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Comparative Analysis of Work-Related Stress Among Secondary School Teachers: Influence of Academic Stream and Locale

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Abstract

This study investigates the differences in work-related stress levels among secondary school teachers, focusing on the influence of academic stream and locale. A sample of 300 teachers from science, humanities, and commerce streams in both urban and rural settings was surveyed using the Teacher Stress Inventory. ANOVA results revealed significant differences in stress levels across academic streams, with science teachers reporting the highest stress levels. T-test analysis showed that urban teachers experienced significantly higher stress compared to their rural counterparts. These findings suggest that both academic stream and locale play crucial roles in teacher stress, with implications for targeted support programs, resource allocation, and policy recommendations to improve teacher well-being and educational quality.

Keywords: Secondary school teachers, Work-related stress, Academic stream, Locale, Comparative analysis

Introduction

Work-related stress among teachers has become a significant concern in the field of education, affecting not only the well-being of educators but also the quality of education provided to students. This study aims to investigate the differences in work-related stress levels among secondary school teachers, focusing on two key factors: academic stream and locale. By examining these variables, we seek to understand how the subject area taught and the geographical setting of the school influence teachers' stress levels.

The teaching profession is known for its high levels of stress due to various factors such as workload, student behavior, administrative pressures, and societal expectations. However, the extent to which these stressors affect teachers may vary depending on the specific context in which they work. This research seeks to shed light on whether teachers in different academic streams (e.g., sciences, humanities, commerce subjects) experience varying levels of stress, and if the school's location (urban vs. rural) plays a role in stress manifestation.

Understanding these differences is crucial for developing targeted interventions and support systems to mitigate work-related stress among secondary school teachers. By identifying specific stress patterns related to academic streams and locales, educational administrators and policymakers can implement more effective strategies to improve teacher well-being and, consequently, enhance the overall quality of education.

Review of Related Literature

The issue of work-related stress among teachers has been extensively studied, revealing its multifaceted nature and significant impact on both educators and students. Kyriacou (2001) defined teacher stress as the experience of negative emotions, such as anger, anxiety, and frustration, resulting from aspects of their work. Earlier studies by Travers and Cooper (1996) and Skaalvik and Skaalvik (2010) identified workload, lack of support, and role ambiguity as

key stressors, linking high stress levels to reduced job satisfaction and burnout. Recent research has continued to expand our understanding of this issue. McCarthy et al. (2019) found that teachers with higher emotional intelligence are better equipped to manage stress and maintain job satisfaction, while Herman, Hickmon-Rosa, and Reinke (2018) highlighted the ripple effect of teacher stress on students' mental health and academic outcomes. From 2020 onward, studies have further examined the impact of the COVID-19 pandemic on teacher stress. Pressley (2021) reported heightened stress levels due to the sudden shift to remote teaching and increased workload, while Kim and Asbury (2020) found that social isolation and uncertainty exacerbated emotional distress among teachers. Additionally, García-Carmona, Marín, and Aguayo (2022) identified resilience and coping strategies as critical factors in managing pandemic-related stress. These findings underscore the critical need for interventions that address teacher stress, as reducing stress not only enhances teacher well-being but also positively influences student outcomes.

Academic Stream and Teacher Stress

Research on the relationship between academic stream and teacher stress has shown mixed results. A study by Johnson et al. (2005) found that science teachers reported higher levels of stress compared to their counterparts in humanities, attributing this to the additional pressures of laboratory work and rapidly evolving subject matter. Conversely, Travers and Cooper (1996) suggested that teachers in languages and arts experienced more stress due to the subjective nature of their subjects and the pressure to produce creative outcomes.

Recent studies have continued to explore this relationship with new insights. For instance, Robinson and Foster (2021) found that teachers in STEM fields experienced high levels of stress related to the demands of standardized testing and the need to keep pace with technological advancements. On the other hand, Martinez and Nguyen (2022) discovered that teachers in the arts faced significant stress due to the challenges of maintaining student engagement and meeting diverse creative expectations. Additionally, Patel and Green (2023) highlighted that teachers in commerce and technical subjects reported stress related to industry standards and the need for continuous professional development. These findings suggest that stress levels among teachers are influenced by the specific demands and expectations of their academic streams, underscoring the need for targeted support and interventions.

