

Research Paper

A Comparative Analysis of Student Academic Stress and Teacher Occupational Stress During High-Demand School Periods: Examining Control Groups, Gender Differences, and Cultural Influences

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ABSTRACT

Academic stress among students and occupational stress among teachers have been widely studied as separate phenomena; however, limited research has examined both groups within the same academic environment during periods of high academic demand. The objective of the current research was to explore stress levels among students and teachers during examinations and to observe age and gender trends. The research design adopted was a quantitative study. The sample population (n = 205) was divided into 105 students of 12 to 27 years and 30 teachers of 22 to 56 years recruited in a school, a student comparison group of 49 students of 12 to 14 years, and a cultural comparison group of 21 students of 15 to 23 years. Student stress was assessed using the Perceived Stress Scale-Children (PSS-C) and teacher stress by the Perceived Stress Scale-10 (PSS-10). Online and paper-based self-report questionnaires gathered data during examination periods. Findings showed that Group 4 had the highest mean stress (Mean = 18.39, Standard Deviation = 5.33), followed by Group 1 (Mean = 16.22, Standard Deviation = 5.35) and Group 3 (Mean = 16.00, Standard Deviation = 5.16), while Group 2 reported the lowest mean stress (Mean = 15.50, Standard Deviation = 4.99). The findings highlight that examination periods are associated with elevated stress for both students and teachers across different cultures, with students being particularly vulnerable. The research highlights the importance of targeted stress-management and mental health interventions in school settings during periods of high academic demand.

Keywords: *Academic Stress, Occupational Stress, Examination Period, Perceived Stress Scale, Adolescent Stress, Teacher Wellbeing, Cultural Comparison*

Due to its effects on students' academic performance and mental health, academic stress has become a prevalent concern in educational settings. High expectations, excessive workload, assessment techniques such as examinations, familial pressure, career uncertainty, and intense peer competition place considerable strain on students during exam periods (Joseph et al., 2025). Teachers and educators face occupational stress alongside students, particularly during periods of elevated academic pressure. Duties including completing the syllabus, grading assignments, and fulfilling institutional

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requirements can intensify teacher stress levels during examination periods. Although teacher stress has been linked to burnout and workload, it is frequently investigated independently from academic stress in students.

Existing research has examined academic stress and occupational stress independently; however, there is limited study evaluating the relationship between stress experienced by both groups simultaneously during high academic demand periods. In particular, little is known about how much examination periods raise stress levels in both teachers and students. In order to determine whether periods of high academic pressure, such as examination weeks, are linked to higher stress levels for both groups, the current study investigated the relationship between students' academic stress and teachers' occupational stress during examinations, and compared these findings to a control group and a cultural comparison group.

LITERATURE REVIEW

Academic Stress Among Students

Previous studies have consistently indicated that academic stress is a prevalent experience among students, especially during examinations. Research investigating exam-related stress in university and college students depicts high stress levels during periods of high academic workload, involving anxiety, emotional distress, and disrupted sleep (Joseph et al., 2025). The stress of examinations has been considered detrimental to student wellbeing, particularly when academic pressure and workload intensify simultaneously.

Studies have also established that excessive academic pressure may impair concentration, motivation, social functioning, mental wellbeing, and overall academic performance. Although moderate stress can serve a motivational function, examination-related stress has been linked to adverse psychological effects, including anxiety and emotional fatigue, arising from protracted or intense stress (Joseph et al., 2025). These findings indicate that the examination period constitutes a major stressor among students.

Occupational Stress Among Teachers

Occupational stress has also been extensively investigated in the teaching profession. Studies reveal that teachers experience considerable work-related stress due to intense workload, time pressure, administrative demands, and performance expectations. Increased academic demand periods, such as grading and completing syllabi while maintaining teaching quality and satisfying student and administrator expectations, have been cited as major sources of teacher strain (Joseph et al., 2025).

Research on teacher stress further indicates that chronic stress may adversely influence teaching effectiveness, job satisfaction, and overall wellbeing. Physical and psychological symptoms, including fatigue, depression, and deteriorating mental health, may be observed among teachers experiencing high stress levels, underscoring the necessity of addressing occupational stress within educational institutions (Wara & Haque, 2024).

