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Relationship Between Academic Stress and Generalized Anxiety Among Private and Government High School Students

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Abstract

Academic stress and generalized anxiety are two important psychological issues for adolescent students, and both are linked to students' academic achievement and psychological health. The aim of the present study is to investigate the relationship between academic stress and generalized anxiety among students studying in public and private high schools in Pakistan through a quantitative correlational study. The overall number of students are 400 between the ages of 11 and 16 years. The research draws on the Transactional Model of Stress and Coping of (*Lazarus & Folkman, 1984)* and the Cognitive Model of Anxiety by (*Beck & Clark, 1997)* which can describe how academic pressure may impact on student anxiety. Instruments for data collection are Academic Stress Scale and anxiety subscale of DASS-21 and statistical analysis is carried out by Pearson Product-Moment Correlation and Independent Samples t-test using IBM SPSS Statistics. The study included 400 participants. Results showed that the mean score of General Anxiety (GA) was 25.33, while Academic Stress (AS) had a mean score of 64.88. A weak positive and non-significant relationship was found between GA and AS ($r = .067$, $p > .05$), indicating that academic stress was not significantly associated with general anxiety among participants. The results further showed a weak and non-significant positive relationship between academic stress and general anxiety among participants.

Keywords: *Academic Stress, Generalized Anxiety, high school students, Mental Health, and Pakistan.*

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Introduction

Stress is a psychobiological reaction that occurs when the person feels that demands placed on him or her by the environment require more coping than is available. The Transactional Model (Lazarus & Folkman's, 1984) still ranks as the most influential theory of the process of stress, which involves two sequential cognitive appraisals: primary appraisal for determining threat, and secondary appraisal for determining resources available to cope with it. If demands are perceived as being too great and resources are too limited, a stress reaction is triggered. In short, it can be said that acute stress provides a boost in alertness and performance, whereas chronic stress is linked to reductions in immune system function, restless sleep, cognitive impairment and increased susceptibility to anxiety and depression (McEwen, 2008).

Academic stress is the psychological feeling of pressure that arises when students feel that the expectations from their learning environment, such as exams, homework, average on exams, and comparison with peers, are demanding more from them than they can handle. As per (Reddy et al. 2018) it is a condition where the academic demands exceed the adaptive resources of students and result in emotional, cognitive and behavioral effects. Cognitively, academic stress is characterized by intrusive worry and negative self-evaluation. Emotionally, it may result in feelings of frustration, helplessness and decreased motivation. Behaviorally, it may result in procrastination, avoidance of tasks and disengagement. The Academic Stress Scale was used to measure academic stress in the present study, and the total score represents the sum of the scores on the various school-related domains, with higher scores indicating higher perceived stress. Anxiety is feeling apprehensive, tense and uneasy about a future threat. Anxiety is not as specific as fear; it is often too much for the threat that is not so real. (Barlow 2002) referred to it as a cognitive-affective configuration that includes a feeling of out of control over likely negative occasions in the future. It affects cognition (overthinking and worrying about worst-case scenarios), physiology (increased heart rate and muscle tension) and behavior (avoidance and withdrawal). Anxiety in adolescence often focuses on performance in school, social judgments and the future, and these concerns are heightened during the secondary school years.

Generalized Anxiety Disorder (GAD) is a chronic disorder characterized by a general level of worry and apprehension that is excessive and persistent, across multiple areas of life, for at least six months, and is hard to control. There are at least three symptoms – restlessness, fatigue, trouble concentrating, irritability, muscle tension, or sleep problem – that must be present for the diagnosis (DSM-5; American Psychiatric Association, 2013; only one symptom required in adolescents). GAD differs from 'normative worry' in its duration and intensity, and how it affects functioning in everyday life. In a study by Newman et al., (2013), GAD was found to be one of the most impairing anxiety disorders and adolescents typically reported an increase in worries about school performance, lateness, and social interactions. In addition, the Child Anxiety Life Interference Scale (CALIS) has been shown to be reliable (α = .89) and valid (r = .82 with GAD-7), to measure anxiety-related impairment in children and adolescents (McEvoy et al., 2019).

