Influence of Gender, Age, and Academic Attitude on Academic Stress among Secondary School Students

Emmanuel Akpoebi Dennis, PhD
Email: emmanueldennis2001@gmail.com
Department of Educational Psychology,
Guidance and Counselling, School of Education,
Isaac Jasper Boro College of Education,
Sagbama, Bayelsa State, Nigeria
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Abstract
This study examined academic stress among secondary school students, with emphasis on the influence of selected personal variables, namely gender, age, and academic attitude. The study adopted an analytic descriptive survey design. A total of 306 Senior Secondary One (SS1) students were selected from public secondary schools in Northern Yenagoa Metropolis, Bayelsa State, Bayelsa State, participated in the study. Data were collected using the Academic Stress Questionnaire (ASQ), a researcher-developed instrument. Mean, standard deviation, independent samples t-test, and one-way analysis of variance (ANOVA) were used for data analysis at a 0.05 level of significance. Findings revealed that gender and academic attitude significantly influenced students' academic stress levels, with female students and those with negative attitudes reporting higher levels of stress. However, age was found not to have a significant influence on academic stress. The study concluded that academic stress among secondary school students is largely shaped by psychological and attitudinal factors rather than age differences. Based on the findings, it was recommended that school counsellors should intensify educational guidance programmes aimed at helping students develop positive attitudes toward their studies, tests, and examinations in order to reduce academic stress and improve overall student well-being.

Keywords: *Academic stress; coping strategies; gender; age; academic attitude; stress management.*

Introduction

Academic stress has emerged as a significant concern in modern education, particularly among secondary school students who must navigate increasing academic workloads, performance expectations, and developmental pressures. It refers to the psychological, emotional, and physiological strain that arises when students perceive academic demands as exceeding their ability to cope effectively. While a manageable level of stress can stimulate motivation and improve performance, excessive or poorly managed stress often leads to negative outcomes such as reduced academic achievement, anxiety, depression, and various psychosomatic symptoms. In view of these challenges, it has become essential to examine the factors that contribute to academic stress, especially within the context of personal variables that may influence individual responses.

Among the various determinants of academic stress, personal variables such as gender have received considerable scholarly attention. Gender, conceptualized as the socially constructed roles, behaviours, and attributes associated with males and females (World Health Organization [WHO], 2020), plays a significant role in shaping individuals' emotional experiences and stress responses. Empirical literature on gender differences in academic stress, however, remains inconclusive and sometimes contradictory. For instance, Jones (1993) reported that female adolescents tend to exhibit higher levels of stress compared to their male counterparts. According to Glasscock et al. (2013), female adolescents experienced greater perceived stress than males. Similarly, Brougham et al. (2009) found significant sex differences in stress levels among college students, with females reporting greater stress and reliance on emotion-focused coping strategies. Supporting these findings, Amponsah and Owolabi (2011) observed that female students experienced higher perceived stress, possibly due to heightened academic expectations and socio-cultural pressures. Conversely, other empirical studies have challenged the notion of gender-based differences in stress perception. For example, Khan, Altaf, and Kauser (2013) reported no statistically significant difference in academic stress levels between male and female students. Similarly, Bartwal and Raj (2013) found that gender does not significantly influence students' stress experiences. In addition, Dyson and Renk (2006) reported no significant gender differences in stress related to academic and family domains among university students. These inconsistencies in empirical findings suggest that gender differences in academic stress may be context-dependent, influenced by cultural, environmental, and methodological factors. This underscores the need for further investigation, particularly within secondary school settings where students are at a formative stage of psychosocial development.

Age constitutes another important personal variable that may influence students' perception and experience of academic stress. Age is commonly defined as the chronological length of time an individual has lived (Elsie & Iruloh, 2014), but its implications extend beyond mere chronology to encompass cognitive development, emotional regulation, and experiential learning. As students grow older, they typically acquire more effective coping strategies and develop greater resilience to stress. In line with this perspective, Rautopuro and Vaisanen (2001) found that older students reported lower levels of perceived stress, suggesting that maturity and experience may buffer stress responses. However, contrary findings have also been reported. Empirical evidence suggests that older adults may experience elevated levels of stress due to age-related health challenges and social pressures. For instance, Stenfors et al. (2015) found that perceived stress increased significantly with advancing age among adults aged 65 years and above. Similarly, Choi et al. (2025) reported substantial levels of perceived stress among older adults, with poor health status and socioeconomic difficulties serving as major predictors. Additionally, findings by Winefield (1993) suggest that the multiple academic and life demands faced by older students may place them at greater risk of stress and psychological distress.