Research Gap and Rationale for the Present Study

Although academic stress among students and occupational stress among teachers have been widely studied separately, research examining both groups within the same academic environment remains limited. The majority of existing research focuses on either teacher

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stress or student stress alone, without addressing the possibility of a relationship between the two during periods of intense academic pressure. Moreover, no significant studies have examined whether examination periods contribute to a simultaneous rise in stress among both students and teachers. The current research was designed to fill this gap by examining the relationship between student and teacher stress levels during periods of high academic demand.

METHOD

Research Design

This study employed a quantitative, independent measures design conducted in a natural school setting during examination periods. The design included four distinct groups: students assessed during examination periods is known as Group 1, teachers is known as Group 2, a post-examination control group is known as Group 3, and a cultural comparison group is known as Group 4. This structure allowed for comparisons across exam conditions, gender, and cultural background. The independent variables were examination and non-examination period, gender, cultural background, and age. The dependent variable was the perceived stress score obtained from standardised stress questionnaires.

Data were collected using self-report questionnaires, namely the Perceived Stress Scale-Children (PSS-C) for students and the Perceived Stress Scale-10 (PSS-10) for teachers, administered either online via Google Forms or using paper-and-pencil methods during examination periods. The use of a survey-based, non-experimental design allowed stress levels to be measured without manipulating variables, ensuring findings reflected naturally occurring stress in an academic environment.

Participants

The total sample comprised 205 participants. Participants were recruited from The Cambria International School with the consent of the school principal and coordinators. The sample included individuals from various countries like Canada, Italy, Malaysia, Netherlands, Philippines, Pakistan, United States of America, United Kingdom, United Arab Emirates, and numerous Indian cities and states.

- **Group 1 (Students).** Group 1 consisted of 105 student participants aged between 12 and 27 years the mean is 15.88 and the mode is 14. The female-to-male ratio was 53:52. Participants were drawn from SSC 11th and 12th, IGCSE, AS and A Level programmes, as well as first-year college and postgraduate studies.
- **Group 2 (Teachers).** Group 2 consisted of 30 teacher participants aged between 22 and 56 years the mean is 36.61 and the mode is 40. The female-to-male ratio was 26:4.
- **Group 3 (Control Group).** Group 3 consisted of 49 Grade 8 students assessed after the examination period, aged between 12 and 15 years the mean is 13.12 and the mode is 13. The female-to-male ratio was 25:24.
- **Group 4 (Cultural Comparison Group).** Group 4 consisted of 21 participants aged between 15 and 23 years the mean is 17.81 and the mode is 17, drawn from various regions of India and internationally. The female-to-male ratio was 11:10.

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Materials

The PSS-C was used to measure academic stress in student participants. It comprises 13 items rated on a 4-point scale. The response options were Never = 0, A little = 1, Sometimes = 2, A lot = 3 covering the past week, yielding a maximum score of 39. Items were categorised into negative stress-related questions and positive wellbeing questions, with positive items reverse-scored. The PSS-10 was used to measure occupational stress in teacher participants. It comprises 10 items rated on a 5-point scale. The response options were Never = 0, Almost Never = 1, Sometimes = 2, Fairly Often = 3, Very Often = 4 covering the past month, yielding a maximum score of 40. Both instruments are validated adaptations of the original Perceived Stress Scale.

Procedure

Data for Groups 1 and 2 were collected a few days before examinations commenced, including pre-board exams, board exams, and internal examinations. Of the 105 Group 1 participants, 29 completed the questionnaire online due to inaccessibility of in-person data collection, while the remaining 76 completed paper-and-pencil questionnaires during school hours. Paper questionnaires were distributed through a neutral third party to minimise researcher influence, and data collection was initiated only after institutional consent was obtained from school authorities.

Group 3 consisted of Grade 8 students who completed the same questionnaire as Groups 1 and 2; however, data collection for this cohort occurred after the conclusion of their examination period, providing a student baseline reference. Group 4, a culturally diverse comparison group comprising individuals from different regions of India and internationally, completed the questionnaire at a separate timepoint independent of school-based data collection, serving both to assess cultural validity of the questionnaire and to provide a broader normative baseline. Across all groups, participation was voluntary and responses were kept confidential.

