Relationship of Stress Levels and Coping Mechanisms to the Performance of the Selected Junior High School Mathematics Teachers in the Third Congressional District of Quezon, Philippines

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INTRODUCTION

Teaching is recognized as a highly demanding profession involving multifaceted responsibilities beyond instruction, making it inherently stressful. Kyriacou (2001) defined teacher stress as the experience of unpleasant emotions such as tension, frustration, anxiety, and anger resulting from aspects of work as a teacher, which when chronic, compromises well-being and professional effectiveness.

The antecedents of teacher stress are well-documented, including high job demands, workload, time pressure, and relational challenges (Skaalvik & Skaalvik, 2017), as well as the social and organizational conditions of schools (Collie et al., 2012). These stressors pose a systemic risk to education because teachers' social and emotional competence directly influences classroom management and classroom climate (Jennings & Greenberg, 2009).

While teacher stress in general is widely studied, Mathematics teachers face distinct pedagogical demands that require specialized pedagogical content knowledge to make abstract concepts accessible (Ball et al., 2008). Junior High School Mathematics teachers must manage heterogeneous learners and diverse misconceptions, yet local studies remain largely generic.

Teachers respond to stress through coping. Grounded in the Transactional Model of Stress and Coping, Lazarus and Folkman (1984) defined coping as constantly changing cognitive and behavioral efforts to manage demands appraised as taxing. Coping is categorized into problem-focused, emotion-focused, and avoidance coping, with Carver et al. (1989) further differentiating adaptive strategies (e.g., active coping, planning, seeking support) from less adaptive ones (e.g., denial, disengagement).

Teacher performance is a multidimensional construct (Danielson, 2007). In the Philippines, it is institutionalized through the Philippine Professional Standards for Teachers [PPST] (Department of Education, 2017) which defines quality across seven domains. Despite this framework, empirical evidence linking stress, coping, and PPST-aligned performance among Mathematics teachers remains scarce. Recent local studies indicate that workload and administrative tasks are primary stressors and that teachers use combined coping strategies (Escasinas, 2025; Buquia et al., 2025), while resilience is built through time management and collaboration (Elizarde, 2024).

Anchored on Lazarus and Folkman (1984), Carver et al. (1989), and the PPST, this study addresses the gap by assessing the stress levels, coping mechanisms, and performance of Junior High School Mathematics Teachers in the Third Congressional District of Quezon, and analyzing their significant interrelationships to inform intervention programs for teacher well-being and instructional effectiveness.

METHODS

Research Design. This study employed a descriptive cross-sectional design, which provides a snapshot of the frequency, characteristics, and relationships among variables at a specific point in time without manipulation (Cantrell, 2020). The design was deemed appropriate to examine the stress levels, coping mechanisms, and performance of Junior High School Mathematics teachers and to determine the relationships among these variables. As the study involved social and psychological phenomena, ethical safeguards including voluntary participation, informed consent, and confidentiality were strictly observed to minimize emotional discomfort.

Research Locale and Population. The study was conducted in the Third Congressional District of Quezon, Philippines, comprising 12 municipalities in the Bondoc Peninsula: Agdangan, Buenavista, Catanauan, General Luna, Macalelon, Mulanay, Padre Burgos, Pitogo, San Andres, San Francisco, San Narciso, and Unisan. The population consisted of Junior High School Mathematics teachers from selected private secondary schools under the Department of Education in the district.

A total of 37 teachers were selected through purposive sampling based on inclusion criteria: currently teaching Mathematics at the Junior High School level in private schools within the district during the data collection period (February to May 2026). The sample size was verified using Cochran's formula. The distribution included schools such as Manuel S. Enverga University Foundation Catanauan Inc. (n=5), Mulanay Institute (n=4), St. Ignatius Parochial School (n=4), and 12 other private schools with 1 to 3 respondents each.

Research Instrument. Data were gathered using a researcher-developed structured questionnaire anchored on the study objectives and the Philippine Professional Standards for Teachers [PPST] (Department of Education, 2017). While concepts were adapted from PPST domains, all items were independently constructed to suit the context. The instrument comprised three parts: (1) stress levels in terms of workload, time management, classroom management, students' performance, and administrative tasks; (2) coping mechanisms in terms of problem-focused, emotion-focused, and avoidance coping (Lazarus & Folkman, 1984; Carver et al., 1989); and (3) teacher performance in terms of content workload and pedagogical mastery, time management, classroom management and learning environment, administrative performance, and engagement.

Content validity was established through evaluation by three experts: a Doctor of Language, a Master Teacher in Mathematics, and a Psychology expert. For reliability, the instrument was pilot-tested among 20 non-sample respondents. Cronbach's alpha was 0.902 (standardized alpha = 0.900) across 40 items, indicating excellent internal consistency.