The links between academic stress and generalized anxiety are theorized within the context of overlapping cognitive appraisals. Lazarus and Folkman (1984) suggested that the continuous thoughts of academic problems that are too difficult create the stressors that eventually make them into chronic anxious states. Maladaptive academic beliefs, including the belief that failing an exam is catastrophic, and the belief that I am incompetent, activate anxiety schemas, which helps maintain and amplify GAD symptoms (Beck & Clark, 1997). Empirically, (Pascoe et al. 2020) found significant correlations between academic stressors and higher levels of anxiety in students from secondary and university level in various other countries around the world. In South Asian settings, (Bhatt et al. 2018) found positive relationships between the academic burden and anxiety levels of

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high school students in India, and (Khan et al. 2019) found elevated anxiety levels when students were taking exams in Pakistan. However, the strength of this relationship is consistently and significantly affected by individual coping capacity, family support and the institutional climate of the school environment.

Anxiety, generalized anxiety disorder, stress, and academic stress are psychologically coherent and are empirically related. Anxiety is the general emotional reaction to threat, GAD is the persistent, widespread, and clinically significant emotional reaction to threat, stress is the appraisal system through which environmental demands become psychologically stressful and academic stress places that appraisal system within the context of the demands of educational life. These same constructs are connected to each other via common cognitive appraisal processes, in which an appraisal of threat and lack of coping resources activate and maintain anxiety responses. The link between school stress and generalized anxiety is well established in the research and found in a variety of student groups in a variety of cultures. Constant, out-of-control academic pressure negatively affects students' anxiety, academic motivation and wellbeing in measurable ways, and under such conditions, teachers and administrators are at risk of causing harm to young people. Academic pressure may cause students to experience increased anxiety, lowered academic motivation and poorer wellbeing in measurable ways, and it is also likely to cause harm to students when sustained and out of control. This association may be especially salient in the Pakistani context, where structural differences between the private and government school systems generate unique and often high-stressor profiles. To help design effective culturally responsive interventions that help maintain the mental health of young people during one of the most formative and stress-filled periods of their school journey, it is important to understand how various academic factors combine with individual vulnerability factors to create psychological distress.

Rational of the Study:

Firstly, academic and practical needs underlie this study. Adolescents in Pakistan are exposed to a combination of pressures that is not being studied and is unique to their context: a dual track education system, expectations set in the fabric of culture, and a lack of mental health services in schools. Although global attention has increased towards studying mental health of adolescents as a public health problem, empirical study of the link between school stress and generalized anxiety in Pakistani high school setting is very scanty. Most of the studies so far conducted are from the western or east Asian context, and their educational systems, cultural values and socioeconomic context is quite different from the one in Pakistan, and hence their findings cannot be directly transferred to Pakistan without any further research, which is questionable in terms of methodology and also lacking in scope.

Secondly, there is a significant difference between the academic setting of private and government schools in Pakistan with respect to the structure of the divide. The high level of parental expectations, the competitive curriculum and the level of performance pressure are all intensified in private schools due to the financial commitment that parents make to their child's education. In government schools, however, they struggle with too few resources, too few seats, too little scaffolding, too little psychological support, and too few resources. The impact of these differing environments on the resulting stress and anxiety profiles is not directly tested, a situation this study directly addresses.

Thirdly, on a practical level, the fact that mental health literacy is low, social stigma attached to emotional distress is attached to mental distress and the lack of counseling systems in the school setting often means that generalized anxiety is not recognized and treated. An empirical relationship between academic stress and anxiety would give support that would allow school-

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based interventions, such as psychoeducation programs, teacher training on stress responsive pedagogy, and raising parental awareness, to be developed. In the current context, where Pakistan is striving for a national educational reform agenda, focusing on learning outcomes, the present study is also timely as there is little consideration of psychological costs on the students.

Lastly, this study uses internationally validated instruments (Academic Stress Scale, DASS-21 anxiety subscale) which are applied in both the school and non-school sectors, and across both genders and urban and rural localities, providing locally relevant, comparable and policy-relevant evidence. It thus addresses an important lacuna in the South Asian literature and makes a valuable contribution to the general knowledge about the impact of institutional and academic contexts on adolescent psychological health.