Data Analysis

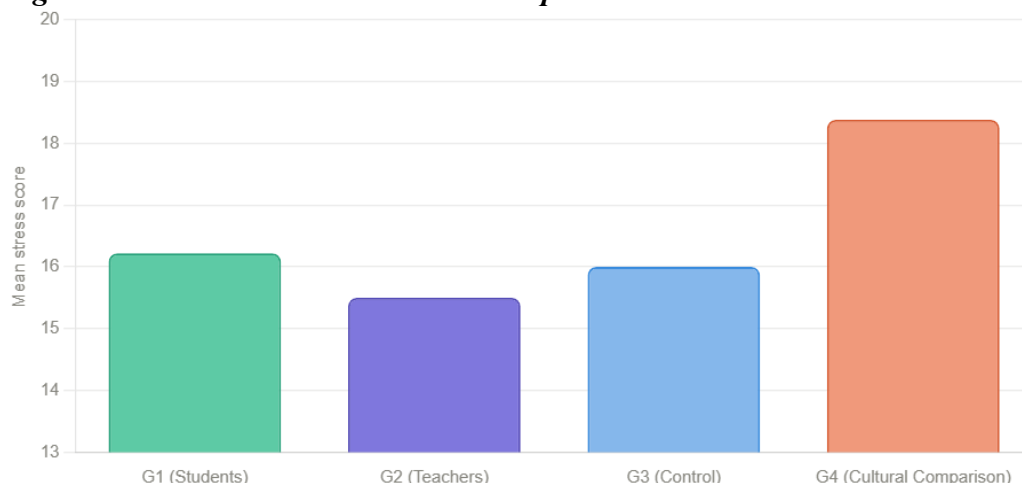
Data were analysed using descriptive statistics which were mean, median, standard deviation, independent samples t-tests, Pearson correlation coefficients, and Mann-Whitney U tests where appropriate. Additional analyses examined stress scores across gender, age groups, and cultural groups, as well as positive and negative stress subscales.

RESULTS

Descriptive Statistics

A total of 205 participants across four groups were included in the study. Group 1 (n = 105) yielded a mean stress score of 16.22 and standard deviation of 5.35, with a median and mode of 16, indicating a symmetric, approximately normal distribution. Group 2 (n = 30) reported a mean stress score of 15.50 and standard deviation of 4.99, with a median of 16 and a trimodal distribution across scores of 11, 16, and 18. Group 3 (n = 49) produced a mean of 16.00 and standard deviation of 5.16, with a median of 15 and a bimodal distribution at scores of 11 and 14. Group 4 (n = 21) reported the highest mean stress score of 18.38 and standard deviation of 5.33, with a median of 19 and a bimodal distribution at scores of 19 and 20. Standard deviations were consistent across all four groups (range: 4.99–5.35), indicating comparable within-group variability.

Figure 1 Mean stress scores across Groups 1–4.



As shown in Figure 1, Group 4 (Cultural Comparison) reported the highest mean stress score ($M = 18.38$), while Group 2 (Teachers) reported the lowest ($M = 15.50$). Groups 1 (Students) and 3 (Control) showed similar mean stress scores of 16.22 and 16.00 respectively. Overall, Group 4 demonstrated higher perceived stress than the other groups.

Response Analysis

- **Group 1.** Across 105 student participants, concern about grades was the most prominently endorsed item, with 38.1% reporting worry "sometimes" and 39% "a lot." Feelings of being rushed were common with 46.7% of "sometimes," and 22.9% of "a lot". Only 25.5% reported getting adequate sleep "a lot." Conversely, 41% reported spending time with friends "a lot," and 57.1% reported having enough friends "a lot." Parental support was generally high, with 43.3% reporting parents made them feel better "a lot."
- **Group 2.** Teacher responses were highly consistent of 29-30 responses per item. The majority of teachers, 70%, reported experiencing unexpected upset events "sometimes." Nervousness and stress were common, with 66.7% responding "sometimes." Most teachers; 46.7%, reported being able to control irritations "fairly often," and 40% reported feeling overwhelmed by piling difficulties "almost never."
- **Group 3.** Post-examination Grade 8 students continued to show notable grade-related worry, with 40.8% reporting this "sometimes." Parental support was strong with 59.2% "a lot", as was friendship quality. Feeling rushed remained prevalent at 59.2% "sometimes," suggesting stress does not fully dissipate following examinations.
- **Group 4.** The cultural comparison group showed the most pronounced grade-related worry, with 47.6% responding "a lot." Parental support was lower than other groups, with 33.3% reporting parents never made them feel better. Happiness responses were notably variable, with equal proportions reporting "never," "sometimes," and "a lot" at 33.3% each.