Data Gathering Procedure and Statistical Treatment. After approval from the research adviser and completion of proposal defense, formal permission was obtained from school authorities. Questionnaires were distributed to respondents with sufficient time to answer, then retrieved, tallied, coded, and tabulated using Microsoft Excel.

Descriptive statistics were used for Problems 1-3: mean and standard deviation, interpreted using a 5-point Likert scale [1.00-1.80 = Very Low/Never/Poor to 4.21-5.00 = Very High/Always/Excellent]. For Problems 4 and 5, inferential statistics were applied: Pearson Product-Moment Correlation Coefficient (Pearson r) to determine the significant relationship between (a) stress levels and performance and (b) coping mechanisms and performance. Significance was tested at $\alpha = .05$.

Ethical Considerations. The study adhered to the Data Privacy Act of 2012 and institutional research ethics guidelines of Marinduque State University. Informed consent was obtained, anonymity and confidentiality were maintained, and no identifying information was included in reports. Data were stored in password-protected files accessible only to the researcher and will be permanently deleted one year after completion. The researcher declared no conflict of interest, and objectivity was maintained despite geographic proximity to some participants.

RESULTS AND DISCUSSION

This section presents the findings on the stress levels, coping mechanisms, and performance of Junior High School Mathematics teachers in the Third Congressional District of Quezon, along with their interrelationships.

Level of Stress Experienced by Junior High School Mathematics Teachers

Results revealed that respondents experienced a **Moderate Level of Stress** across all domains, with a grand mean of 2.87. Specifically, workload obtained the highest mean (M = 2.99), followed by time management (M = 3.01), students' performance (M = 2.90), classroom management (M = 2.83), and administrative tasks (M = 2.65).

This pattern suggests that stress among Mathematics teachers is not acute but persistent and distributed. The relatively higher mean for workload and time management aligns with Skaalvik and Skaalvik (2017) and Collie et al. (2012), who identified job demands and time pressure as primary stressors. In the Philippine context, this reflects the dual burden of private school teachers who handle both instructional and non-instructional tasks despite limited resources, typical of rural and coastal schools in Bondoc Peninsula. However, the moderate rather than high level indicates that while stressors are consistently observed, they have not reached debilitating levels. This may be attributed to smaller class sizes in private schools compared to public schools and the teachers' familiarity with multi-role expectations, consistent with findings by Escasinas (2025) that Filipino teachers report moderate, manageable stress levels when supported by school climate.

Coping Mechanisms Employed

The respondents **Sometimes Employed** coping mechanisms overall. Emotion-focused coping yielded the highest mean (M = 3.53), followed by problem-focused coping (M = 3.36), and avoidance coping (M = 3.05).

The predominance of emotion-focused and problem-focused strategies supports Lazarus and Folkman's (1984) Transactional Model, which posits that individuals use both efforts to regulate emotions and direct actions to manage the stressor. The higher use of emotion-focused coping — such as seeking emotional support, positive reframing, and acceptance — reflects a culturally relevant pattern among Filipino teachers where *pakikipagkapwa* [shared humanity] and collegial support serve as buffers (Buquia et al., 2025). The moderate use of problem-focused coping, such as planning and active coping (Carver et al., 1989), indicates proactive attempts to organize tasks and improve instructional strategies, which Elizarde (2024) noted as resilience strategies among Mathematics teachers. The lowest mean for avoidance coping suggests that disengagement and denial are least utilized, implying adaptive coping orientation rather than maladaptive withdrawal.

Level of Performance

Despite moderate stress, teachers demonstrated high performance. Workload and pedagogical mastery obtained the highest mean (M = 4.30, Excellent), followed by administrative performance (M = 4.26, Excellent), engagement (M = 4.23, Good), time management (M = 4.22, Excellent), and classroom management and learning environment (M = 4.18, Good).

This finding indicates that moderate stress did not deteriorate PPST-aligned performance (Department of Education, 2017). The excellent rating in pedagogical mastery is consistent with Ball et al.'s (2008) contention that Mathematics teachers with specialized content knowledge can sustain instructional quality despite pressures. Similarly, excellent time management and administrative performance suggest that teachers in the locale have developed routines to comply with DepEd requirements and private school accountabilities. The slightly lower but still good rating in classroom management and learning environment may reflect challenges in handling diverse learners and large ability gaps, a common reality in the district. Overall, the results support Danielson's (2007) framework and Jennings and Greenberg's (2009) argument that teachers' professional competence can buffer stress when emotional and pedagogical resources are intact.

Relationship between Stress Levels and Performance

Pearson Product-Moment Correlation revealed **no significant relationship** between stress levels and performance ($r = 0.047$, $p = 0.782$, $p > .05$). The null hypothesis failed to be rejected.