LITERATURE REVIEW

The present literature review examines four interrelated psychological constructs anxiety, Generalized Anxiety Disorder (GAD), stress, and academic stress and explores the theoretical and empirical foundations of their relationship, with particular attention to the secondary school context. Understanding each construct independently, and then in relation to one another, is essential for situating the present study within the broader scholarly conversation on adolescent mental health and educational well-being.

1.1 Significances of School-Type Differences in Academic Stress and Generalize Anxiety

Anxiety is among the most extensively studied psychological phenomena in clinical and developmental research. At its core, it is a future-oriented emotional state in which an individual anticipates potential harm or negative outcomes and responds with heightened physiological arousal and cognitive vigilance. *(Spielberger, 1972)* made an important distinction between state anxiety a temporary, situational response and trait anxiety a stable individual disposition toward perceiving situations as threatening. This distinction remains foundational in contemporary anxiety research, as it explains why two individuals facing identical academic demands may differ substantially in their anxiety responses.

Anxiety operates across three interconnected systems. The cognitive dimension involves recurring worry, difficulty concentrating, and a tendency to interpret ambiguous situations as threatening. The physiological dimension includes accelerated heart rate, muscle tension, shallow breathing, and heightened autonomic arousal. The behavioral dimension manifests as avoidance of feared situations, reassurance-seeking, and withdrawal from social or academic activities. *(Muris and Broeren, 2009)* noted that in young people, these three systems are often activated simultaneously and reinforce one another, making anxiety self-perpetuating when left unaddressed. In the secondary school context, adolescents frequently report anxiety centered on examinations, teacher expectations, peer comparison, and uncertainty about academic futures.

Generalized Anxiety Disorder (GAD) represents the clinical manifestation of anxiety at its most pervasive and debilitating level. The DSM-5 *(American Psychiatric Association, 2013)* defines GAD as excessive and uncontrollable worry about a wide range of events and activities, persisting for at least six months and accompanied by somatic symptoms such as restlessness, irritability, muscle tension, sleep disturbance, and concentration difficulties. What distinguishes GAD from ordinary worry is not the content of the concern but its chronicity, intensity, and the individual's inability to disengage from the worry process even when it is recognized as disproportionate. In adolescents, the diagnostic threshold is somewhat lower, requiring only one accompanying somatic symptom rather than the three required for adults.

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Research consistently identifies adolescence as a peak period of GAD onset. *(Kessler et al., 2005)* found in the National Comorbidity Survey Replication that subclinical and clinical manifestations of GAD frequently emerge during adolescence, particularly in response to escalating academic and social demands. *(Remes et al., 2016)* reviewed 48 studies and found anxiety disorder prevalence rates ranging from 5.1% to 21.9% across general population samples, with higher rates consistently reported among adolescent females. In school settings, GAD in adolescents tends to present with particular intensity around academic performance, social acceptance, and future career prospects domains that are directly and continuously activated by the demands of secondary school life.

Stress has been conceptualized from multiple theoretical perspectives, but the most enduringly influential framework in psychological research is the Transactional Model proposed by *(Lazarus and Folkman, 1984).* This model defines stress not as an external event or an internal reaction, but as the result of a transactional process between the individual and the environment. Specifically, stress arises when a person appraises a situation as personally significant and threatening (primary appraisal) and simultaneously judges their available coping resources as insufficient to manage it (secondary appraisal). This transactional perspective shifted the focus from the objective characteristics of stressors to the subjective meaning individuals assign to them a conceptual advance with significant implications for understanding individual differences in stress vulnerability. The physiological consequences of stress are well-documented. *(Selye's, 1956)* General Adaptation Syndrome described a three-stage biological response to prolonged stress: alarm, resistance, and exhaustion. When the stress response is sustained over extended periods, it activates the hypothalamic-pituitary-adrenal (HPA) axis, leading to elevated cortisol secretion that progressively impairs immune functioning, memory consolidation, emotional regulation, and sleep quality *(McEwen, 2008).* For adolescents, whose neurological systems are still maturing, chronic stress exposure carries particular developmental risks, including disrupted prefrontal cortex development and increased long-term vulnerability to mood and anxiety disorders.