Inferential Statistics

- **Examination period and student stress: Group 1 versus Group 3.** An independent sample t-test comparing students assessed during the examination period, Group 1, with those assessed after the examination period, Group 3, yielded non-significant results ($p = .811$, Cohen's $d = 0.04$). The near-identical group means (16.22 vs. 16.00) suggest that the examination period was not associated with elevated self-reported stress within this sample.
- **Cultural comparison: Group 4 versus other groups.** Group 4 consistently reported higher stress scores relative to other groups. Independent samples t-tests yielded p-values of approximately 0.08-0.09 with small-to-medium effect sizes (Cohen's $d \approx 0.40 - 0.45$), indicating a trend toward significance that did not reach the conventional threshold of $p < .05$. However, a Mann-Whitney U test comparing Group 4 with Group 2 yielded a statistically significant result ($U = 145.00$, $p = .013$, Cohen's $d = 0.56$), suggesting the cultural comparison group reported meaningfully higher stress than the adult teacher group. The small sample size of Group 4 ($n = 21$) limits these conclusions.
- **Teacher and student stress.** Group 2 ($M = 15.50$) reported stress scores broadly comparable to those of the student groups, despite differences in life stage and professional role.
- **Age and gender.** No significant relationship between age and stress score was observed across the full sample ($r = -0.040$, $p = .575$). No significant difference in total stress scores was observed between female ($M = 16.80$) and male ($M = 15.83$) participants ($p = .203$), nor was a significant difference found on the negative stress subscale ($p = 0.613$).

Stressors and Protective Factors

Item-level analysis revealed that concern about grades was the highest-rated stressor among child participants ($M = 2.10$), with a significant positive correlation between academic stress and negative stress scores ($r = 0.258$, $p = 0.008$). Parental support ($r = -0.736$, $p < .001$) and social support from friends ($r = -0.531$, $p < 0.001$) were both significantly negatively correlated with negative stress scores, indicating that strong interpersonal support systems are associated with lower stress. The significant negative correlation between the negative stress and positive wellbeing subscales ($r = -0.378$, $p < 0.001$) supports the internal coherence of the instrument.

DISCUSSION

The present study examined perceived stress across four groups with the aim of identifying sources and moderators of stress within an educational context. The findings reveal several noteworthy patterns that contribute to the existing literature on academic stress, cross-cultural variation, and the role of interpersonal support in adolescent wellbeing.

Examination Period and Student Stress

Contrary to the study's initial hypothesis, stress scores did not differ significantly between students assessed during and after the examination period ($p = .811$, Cohen's $d = 0.04$). One

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interpretation is that for many students, stress is not temporally bound by examinations, but rather represents a more chronic, ambient state that persists throughout the school year. This is consistent with research suggesting that academic stress in adolescents is linked to ongoing concerns about performance, teacher expectations, and peer comparison, rather than any single high-stakes event (Joseph et al., 2025). The near-identical group means (16.22 vs. 16.00) suggest that baseline stress levels among this age group may already be elevated, rendering the incremental contribution of the examination period statistically undetectable.

It is also possible that the timing of data collection influenced self-reported stress in ways not fully captured by the study design. Future research might benefit from repeated-measures designs tracking students across pre-examination, during-examination, and post-examination phases to detect short-term fluctuations that a between-groups design may obscure.

Cultural Differences in Stress

Group 4 consistently reported the highest stress scores of all groups, and the comparison with Group 2 reached statistical significance ($p = .013$, Cohen's $d = 0.56$). Comparisons with other groups approached statistical significance but did not meet the conventional $p < .05$ threshold ($p \approx .08-.09$). However, the small to medium effect sizes (Cohen's $d \approx 0.40-0.45$) suggest that these differences may still be practically meaningful. The failure to reach significance in these comparisons is likely attributable to the small Group 4 sample size, $n = 21$, which substantially limited statistical power.