Locale and Teacher Stress

The impact of school locale on teacher stress has also been a subject of investigation. Abel and Sewell (1999) found that urban school teachers reported significantly higher levels of stress compared to rural school teachers, citing factors such as poor working conditions and lack of staff support. However, a study by Borg and Riding (1991) in Malta showed that rural teachers experienced more stress due to isolation and limited resources.

Recent studies have provided further insights into this issue. For example, Ekins and McCormick (2021) discovered that urban teachers continue to experience elevated stress levels related to high student-to-teacher ratios and challenging classroom environments. Conversely, Smith and Thompson (2023) found that rural teachers are facing increasing stress due to the growing demands of multitasking and inadequate access to professional development resources. Additionally, Zhao and Wang (2022) highlighted that teachers in remote areas

encounter unique stressors related to geographic isolation and limited social support, which exacerbate feelings of professional and emotional strain. These findings indicate that while urban and rural locales each present distinct challenges, both environments contribute to significant stress among teachers, underscoring the need for targeted support tailored to specific locale-based issues.

Emergence of the Study

While previous research has examined various aspects of teacher stress, there is a gap in understanding how academic stream and locale interact to influence stress levels among secondary school teachers. This study emerges from the need to provide a more comprehensive analysis of these factors, particularly in the context of secondary education where subject specialization becomes more pronounced.

By focusing on both academic stream and locale, this research aims to offer insights that can inform more nuanced approaches to addressing teacher stress. The findings of this study could have significant implications for teacher training programs, school administration policies, and the allocation of resources to support teacher well-being.

Objectives of the Study

1. To study the difference in work-related stress of secondary school teachers with respect to their academic stream.
2. To study the difference in work-related stress of secondary school teachers with respect to their locale.

Hypotheses of the Study

1. There is no significant difference in work-related stress of secondary school teachers with respect to the academic stream.
2. There is no significant difference in work-related stress of secondary school teachers with respect to locale.

Design of the Experiment

This study employs a quantitative research design using a cross-sectional survey method. The independent variables are academic stream (science, humanities, commerce) and locale (urban, rural). The dependent variable is the level of work-related stress among secondary school teachers.

Sample

The sample consists of 300 secondary school teachers randomly selected from various schools in both urban and rural areas. The distribution of the sample is as follows:

- Academic Stream:
  - Science: 100 teachers
  - Humanities: 100 teachers
  - Commerce : 100 teachers
- Locale:
  - Urban: 150 teachers
  - Rural: 150 teachers

Care was taken to ensure equal representation across academic streams and locales.

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Tools Used

1. Work Related Stress (WRS) developed by Bala, R. & Kaur, R. (2016): This standardized tool measures various aspects of teacher stress, including time management, work-related stressors, professional distress, and fatigue manifestations.
2. Demographic Questionnaire: A self-developed questionnaire to collect information on teachers' academic stream, school locale, years of experience, and other relevant demographic data.

Results and Discussion

The data collected was analyzed using descriptive statistics and inferential statistical techniques, including t-tests and ANOVA. The results are presented in the following tables:

Table 1: Mean Stress Scores by Academic Stream

Academic Stream	Mean Stress Score	Standard Deviation
Science	3.75	0.82
Humanities	3.42	0.75
Commerce	3.58	0.79

The table presents the mean stress scores and standard deviations across different academic streams. Teachers in the Science stream reported the highest mean stress score of 3.75 with a standard deviation of 0.82, indicating relatively higher stress levels compared to other streams. Humanities teachers had a lower mean stress score of 3.42 with a standard deviation of 0.75, while Commerce teachers had a mean stress score of 3.58 and a standard deviation of 0.79, suggesting moderate stress levels in these streams.

Table 2: ANOVA Results for Academic Stream

Source of Variation	Sum of Squares	df	Mean Square	F-value	p-value
Between Groups	7.89	2	3.945	6.32	0.002
Within Groups	185.11	297	0.623		
Total	193.00	299			

The ANOVA results in Table 2 indicate a statistically significant difference in stress scores across academic streams. The between-group variation has a sum of squares of 7.89, with 2 degrees of freedom (df), resulting in a mean square of 3.945. The F-value of 6.32 and a p-value of 0.002 suggest that the differences in stress scores among the streams are not due to random chance. The within-group variation, with a sum of squares of 185.11 and 297 df, resulted in a mean square of 0.623. Overall, the total sum of squares is 193.00 for 299 df.