This non-significant, very weak positive correlation contradicts the common assumption that higher stress automatically reduces performance. Several explanations emerge. First, the Yerkes-Dodson principle suggests that moderate stress can be motivating rather than debilitating, serving as eustress that maintains alertness. Second, the teachers' experience of only moderate stress may not have exceeded their coping threshold (Lazarus & Folkman, 1984). Third, the private school context in the Third District, characterized by stronger community linkages and administrative support, may moderate the stress-performance link, as suggested by Collie et al. (2012). Thus, performance as measured by PPST domains appears to be maintained through professional commitment regardless of moderate stress.

Relationship between Coping Mechanisms and Performance

Similarly, **no significant relationship** was found between coping mechanisms and performance ($r = 0.042$, $p = 0.768$, $p > .05$). The correlation was very weak and positive, leading to failure to reject the null hypothesis.

This finding indicates that while teachers sometimes employ coping strategies, their performance is not statistically dependent on coping frequency alone. This aligns with Carver et al.'s (1989) view that coping effectiveness depends on fit and quality rather than quantity of use. It is possible that teachers already possess stable pedagogical routines and professional standards internalized through PPST, making performance consistent irrespective of coping variation. Alternatively, performance ratings may reflect administrative evaluation that remains high due to professionalism and accountability in private schools, while coping operates more on internal well-being than on observable performance indicators. This suggests that coping in this sample functions more as a well-being maintenance mechanism than as a direct performance driver, a distinction also noted in recent Philippine studies (Buquia et al., 2025).

Proposed Intervention: Project CARE

Based on the findings of moderate stress and occasional use of adaptive coping alongside sustained high performance, an intervention program titled **Project CARE (Coping Assistance and Resilience Enhancement)** was proposed.

Project CARE is anchored on Lazarus and Folkman's (1984) model, Carver et al.'s (1989) adaptive coping, and the PPST well-being domain. It aims not to remediate poor performance, but to prevent escalation of moderate stress into high stress and burnout and to strengthen the adaptive strategies teachers already use. The program includes four components: (1) stress management seminars focused on workload prioritization and DepEd compliance; (2) wellness and self-care sessions promoting emotional regulation and mindfulness; (3) peer support activities and learning action cells to institutionalize emotional and instrumental support; and (4) resilience-building workshops on problem-solving, time management, and instructional technology integration.

Project CARE is aligned with the Magna Carta for Public School Teachers, DepEd policies on teacher welfare, and DepEd Order No. 42, s. 2017 on PPST. As a school-based, low-cost intervention suitable for geographically dispersed private schools in Quezon, it seeks to sustain teaching effectiveness by enhancing coping repertoire, building resilience, and protecting teachers' emotional well-being, thereby supporting long-term learner achievement in Mathematics.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This study found that Junior High School Mathematics teachers from selected private schools in the Third Congressional District of Quezon experienced a moderate level of stress (grand mean = 2.87), indicating that work-related demands related to workload, time management, classroom management, students' performance,

and administrative tasks were present but remained manageable and did not translate into excessive occupational stress. Teachers sometimes employed coping mechanisms (M = 3.05 to 3.53), with greater reliance on adaptive strategies — emotion-focused and problem-focused coping — than on avoidance, consistent with Lazarus and Folkman (1984) and Carver et al. (1989). Despite moderate stress, teachers demonstrated strong teaching performance across PPST-aligned domains (M = 4.18 to 4.30), from excellent in workload and pedagogical mastery, time management, and administrative performance to good in classroom management and engagement. Correlational analysis revealed no significant relationship between stress levels and performance ($r = 0.047$, $p = 0.782$) and between coping mechanisms and performance ($r = 0.042$, $p = 0.768$), leading to failure to reject the null hypotheses. These findings suggest that within this context, moderate stress was not debilitating and performance was sustained through professional commitment and established routines, while coping functioned more as a well-being maintenance mechanism than a direct predictor of performance. Consequently, Project CARE (Coping Assistance and Resilience Enhancement) is proposed as a preventive and developmental intervention rather than a remedial measure, designed to strengthen existing adaptive coping, build resilience, and sustain teacher well-being and effectiveness.

Recommendations

Based on these conclusions, it is recommended that (1) school administrators institutionalize regular, low-cost stress-management and wellness activities to prevent moderate stress from escalating, especially given the multi-role demands in private schools; (2) teachers be supported to consistently practice adaptive coping such as structured time management, peer support through Learning Action Cells, work-life balance, and positive problem-solving, rather than occasional use; (3) school heads and Mathematics coordinators sustain high performance by providing continuous professional development, mentoring, and recognition aligned with the Philippine Professional Standards for Teachers (Department of Education, 2017); (4) schools continue to monitor stress and well-being as part of occupational health, even in the absence of a statistical link to performance, as this is critical for long-term resilience; (5) Project CARE be piloted and periodically evaluated for its effectiveness in the district's private schools; and (6) future researchers expand the scope to larger samples, public school settings, other subject areas, and additional variables such as self-efficacy, school climate, and burnout to further clarify the complex dynamics among stress, coping, and teaching performance.

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