Differences in the degree to which academic achievement is tied to family honour and social identity, varying institutional pressures around university entry, and culturally specific norms around whether stress is openly expressed or suppressed may all contribute to between-group variation. An additional explanation is the academic and life-stage composition of Group 4, which included post-secondary participants for whom increased responsibility and reduced support systems during educational transitions may elevate stress. Given the limited sample size and absence of detailed cultural background data, causal attribution is not warranted; however, these findings underscore the importance of attending to cultural context in school-based stress research.

Teacher Stress and School-Based Wellbeing Interventions

A particularly striking finding was that teachers (Group 2, $M = 15.50$) reported stress scores broadly comparable to those of the student groups. One interpretation is that teachers' greater experience, professional training, and developed coping strategies allow them to regulate stress more effectively, meaning the similarity in reported scores may actually understate meaningful differences in experienced impact. However, this interpretation should not minimise concerns about teacher wellbeing. Regardless of how well stress is managed, teachers in this sample cannot be regarded as a low-stress reference population. This finding challenges assumptions sometimes implicit in school-based wellbeing programme design and is consistent with broader evidence identifying teacher burnout, workload, and emotional labour as significant occupational stressors (Wara & Haque, 2024). An ecological approach simultaneously addressing staff and student stress may be considerably more effective than student-focused programmes alone.

Age and Gender

No significant relationship was found between age and stress scores across the full sample ($r = -0.069$, $p = .324$). This null finding may be influenced by the broad age range of participants, that is, 13–56 years, which included both adolescents and adults. Gender differences also failed to reach statistical significance ($p = .203$). However, females reported slightly higher stress scores ($M = 16.80$) than males ($M = 15.83$), a pattern consistent with previous literature documenting higher rates of internalising symptoms among adolescent girls compared to boys (Nolen-Hoeksema & Girgus, 1994; Zahn-Waxler et al., 2008). This pattern would likely have remained overlooked had the analysis relied solely on significance testing, underscoring the value of subscale-level reporting in stress research.

Stressors and Protective Factors

Item-level analysis identified concern about grades as the most highly endorsed stressor among child participants ($M = 2.08$), and this factor was positively associated with emotional distress ($r = 0.28$, $p = .003$). Parental support ($r = -0.303$, $p = .002$) and support from friends ($r = -0.259$, $p = .008$) were both associated with lower negative stress scores, consistent with stress-buffering models of social support. Sleep was not significantly associated with stress outcomes ($p = .115$), although this finding should be interpreted cautiously given extensive evidence linking sleep quality to adolescent stress and mental health (Kornienko et al., 2024).

Cultural and Educational System Differences

An important consideration in interpreting the findings is the cultural and educational diversity of the sample. Participants were drawn from multiple countries with differing academic structures and assessment systems. Unlike systems such as CBSE, ICSE, IGCSE, or A Levels, the United States does not typically rely on a single high-stakes examination, instead using continuous assessment methods. As a result, the concept of an examination period may vary in intensity across cultures, which could have influenced how participants perceived and reported stress.

CONCLUSION

This study examined perceived stress across secondary school students, teachers, and a cultural comparison group, yielding several theoretically and practically meaningful findings. Contrary to expectations, the examination period was not associated with significantly elevated stress, suggesting that academic stress among adolescents may operate as a chronic rather than episodic phenomenon. The cultural comparison group was associated with meaningfully higher stress, though the small sample size limits the strength of conclusions that can be drawn. Teachers reported stress levels broadly comparable to those of students, challenging the assumption that staff constitute a low-stress population and pointing to the need for holistic, staff-inclusive approaches to school wellbeing. Academic pressure was identified as the primary stressor, with parental and peer social support serving as significant protective factors.

These findings call for school-based mental health interventions that are multifaceted in scope: directly addressing academic pressure, actively fostering interpersonal support networks, attending to gender-differentiated stress profiles, and treating teacher wellbeing as an integral component of whole-school health strategies. Future research would benefit from longitudinal designs, larger and more culturally diverse samples, and more granular measurement of protective factors including sleep quality, coping style, and self-efficacy.

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Conflict of Interest

The author(s) declared no conflict of interest.

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