Academic stress is a domain-specific form of psychological strain produced by the demands, pressures, and performance expectations embedded within educational settings. It occurs when students appraise academic requirements including examination preparation, assignment deadlines, grade expectations, and competitive peer comparisons as exceeding their available resources for effective coping. *(Abouserie, 1994)* was among the early researchers to systematically document academic stressors in student populations, identifying workload, examinations, and fear of failure as the most consistently reported sources of distress. Subsequent research has expanded this taxonomy to include teacher-student relationships, self-efficacy beliefs, parental pressure, and the availability of academic support resources.

The consequences of sustained academic stress manifest across multiple domains of student functioning. Academically, stress has been associated with reduced concentration, impaired memory encoding, lower examination performance, and increased rates of absenteeism *(Pascoe et al., 2020)*. Psychologically, prolonged academic stress contributes to the development of anxiety, depression, and burnout. *(Reddy et al., 2018)* emphasized that academic stress is not uniform across student populations its intensity and expression are shaped by individual factors such as personality and coping style, as well as contextual factors including school type, family environment, and socioeconomic background. In the present study, academic stress is operationally defined as the total score obtained on the Academic Stress Scale, with higher scores indicating greater perceived burden across multiple school-related domains. The theoretical connection between academic stress and generalized anxiety is grounded in the overlapping mechanisms of cognitive appraisal, physiological arousal, and maladaptive thought patterns. From the Transactional Model perspective *(Lazarus & Folkman, 1984),* academic stressors that are chronically appraised as unmanageable sustain a state of activation that closely mirrors the

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symptom profile of GAD. Over time, repeated cycles of unresolved academic stress may consolidate into the persistent worry and hypervigilance that characterize GAD. *(Beck and Clark, 1997)* provided additional theoretical grounding by demonstrating that dysfunctional beliefs about academic competence such as catastrophizing examination outcomes selectively activate and maintain anxiety schemas that generalize beyond academic contexts.

The empirical literature broadly supports a positive association between academic stress and anxiety across diverse populations. *(Pascoe et al., 2020)* concluded that academic stress is a significant and consistent predictor of elevated anxiety and impaired psychological well-being across secondary and university-level students internationally. *(Bedewy and Gabriel, 2015)* identified examination-related pressure as the strongest predictor of anxiety among university students. In Chinese high school students, *(Xiao et al., 2024)* documented significant positive correlations between learning stress and anxiety symptoms. Within South Asian contexts, *(Bhatt et al., 2018)* reported significant positive associations between academic workload and anxiety among Indian high school students, while *(Khan et al., 2019)* found markedly elevated anxiety during examination periods among Pakistani undergraduates. The strength of this relationship, however, is consistently moderated by individual coping capacity, family support, and the institutional climate of the school environment.

Two theoretical frameworks are of particular relevance to the present study. The first is *(Lazarus and Folkman's, 1984)* Transactional Model of Stress and Coping, which provides the conceptual scaffolding for understanding how individual students appraise and respond to academic demands. This model predicts that students who consistently appraise their academic environment as threatening and their coping resources as insufficient will experience chronic stress that, over time, is likely to manifest in clinically elevated anxiety. The second framework is *(Beck and Clark's, 1997)* Cognitive Model of Anxiety, which proposes that anxiety is maintained by a self-reinforcing cycle of threat appraisal, attentional bias toward threatening information, and avoidant behavioral responses. Applied to the academic context, this model suggests that students who hold catastrophic beliefs about academic failure will attend selectively to information confirming their inadequacy and consequently remain trapped in a self-perpetuating anxiety cycle. Together, these frameworks generate a testable prediction of a significant positive relationship between academic stress and generalized anxiety in student populations.

Despite the growing body of evidence linking academic stress to elevated anxiety in student populations, several significant gaps remain in the existing literature. First, the overwhelming majority of published studies have focused on university-level or adult populations, leaving secondary school students particularly those in the 11 to 16 age range considerably underrepresented. This is a critical omission, given that adolescence represents the developmental period during which anxiety disorders most frequently emerge and academic pressures intensify most sharply in preparation for board examinations and institutional transitions. Second, most existing research on the stress-anxiety relationship has been conducted in Western or East Asian educational contexts, whose structural, cultural, and institutional characteristics differ substantially from those of South Asian countries such as Pakistan. Studies from India *(Bhatt et al., 2018)* and China *(Xiao et al., 2024)* provide some regional evidence, but the Pakistani educational context carries unique features including a dual-track schooling system with stark disparities in resources, curriculum design, and parental expectations between private and government institutions that are not addressed by findings from neighboring countries.