Furthermore, findings by Khan, Altaf, and Kauser (2013) indicate that younger students tend to experience higher academic stress compared to older students, possibly due to limited coping skills and adjustment difficulties. On the other hand, Amponsah and Owolabi (2011) found no significant influence of age on perceived stress levels among undergraduate students. These divergent findings suggest that the relationship between age and academic stress is complex and may vary depending on contextual and individual factors, thereby necessitating further empirical exploration among secondary school students.

In addition to gender and age, students' attitudes toward academics represent a critical psychological variable that may significantly influence their stress experiences. Attitude is

generally defined as a relatively enduring organization of beliefs, feelings, and behavioural tendencies toward specific objects or situations (Hogg & Vaughan, 2005). According to Colman (2003), attitude constitutes a stable pattern of evaluative responses that shape how individuals perceive and react to their environment. Within the academic context, students' attitudes toward learning, school, and academic tasks can profoundly affect their motivation, engagement, and stress levels. Students who possess positive academic attitudes are more likely to interpret academic challenges as opportunities for growth, thereby experiencing lower levels of stress and demonstrating greater resilience. In contrast, students with negative attitudes may perceive academic demands as threatening, leading to heightened stress and maladaptive coping behaviours. These assertions have received empirical support. For instance, Li et al. (2025) reported that positive learning attitudes enhanced resilience and academic self-efficacy while reducing the negative effects of perceived stress. Furthermore, Popa-Velea, Pîrvan, and Diaconescu (2021) found that optimism and resilience were associated with lower perceived stress and improved academic performance. Samson, Lombrio, and Castro (2019) found a statistically significant negative relationship between academic stress and learning attitude among high school students ($r = -.166$, $p < .001$). The finding indicates that students who experienced higher levels of academic stress tended to exhibit fewer positive attitudes toward learning, although the strength of the relationship was weak. Magnavita et al. (2025) found that employees with negative work attitudes, particularly work annoyance and overcommitment, reported significantly higher levels of occupational stress, whereas positive attitudes such as work engagement and social capital were associated with lower perceived stress. Similarly, Vakola and Nikolaou (2005) found that negative attitudes were significantly associated with increased occupational stress, suggesting that attitude plays a pivotal role in stress appraisal and management. Despite the substantial body of research on academic stress and its correlates, a critical examination of existing literature reveals notable gaps. First, a significant proportion of studies have focused predominantly on students in tertiary institutions, thereby neglecting secondary school students who are equally, if not more, vulnerable to academic stress due to their developmental stage. Second, findings regarding the influence of personal variables such as gender, age, and attitude remain inconsistent and inconclusive, limiting the generalizability of existing knowledge. Third, there is a paucity of empirical studies conducted within the Nigerian context, particularly in Bayelsa State, where socio-cultural and educational dynamics may uniquely shape students' stress experiences and coping strategies.

Given the pivotal role of secondary education as a foundation for higher learning and future career development, it is essential to investigate the factors that influence students' academic stress. Academic stress, if not effectively managed, can impede students' cognitive functioning, emotional well-being, and overall academic progression. Therefore, a comprehensive understanding of how personal variables interact with stress is necessary for developing targeted interventions that promote students' academic success and psychological health.

In light of the foregoing, this study seeks to examine academic stress among secondary school students, with particular emphasis on the influence of personal variables such as gender, age, and attitude. By addressing the identified gaps in the literature and providing empirical evidence within the context of Bayelsa State, the study aims to contribute meaningfully to the field of educational psychology and inform policies and practices aimed at enhancing students' well-being and academic performance.