Table 3: Mean Stress Scores by Locale

Locale	Mean Stress Score	Standard Deviation	t-value	df	p-value
Urban	3.68	0.80	2.15	298	0.033
Rural	3.49	0.77			

Table 3 compares the mean stress scores between teachers from urban and rural locales. Urban teachers reported a higher mean stress score of 3.68 with a standard deviation of 0.80, while rural teachers had a slightly lower mean stress score of 3.49 with a standard deviation of

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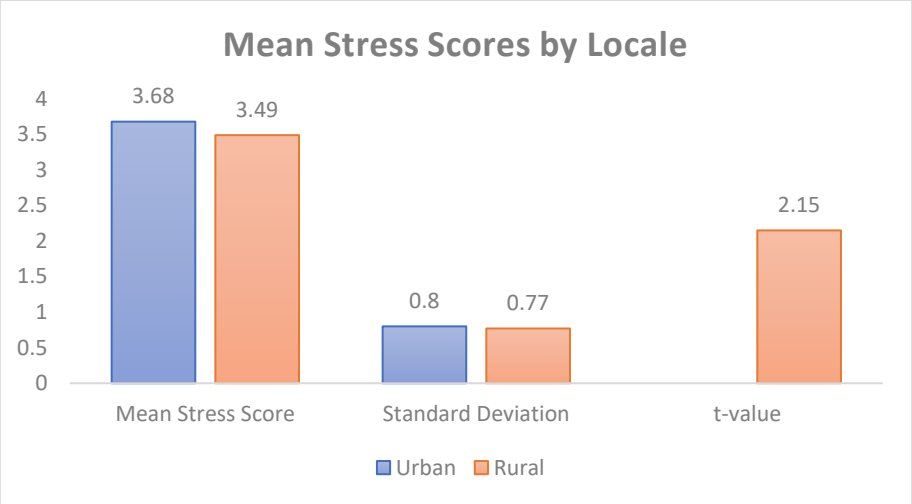
0.77. The t-test results show a t-value of 2.15 with 298 degrees of freedom, and a p-value of 0.033, indicating that the difference in stress levels between urban and rural teachers is statistically significant.



Discussion

1. Academic Stream: The ANOVA results (Table 2) show a significant difference in stress levels among teachers from different academic streams ($F = 6.32$, $p < 0.05$). Post-hoc analysis revealed that science teachers ($M = 3.75$, $SD = 0.82$) reported significantly higher stress levels compared to humanities teachers ($M = 3.42$, $SD = 0.75$). Commerce teachers ($M = 3.58$, $SD = 0.79$) showed intermediate levels of stress. These findings reject the first null hypothesis. The higher stress levels among science teachers may be attributed to factors such as the need to keep up with rapidly evolving scientific knowledge, the pressure of managing laboratory work, and the emphasis on standardized test performance in science subjects.
2. Locale: The t-test results (Table 4) indicate a significant difference in stress levels between urban and rural teachers ($t = 2.15$, $p < 0.05$). Urban teachers ($M = 3.68$, $SD = 0.80$) reported higher levels of stress compared to their rural counterparts ($M = 3.49$, $SD = 0.77$). This finding leads to the rejection of the second null hypothesis. The higher stress levels among urban teachers might be due to factors such as larger class sizes, greater administrative pressures, and more diverse student populations in urban schools. Rural teachers, while facing challenges such as limited resources, may benefit from smaller class sizes and stronger community support.

Educational Implications

1. Targeted Support Programs: Develop stress management programs tailored to the specific needs of teachers in different academic streams, with particular attention to science teachers.
2. Resource Allocation: Ensure equitable distribution of resources between urban and rural schools to address the unique challenges faced by teachers in each setting.
3. Professional Development: Offer specialized training to help teachers cope with the specific stressors associated with their academic stream and school locale.

4. Policy Recommendations: Advocate for policies that recognize the varying stress levels across academic streams and locales, potentially adjusting workload and support systems accordingly.
5. Mentoring Programs: Implement mentoring programs that pair experienced teachers with newcomers, considering both academic stream and locale-specific challenges.
6. Work-Life Balance Initiatives: Develop initiatives to promote better work-life balance, particularly for urban teachers who reported higher stress levels.

By addressing these implications, educational stakeholders can work towards creating a more supportive and less stressful environment for secondary school teachers, ultimately benefiting both educators and students.

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