Third, no published study to date has systematically compared the relationship between academic stress and generalized anxiety across private and government school students within Pakistan at the secondary school level. *(Siddiqui and Shah, 2021)* observed qualitative differences in stress profiles between the two school types, but did not formally test the stress-anxiety

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relationship within each sector or examine whether school type moderates this association. This represents a specific and testable empirical gap that the present study is designed to address.

Fourth, measurement-related gaps persist in the South Asian literature. While the DASS-21 and Academic Stress Scale have been validated in some South Asian adult samples, their psychometric properties among Pakistani secondary school students aged 11 to 16 have not been formally established. The absence of age-normed, culturally adapted instruments tailored to this population introduces measurement uncertainty that limits the interpretability of existing findings and underscores the need for locally conducted validation research. The present study contributes to addressing this gap by reporting instrument reliability within the target sample and discussing the implications of any deviations from published norms.

The present study is guided by a quantitative, cross-sectional research design and is directed toward three interrelated objectives. The primary objective is to examine whether a statistically significant positive relationship exists between academic stress and generalized anxiety among high school students in Pakistan, as predicted by the theoretical frameworks of *(Lazarus & Folkman 1984)* and *(Beck & Clark 1997)*. This objective directly tests the central hypothesis of the study and contributes empirical evidence from an underrepresented population and national context. The secondary objective is to determine whether academic stress and generalized anxiety levels differ significantly between students enrolled in private and government high schools. Given the documented structural and cultural differences between these two sectors of Pakistan's educational system *(Siddiqui & Shah, 2021),* it is theoretically plausible that students in each sector experience distinct patterns of academic stress and anxiety that a between-group analysis would reveal. This comparative dimension adds both practical and theoretical value to the investigation by examining whether school type functions as a meaningful moderating variable in the stress-anxiety relationship.

The third objective is descriptive in nature: to characterize the prevalence and severity of academic stress and generalized anxiety within the study sample, thereby establishing a locally grounded empirical baseline for future research and informing the design of targeted school-based mental health interventions. Together, these three objectives position the present study as a foundational contribution to the empirical literature on adolescent psychological well-being in the Pakistani educational context, and provide a clear directional framework for the hypotheses, methodology, and analytical approach detailed in the subsequent sections of this report.

HYPOTHESIS

H_1. There would be a significant relationship between academic stress and generalized anxiety among private and government high school students.

METHODOLOGY

1.2 Research Design:

This research employed a quantitative correlational approach in exploring the relationship between academic stress and generalized anxiety and whether there are differences in stress levels among private and governmental high school students.

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1.3 Sampling Technique:

The research used Convenience Sampling, which is a form of Non-Probability Sampling. Students who were readily available and easily accessed during data collection were chosen for involvement.

1.4 Participant:

The participants consisted of 400 students (N = 400) from Class 6 to Class 10, aged between 11 and 16 years. These participants were selected using a convenient sampling method, which entailed recruiting students from private schools as well as government institutions located in both rural and urban locations. There were also participants of both sexes within the sample size to ensure that there is diversity in gender and location. This sample size was preferred as it ensures sufficient statistical power (> .80) in detecting medium effect sizes using either Pearson correlation or independent t-test at $\alpha = .05$.

1.5 Inclusion criteria.

- They belonged to Classes 6 to 10 in either government or private schools.
- They were between the ages of 11 and 16.
- They were present at the time of the collection of the required data.
- They willingly participated in the study.
- They understood the questionnaire questions.
- Informed consent was taken from their parents or legal guardian before their participation.

1.6 Exclusion criteria.

- Belonged to classes below Class 6 or above Class 10.
- Were younger than 11 years or more than 16 years of age.
- Studied in part-time, evening, or virtual mode of education.
- Were absent during data collection.
- Did not participate willingly.
- Were diagnosed with psychological or psychiatric disorders that would have prevented them from participating comfortably in the study.

