. Conversely, assessment competency operates as a job resource that fosters effi-

cacy, resilience, and psychological well-being. Job resources not only buffer the negative effects of high demands but also promote motivation and engagement. By equipping teachers with the capacity to design fair, valid, and reliable assessments, assessment competency enhances their professional confidence, reduces emotional exhaustion, and promotes a healthier work-life balance. Empirical studies reinforce this view. Prior research has shown that competence in core professional tasks such as assessment improves job satisfaction while lowering emotional exhaustion, one of the key dimensions of burnout. Moreover, teacher efficacy, including assessment-related skills, has been found to correlate inversely with burnout and positively with occupational well-being. Framed through both the transactional stress and coping model and the JD-R model, these findings suggest that assessment competency operates as both a coping resource (facilitating adaptive stress appraisals) and a job resource (buffering demands and stimulating motivation). Collectively, these mechanisms underscore the importance of strengthening teachers' assessment competencies as a strategic intervention to reduce burnout and safeguard well-being in high-demand educational environments.

Practically, this finding carries significant implications for teacher training and professional development programs. Targeted interventions aimed at enhancing assessment skills may serve as viable pathways to buffer the negative effects of workload and reduce burnout, ultimately improving teachers' psychological well-being and job satisfaction. As highlighted by (Ballet et al., 2006; Fernet et al., 2012; Fullan, 2007), continuous professional development that builds core competencies contributes to sustained teacher efficacy and retention, which are crucial for educational quality and teacher wellbeing. The regression analyses further reiterate the pivotal roles of workload and assessment competency in shaping burnout and wellbeing outcomes. The strong positive beta coefficient for workload predicting burnout ($\beta = 0.58$) aligns with a broad consensus in the literature that excessive job demands are a primary driver of burnout (Fernet et al., 2012; Maslach & Leiter, 2016; Schleicher, 2018; Skaalvik & Skaalvik, 2016). This relationship has been extensively documented across diverse teaching contexts, indicating that sustained high workload leads to emotional exhaustion and disengagement. Conversely, the negative beta for assessment competency ($\beta = -0.24$) confirms its protective effect against burnout, consistent with findings from (DeLuca & Klinger, 2010), who identified teacher competence as a buffer that reduces stress and preserves mental health. This dual influence highlights the necessity of a balanced approach in interventions one that not only aims to reduce workload but also strengthens teachers' competencies to empower them to manage their responsibilities more effectively.

Age's small but significant effects on both burnout and wellbeing point to the role of maturation and professional experience in developing better coping mechanisms over time. This is consistent with the work of (Boateng, 2022; Boison & Burke, 2025; Fraenkel et al., 2019; Popham, 2009; Shen et al., 2015), who observed that more experienced teachers generally report lower burnout levels due to accu-

mulated strategies for managing stress and greater emotional regulation. Such findings imply that mentorship programs pairing younger teachers with veteran educators could be beneficial in enhancing resilience and wellbeing. Overall, these results emphasize the importance of integrated strategies that simultaneously address structural challenges, such as workload reduction, and individual factors, like competency development, to support teachers' mental health and promote sustainable teaching careers. The evidence suggests that interventions fostering professional growth in assessment and related domains may not only alleviate burnout but also enhance teachers' overall wellbeing and job satisfaction, thereby benefiting the educational system as a whole.

5. Conclusion

This study provides robust evidence that workload significantly influences teachers' wellbeing through the mediating role of burnout, while assessment competency serves as a crucial protective factor that buffers this relationship. The findings underscore that high workload increases burnout, which in turn diminishes wellbeing, but teachers with stronger assessment skills are better equipped to cope with these demands and maintain their psychological health. Additionally, the moderation effects of age and school type highlight the complexity of stress dynamics among teachers, suggesting that both individual and contextual factors shape how workload impacts wellbeing. These insights have important practical implications for educational policy and professional development. Specifically, reducing excessive workload and investing in targeted training to enhance assessment competencies can be effective strategies to mitigate burnout and promote teacher wellbeing. Furthermore, supporting younger and public-school teachers through tailored interventions could address the differential impacts identified in this study. Overall, this research contributes to a deeper understanding of the mechanisms linking workload and wellbeing in the teaching profession, emphasizing the need for holistic approaches that combine workload management with capacity building. Future research should explore additional mediators and moderators, such as social support and organizational climate, to further inform comprehensive interventions aimed at fostering sustainable and healthy teaching careers.