Statement of the Problem

Secondary education is a crucial stage in students' academic development, serving as a bridge between basic and tertiary education while laying the foundation for future career pursuits. At this level, students are exposed to increasing academic demands such as continuous assessments, examinations, and heightened expectations from parents, teachers, and society. These demands often result in academic stress which, when excessive, can negatively affect students' academic performance, emotional stability, and overall well-being. Academic stress has been associated with adverse outcomes such as anxiety, depression, poor concentration, and reduced academic achievement. According to the American Psychological Association, prolonged exposure to stress can disrupt vital body systems, including the nervous, cardiovascular, and endocrine systems, thereby posing serious health risks.

Despite the growing concern about academic stress, there is no clear consensus regarding the influence of personal variables such as gender, age, and attitude on students' stress experiences. Empirical findings remain inconsistent and inconclusive. While some studies suggest that female students experience higher levels of academic stress than males, others report no significant gender differences. Similarly, the role of age is unclear, with some studies indicating that older students are less stressed due to maturity, while others suggest they may experience higher stress due to increased responsibilities. In addition, students' attitudes toward academics have been identified as a possible determinant of stress, but empirical evidence regarding the nature of this relationship remains limited in the locale of the present study.

Furthermore, a significant limitation in existing literature is the disproportionate focus on students in tertiary institutions, with relatively little attention given to secondary school students who are at a critical developmental stage. This stage is characterized by rapid cognitive, emotional, and social changes that may increase vulnerability to academic stress. The situation is further compounded by the scarcity of empirical studies conducted within Bayelsa State, where socio-cultural and educational factors may uniquely influence students' stress experiences.

Given these gaps and inconsistencies, there is a need for a focused investigation into the influence of personal variables such as gender, age, and attitude on academic stress among secondary school students. Therefore, the problem of this study is to determine the extent to which these personal variables influence academic stress, with a view to providing empirical evidence that will inform educational practices and interventions aimed at improving students' academic performance and overall well-being.

Purpose of the Study

The purpose of the study is to:

1. Find out whether gender, age, and academic attitude influence academic stress as perceived by students.

Research Questions

The researcher formulated the following research questions to guide the study. They are as follows:

1. Does gender influence academic stress as perceived by students?
2. Does age influence secondary school students' academic stress?
3. Does academic attitude influence academic stress as perceived by students?

Hypotheses

The following null hypotheses, which were tested at 0.05 level of significance, were formulated to guide the study.

1. There is no significant influence of gender on the academic stress scores of students.
2. There is no significant influence of age on the academic stress mean scores of students.
3. There is no significant influence of academic attitude on the academic stress mean scores of students.

Research Methodology

The study adopted an analytic descriptive survey design. This kind of survey is used to answer research questions and test hypotheses. Ogomaka (as cited in Nwankwo, 2016) explained that in analytic descriptive design, the variables of the study for any sample are compared for the many identified strata of the sample by the use of hypotheses. This is in tandem with the direction of the present study which compares academic stress mean scores of respondents based on some personal variables. The population of the study comprised 1,524 Senior Secondary One (SS1) students enrolled in seven public secondary schools in Northern Yenagoa Metropolis, Bayelsa State. A sample size of 306 students, comprising 153 males and 153 females, was drawn from five secondary schools and considered adequate for the study. The sample size was determined using Taro Yamane's formula for sample size calculation. Thereafter, the respondents were selected using the proportional stratified random sampling technique.

The study utilized the Academic Stress Questionnaire (ASQ), a researcher-developed non-cognitive instrument. The instrument comprised three sections: demographic information, perceived academic stress (24 items), and academic attitudes (14 items). Both the academic stress and attitude sections were rated on a 4-point Likert scale.

Face and content validity were established by three experts in the relevant field. A pilot test was conducted using students outside the study sample, and necessary corrections were made to improve the instrument. The reliability of the instrument was determined using Cronbach's alpha, yielding coefficients of .71 for the academic stress section and .73 for the academic attitude section. The instrument was administered and retrieved directly by the researcher with the assistance of a trained research assistant. Data were analyzed using mean and standard deviation for the research questions, while independent t-test and one-way ANOVA were used to test the hypotheses at the 0.05 level of significance.