Measure:

Data were collected via a consent form, demographic sheet, academic stress scale, and DASS-21 anxiety subscale. Before data collection, informed consent was sought from participants and their parents or guardians due to the inclusion of minors in the study. The informed consent form contained information about the aims of the study, voluntary participation, confidentiality, and the participant's rights to withdraw anytime during the process without facing any penalties.

1.7 Consent Form:

This study is being conducted by BS Psychology students at Federal Urdu University of Arts, Science and Technology to examine the relationship between academic stress and generalized anxiety among high school students aged 11 to 16 years, enrolled in both private and government schools. You are requested to participate by completing a short questionnaire comprising basic demographic information and two standardized psychological scales, which will take approximately 15 to 20 minutes. Participation is entirely voluntary, and you may withdraw at any time without any consequence. All information provided will remain strictly confidential, used solely for academic research purposes, and your identity will not be disclosed under any circumstances.

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1.8 Demographic Sheet:

A demographic information sheet was used to collect socio-demographic information about the participants. Information on gender, age, type of school attended, class level, medium of instruction, family setting, socio-economic status, study hours, tuition help, and place of residence was collected to provide additional information about the socio-educational profile of the sample.

1.9 Academic Stress:

Academic stress was measured through the Academic Stress Scale, which is a self-rating inventory consisting of 40 questions to measure stress experienced due to examination, teacher demands, peer interactions, self-confidence, study atmosphere, and facility. The response choices varied on a five-point Likert scale from 'No stress' to 'Extreme stress'. This scale has been validated to yield acceptable levels of reliability and validity among South Asian students.

1.10 Generalized Anxiety Scale-21 (DASS-21):

Generalized anxiety was measured by means of the Anxiety Subscale from the Depression Anxiety Scales-21 (DASS-21), an instrument created by (Lovibond & Lovibond, 1995). The subtest includes seven questions aimed at assessing feelings like panic, fear, restlessness, and arousal. Respondents provided answers to each question on a four-point scale reflecting their experience within the last seven days. The DASS-21 questionnaire is a highly reliable tool that demonstrates solid psychometric characteristics among adolescents. Questionnaire completion took approximately 15-20 minutes. Questionnaires that were filled out were collected right away, coded to ensure anonymity while ensuring quality control, and loaded into IBM SPSS Statistics.

1.11 Ethical Consideration:

The current research was carried out with the due respect for the interests and safety of all participants involved. Participants participated in the experiment voluntarily and had the right to leave the process at any point of time without being subject to any threats. Informed consent was received from all participants; as minors were included in the study, prior consent was sought from their parents/guardians. Confidentiality was strictly observed during the process – not personal data was gathered, and access to the information collected was restricted to the research team only. No risks associated with health of mind and body could arise for any participant in the course of the study.

1.12 Procedure:

Data collection followed a structured, ethically grounded procedure. Formal permission was sought prior to data collection from the school principals and administrators. Students were informed in Urdu about the aim of the study and its voluntary and confidential nature. Written consent was gathered from students individually, whereas parental/guardian consent was acquired prior to the survey administration from all participants who were minors. The research questionnaire booklet that included demographic information, the Academic Stress Scale, and the DASS-21 anxiety scale were distributed in classroom settings at normal school hours. Researchers were present to assist in case of queries. The whole procedure took about 15-20 minutes. The booklets were immediately collected by researchers after completion, coded uniquely, and then entered into IBM SPSS Statistics.

1.13 Data Analysis and Scoring:

Each of the responses collected was subsequently analyzed using IBM SPSS Statistics (Version 26.0). Reliability was established by calculating the Cronbach's alpha for each scale; the .70 or higher standard is acceptable as a good indicator of reliability (Nunnally, 1978). Each of the