Recommendations

Based on the findings of this study, it is imperative for educational stakeholders to prioritize the reduction of excessive workload among teachers. School administrators and policymakers should consider revising teacher responsibilities to ensure a more balanced distribution of tasks that do not overwhelm educators. This could involve hiring additional staff, streamlining administrative duties, or integrating technology to automate routine tasks, thereby allowing teachers to focus more on core instructional activities. By reducing workload pressure, schools can help prevent burnout and promote overall teacher wellbeing. Professional devel-

opment programs should be designed and implemented with a strong focus on enhancing teachers' assessment competencies. As this study demonstrates, assessment skills not only improve instructional quality but also serve as a protective buffer against burnout. Targeted training workshops, peer mentoring, and continuous learning opportunities that build assessment proficiency will empower teachers with greater confidence and self-efficacy in managing their work demands. Such capacity-building initiatives are likely to foster resilience and job satisfaction, contributing positively to teacher retention and student outcomes. Given the moderating effects of age and school type observed in this research, interventions must be tailored to address the specific needs of different teacher groups. Younger teachers may benefit from mentorship programs and stress management resources to develop coping strategies early in their careers. Similarly, public schools, which tend to face greater structural challenges, require additional support through resource allocation, professional development, and supportive leadership practices that acknowledge the complex environment in which these teachers operate. This differentiated approach can ensure that interventions are equitable and context-sensitive. Finally, future research should explore other potential factors that influence the workload-burnout-wellbeing relationship, such as social support systems, school climate, and organizational culture. Understanding these additional mediators and moderators will enable a more holistic approach to improving teacher wellbeing. Policymakers and school leaders are encouraged to foster collaborative and supportive work environments that enhance teacher morale and reduce occupational stress. Such comprehensive strategies will be essential for sustaining a healthy, motivated, and effective teaching workforce.

Implications for Promoting Teachers' Health and Wellbeing in Ghana

The findings of this study have important implications for enhancing the health and wellbeing of teachers in Ghana. First, addressing workload-related stress is critical to improving teacher welfare and, ultimately, the quality of education delivered. Educational authorities must recognize that excessive workload not only affects teachers' mental health but also impairs their professional effectiveness. This underscores the need for systemic reforms in workload management, ensuring that teaching assignments, administrative tasks, and extracurricular duties are balanced to prevent burnout. Furthermore, the demonstrated buffering role of assessment competency highlights the value of continuous professional development tailored to build teachers' skills and confidence. In the Ghanaian context, where resource constraints and large class sizes are common challenges, equipping teachers with strong assessment and instructional competencies can enhance their sense of control and job satisfaction. This suggests that investment in teacher training programs, particularly those focused on assessment literacy, is a strategic pathway to fostering resilience and wellbeing among educators. The variations in the workload-burnout-wellbeing dynamic by age and school type also suggest that

policies and interventions must be contextually relevant and inclusive. Supporting novice and younger teachers with mentoring and stress management resources can help them develop effective coping mechanisms early in their careers. Public schools, often operating under more difficult conditions, require targeted support to address unique stressors faced by their staff. Tailoring strategies in this way will help create equitable conditions that promote wellbeing across all teaching contexts in Ghana. Lastly, this study points to the broader organizational and cultural factors that influence teacher wellbeing. Ghanaian education stakeholders must cultivate positive school climates that encourage social support, recognition, and collaboration among teachers. Such environments not only reduce burnout but also enhance teachers' motivation and commitment. Integrating these insights into national education policies and school management practices will be vital for sustaining the health, wellbeing, and professional longevity of Ghanaian teachers.

Limitations of the Study

This study is limited by its reliance on self-reported data from teachers, which may introduce biases such as social desirability or inaccurate recall. Participants might underreport or overreport their experiences related to wellbeing and burnout due to personal or professional concerns, potentially affecting the validity of the findings. Additionally, the study's cross-sectional design restricts the ability to infer causal relationships between workload, protective factors, and teacher wellbeing, limiting the understanding of how these variables interact over time. Furthermore, the research is confined to a specific geographical area and educational context, which may limit the generalizability of the results to other regions or educational systems. Cultural, institutional, and policy differences in other settings could influence teacher wellbeing differently, so caution must be exercised when applying these findings beyond the study's context. Future research could address these limitations by using longitudinal designs and broader, more diverse samples to enhance the robustness and applicability of the findings.

Ethics Approval and Consent to Participate

Ethical approval for this study was obtained from the Institutional Review Board (IRB) of my institution. All participants were in-service senior high school teachers in Ghana who voluntarily agreed to participate after being informed about the objectives, procedures, potential risks, and benefits of the study. Participation was entirely voluntary, and respondents were assured of their right to withdraw at any time without penalty. The study was conducted in accordance with the ethical principles outlined in the 1964 Helsinki Declaration and its subsequent amendments. To ensure confidentiality and anonymity, all data were de-identified and securely stored with access limited to the research team.

Availability of Data and Materials

The datasets generated and/or analyzed during the current study are available

from the corresponding author, **Therasa Antwi**, upon reasonable request. Due to the sensitive nature of information related to teacher burnout and wellbeing, access is limited to preserve participant confidentiality and data protection.

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Author Contributions

Therasa Antwi is the sole author of this study. She independently conceived the study, designed the methodology, collected and analyzed the data, and drafted the final manuscript.

Conflicts of Interest

The author declares no conflict of interest financial, institutional, or personal related to the design, implementation, or publication of this research.

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Abbreviations

- WHO:** World Health Organization
SD: Standard Deviation
SPSS: Statistical Package for the Social Sciences
WB: Wellbeing
BO: Burnout
SHS: Senior High School
GES: Ghana Education Service
MoE: Ministry of Education
N: Sample Size
MBI-ES: Maslach Burnout Inventory: Educators Survey
TSWQ: Teacher Subjective Wellbeing Questionnaire
CPD: Continuous Professional Development