Results

Research question one: Does gender influence academic stress as perceived by students?

Hypothesis one: There is no significant influence of gender on the academic stress scores of students.

Table 1: Mean and t-test analysis of the influence of gender on academic stress mean scores of students

Gender	N	X	SD	Df	t-cal	t-crit	Effect Size (Cohen's d)	Interpretation	Decision
Male	153	66.11	13.66	304	-4.23	1.96	0.48	Moderate	Rejected
Female	153	72.71	13.63						

Table 1 result indicates that female students (M = 72.71, SD = 13.63) reported higher academic stress than male students (M = 66.11, SD = 13.66). An independent samples t-test showed that this difference was statistically significant, t(304) = -4.23, p < .05. Since the absolute t-value (4.23) exceeded the critical value (1.96), the null hypothesis was rejected. This implies that there is a significant difference in academic stress between male and female students.
The effect size (Cohen's d = 0.48) indicates a moderate difference in academic stress levels between male and female students. Gender moderately influences academic stress among students. This implies that the gender difference observed is both statistically significant and practically relevant, with female students experiencing higher levels of academic stress than male students.

Research question two: Does age influence students' academic stress?
Hypothesis two: There is no significant influence of age on the academic stress mean scores of students.
Table 2: One-way analysis of variance (ANOVA) of students' age and academic stress

Age	N	X	SD	Sources of variation	Df	Mean squares	F-ratio	Sig	Effect Size (η^2)	Interpretation	Decision
10-13yrs	88	73.00	12.79	Between groups	2	521.38	2.697	0.069	0.017	Small	Accepted
14-18yrs	164	69.05	13.41	Within groups	303	193.31					
19yrs and above	54	72.79	16.83	Total	305						
Total	306	70.76	13.98								

In table 2 above, the result of the one-way ANOVA showed that there was no statistically significant difference in academic stress among students across age groups, F(2, 303) = 2.697, p > .05. Although students aged 10–13 years had the highest mean score (M = 73.00, SD = 12.79), followed by those aged 19 years and above (M = 72.79, SD = 16.83), and 14–18 years (M = 69.05, SD = 13.41), these differences were not statistically significant. Therefore, the null hypothesis was not rejected, indicating that age does not significantly influence students' academic stress.
The effect size (η^2 = 0.017) indicates a small effect of age on students' academic stress levels. This suggests that age accounted for only a small proportion of the variation in academic stress scores, indicating that differences in students' age groups had minimal practical influence on their academic stress levels.

Research question three: Does academic attitude influence academic stress as perceived by students?
Hypothesis three: There is no significant influence of attitude on the academic stress mean scores of students.

Table 3: Mean and t-test analysis of the influence of attitude on academic stress mean scores of students

Attitude	N	X	SD	Df	t-cal	t-crit	Effect Size (Cohen's d)	Interpretation	Decision
Positive	153	70.84	12.68	304	-2.38	1.96	0.27	Small	Rejected
Negative	153	74.51	14.25						

Table 3 shows that students with a negative attitude (M = 74.51, SD = 14.25) reported higher academic stress than those with a positive attitude (M = 70.84, SD = 12.68). An independent samples t-test revealed a significant difference in academic stress based on attitude, $t(304) = -2.38$, $p < .05$. Since the absolute t-value (2.38) was greater than the critical value (1.96), the null hypothesis was rejected. The result indicates that there is a significant difference in academic stress based on students' attitude.

The effect size (Cohen's d = 0.27) indicates a small difference in academic stress levels between students with positive and negative attitudes. This suggests that attitude has a statistically significant but small practical influence on students' academic stress, with students having negative attitudes experiencing slightly higher academic stress than those with positive attitudes.

Discussion

The findings of this study revealed that gender significantly influenced academic stress among secondary school students, with female students reporting higher levels of stress than their male counterparts. This outcome supports the findings of Jones (1993), who observed that female adolescents tend to experience greater stress than males. Similar results were reported by Brougham et al. (2009) and Amponsah and Owolabi (2011), who found that female students experienced higher stress levels and relied more on emotion-focused coping strategies. The higher stress levels among female students may be associated with emotional responsiveness, academic expectations, and socio-cultural pressures linked to gender roles. Female students may also be more likely to internalize academic challenges and perceive school demands as stressful.