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40 items was answered on a five-point scale ranging from 1 (No Stress) to 5 (Extreme Stress) and total scores were calculated by adding the responses for all items to give a total score from 40 to 200 higher scores representing higher perceived academic stress. The DASS-21 anxiety subscale was composed of 7 items ranging from 0 (did not apply at all) to 3 (applied most of the time) and was scored according to the protocol for the DASS-42 recommended by (Lovibond and Lovibond, 1995). The scores obtained were then converted into severity levels as follows: Normal (0–7), Mild (8–9), Moderate (10–14), Severe (15–19), Extremely Severe (20 and above). All variables were calculated descriptive statistics such as means, standard deviations and frequency distributions were calculated, and normality was evaluated by Shapiro-Wilk tests. The Pearson product-moment correlation coefficient was then used to explore the correlation between academic stress and generalized anxiety (two-tailed, $\alpha = .05$) with effect sizes based on Cohen's (1988) criteria of small ($r = .10$), medium ($r = .30$), and large ($r = .50$). An independent samples t-test was performed to compare the mean scores between the private and government school students and Levene's test for equality of the variances was conducted before interpreting the results.

RESULT

Table 1

Demographic Characteristics of the Participants (N = 400)

Variable	Category	Frequency (f)	Percentage (%)
Gender	Female	199	49.8
	Male	201	50.3
Age	11–14 years	280	70.0
	15–16 years	120	30.0
Type of school	Government	200	50.0
	Private	200	50.0
Class level	7^{th}	1	0.3
	8^{th}	79	19.8
	9^{th}	154	38.5
	10^{th}	166	41.5
Medium of education	Category 1	278	69.5
	Urdu	13	3.3
	Category 2	104	26.0
	Category 2.	1	0.3
	English	4	1.0
Family system	Nuclear	238	59.5
	Joint	140	35.0
	Other	22	5.5

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Socioeconomic status	Lower	6	1.5
	Middle	386	96.5
	Higher	8	2.0
Number of siblings	1–3	121	30.3
	3–6	279	69.8
Birth order	1–3	278	69.5
	3–6	121	30.3
	11.00	1	0.3
Locality	Urban	353	88.3
	Rural	47	11.8

Note. Percentages are based on valid responses. Category labels for Medium of Education are reported as shown in the SPSS output; recoding or value-label correction may be required before final submission.

Table 2

Descriptive Statistics of Study Variables (N = 400)

Variable	N	Minimum	Maximum	Mean	SD
Generalized Anxiety (GA)	400	0.00	56.00	25.34	11.09
Academic Stress (AS)	400	4.00	148.00	64.88	24.40

Note. SD = Standard Deviation.

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Table 3

Tests of Normality for Generalized Anxiety

Test	Statistic	df	P
Kolmogorov–Smirnov	.066	400	< .001
Shapiro–Wilk	.987	400	.001

Note. Data deviates from normal distribution

Table 4

Pearson Correlation Between Academic Stress and Generalized Anxiety (N = 400)

Variables	1	2
1. Generalized Anxiety (GA)	—	
2. Academic Stress (AS)	.07	—

Note. Correlation is non-significant, $p = .179$ (two-tailed).

Table 5

Group Statistics by Type of School

Variable	Type of school	N	Mean	Std. Deviation	Std. Error Mean
GA	Government	200	28.62	10.71	0.76
	Private	200	22.06	10.50	0.74
AS	Government	200	60.46	20.76	1.47
	Private	200	69.31	26.89	1.90

Note. N = number of participants. Means and standard deviations are rounded to two decimal places.

Table 6

Independent Samples t-Test Comparing Government and Private Schools

Variable	Levene F	Levene p	t	df	p	Mean Difference	SE Difference	95% CI Lower	95% CI Upper
GA	0.04	.842	6.19	398	< .001	6.57	1.06	4.48	8.65
AS	16.83	< .001	-3.69	374.01	< .001	-8.86	2.40	-13.58	-4.13

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Note. For GA, equal variances were assumed because Levene's test was not significant. For AS, equal variances were not assumed because Levene's test was significant; therefore, the Welch t-test row was reported. CI = confidence interval; SE = standard error. SPSS values reported as .000 are presented as $p < .001$ according to APA style.

DISCUSSION

The present study aimed to examine the relationship between academic stress and generalized anxiety among private and government high school students in Pakistan. Pearson product-moment correlation was conducted to determine whether academic stress was significantly associated with generalized anxiety among students aged 11-16 years. An additional independent-samples t-test was conducted to compare generalized anxiety scores between government and private school students.