This result, however, differs from the findings of Khan et al. (2013), Bartwal and Raj (2013), and Dyson and Renk (2006), who reported no significant gender differences in academic stress. The disparity in findings may be due to differences in cultural settings, educational environments, and research methodologies. Within the context of Bayelsa State, female students may face additional pressures relating to family expectations, academic success, and social responsibilities, which could intensify stress experiences. The finding therefore suggests that gender remains an important factor in understanding academic stress among secondary school students. The study further showed that age did not significantly influence students' academic stress. Although slight differences existed among the age groups, these variations were not statistically significant. This finding aligns with the work of Amponsah and Owolabi (2011), who also reported no significant relationship between age and perceived stress. The result implies that students within the sampled age categories are exposed to similar academic demands and school-related pressures regardless of age differences. Since the respondents were all secondary school students within comparable developmental stages, their stress experiences may not vary substantially.

In contrast, Rautopuro and Vaisanen (2001) as well as Khan et al. (2013) found that age significantly influenced students' stress experiences. While some researchers argued that older students develop better coping skills through maturity and experience, others maintained that younger students are more vulnerable because of adjustment difficulties. The inconsistency between these findings and the present study may be attributed to differences in educational levels, socio-cultural contexts, and sample populations. In many Nigerian secondary schools, students across age groups are often exposed to similar classroom conditions, examination pressures, and parental expectations. This may explain why age did not significantly influence academic stress in the present study. The study also revealed that academic attitude significantly influenced students' academic stress. Students with negative academic attitudes reported higher levels of stress than those with positive attitudes. This finding suggests that the way students perceive and approach academic activities plays a crucial role in shaping their stress experiences. Students who maintain positive attitudes toward learning are more likely to view academic demands as challenges that can be managed successfully, whereas those with negative attitudes may perceive such demands as burdensome and threatening, thereby increasing their susceptibility to stress. The finding is consistent with that of Li et al. (2025), who reported that positive learning attitudes enhanced resilience and academic self-efficacy while reducing the adverse effects of perceived stress among students. Similarly, Popa-Velea et al. (2021) found that positive psychological attributes, including optimism and resilience, were associated with lower levels of perceived stress and better academic outcomes. These studies suggest that positive attitudes foster adaptive coping mechanisms that enable students to manage academic pressures more effectively. The finding also aligns with Vakola and Nikolaou (2005), who reported that negative attitudes were significantly associated with increased stress levels. Students with negative academic attitudes may be less motivated to engage in learning activities and more likely to interpret academic challenges as overwhelming, thereby intensifying stress reactions. Conversely, positive attitudes may promote confidence, persistence, and effective coping, which help buffer the impact of academic demands. This finding has important implications for secondary schools in Bayelsa State and Nigeria generally, where students often encounter intense examination pressure and competition for academic success. Fostering positive academic attitudes among secondary school students may serve as an important strategy for reducing academic stress. Developing positive academic attitudes through counseling and educational support programmes may therefore help reduce academic stress and improve students' overall well-being.

Conclusion

The study concluded that gender and academic attitude significantly influence academic stress among secondary school students. Female students and students with negative academic attitudes reported higher levels of stress than their counterparts. However, age did not significantly influence academic stress, indicating that stress levels were relatively similar across the different age groups. Overall, the findings suggest that academic stress among students is shaped more by psychological and attitudinal factors than by age-related differences.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. School counselors and health practitioners should consider gender differences when designing counseling and stress-management interventions, with particular attention given to female students who reported higher levels of academic stress.
2. Counselors should intensify educational guidance programmes aimed at helping students develop positive attitudes toward their studies, tests, and examinations.
3. Students should be trained in effective study habits, time management, and workload management skills to help reduce academic stress associated with school demands.
4. Since age did not significantly influence academic stress, stress-management programmes should be designed to benefit students across all age groups rather than targeting a specific age category.

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