The findings revealed a very weak positive relationship between academic stress and generalized anxiety, $r(398) = .067$, $p = .179$. Although the direction of the relationship was positive, the correlation was statistically non-significant because the p-value was greater than the standard significance level of .05. Therefore, the main hypothesis stating that academic stress would be significantly related to generalized anxiety was not supported. These findings differ from several previous international and South Asian studies that reported significant positive relationships between academic stress and anxiety among adolescents. Earlier literature suggested that increased academic workload, examination burden, parental expectations, and competitive academic environments may contribute to elevated anxiety levels. However, the present findings did not provide sufficient statistical evidence to confirm a significant relationship between academic stress and generalized anxiety in this sample.

Several possible explanations may account for this non-significant relationship. First, students may differ in coping styles, emotional resilience, family support, peer support, and teacher encouragement. These protective factors may reduce the psychological impact of academic stress. Second, anxiety among adolescents may be influenced by broader personal, familial, social, and environmental factors rather than academic stress alone. Third, variations in school environments and individual response patterns may have affected how students reported stress and anxiety. The reliability output also requires careful interpretation. The reported Cronbach's alpha value was .096 for the combined GA and AS variables; however, this value was calculated using only two total-score variables together. Therefore, it should not be treated as the internal consistency of either scale. For accurate reliability reporting, Cronbach's alpha should be calculated separately for the full set of academic stress items and the full set of generalized anxiety items.

The additional independent-samples t-test showed a statistically significant difference in generalized anxiety between school types, $t(398) = 6.19$, $p < .001$, 95% CI [4.48, 8.65]. Government school students reported higher generalized anxiety scores ($M = 28.62$, $SD = 10.71$) than private school students ($M = 22.06$, $SD = 10.50$). This suggests that school context may be associated with differences in anxiety levels among high school students. Government school students may experience anxiety due to factors such as limited educational resources, larger class sizes, examination pressure, or reduced access to academic and psychological support. Despite the non-significant correlation between academic stress and generalized anxiety, the significant school-type difference highlights the importance of considering institutional and contextual factors in adolescent mental health research. The findings suggest that interventions should not focus only on academic stress but should also address school environment, student support systems, counseling availability, and family-school collaboration.

Overall, the study contributes to the growing literature on adolescent mental health in Pakistan. It emphasizes the need for school-based mental health awareness programs, early screening, stress-

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management training, and accessible counseling services for students in both government and private schools. Future studies should use more representative sampling, calculate reliability correctly at item level, and consider additional variables such as socioeconomic status, parental pressure, coping strategies, and academic performance.

CONCLUSION

In the present study, the correlation between academic stress and generalized anxiety of 400 high school students (11-16) years old from both private and government schools of Pakistan was examined. The overall results are of considerable psychological and public health interest although the hypothesis that there is a significant positive relationship between the two constructs is not supported ($r(398) = .067$, $p = .179$). Descriptive data showed that the average anxiety score ($M = 25.34$, $SD = 11.09$) was in the Extremely Severe category in the DASS-21, while the average academic stress score ($M = 64.88$, $SD = 24.40$) was in the Moderate category in the DASS-21.

Below are the results of the statistical analysis. The following is a summary of the result of the statistical analysis. The present study involved demographic characteristic of 400 population and determined the relationship of Generalized Anxiety (GA) and Academic Stress (AS) of the school going students. The demographic conclusion showed a balanced sample as there was almost equal number of females 49.8% and males 50.3%. The age distribution showed that middle schoolers (11-14 years) made up the largest group of participants (70.0%) and older adolescents (15-16 years) represented 30.0% of the participants. Private and Government schools were equally represented (50.0% each) and hence the findings in this study were applicable to both type of schools. The findings of the hypothesis test carried out based on the correlation between academic stress and generalized anxiety were that the educational stress and generalized anxiety were not significantly correlated, with a correlation coefficient of .07 ($p = .179$) which is weak and positive. This is an important discovery and suggests that, in this sample, academic stress is not a strong predictor and/or correlate of general anxiety. This non-significant correlation may indicate that other stressors other than academic stressors affect the generalized anxiety of school going children more. This might be because of variations in family and peer relationships or other socio-economic or personal characteristics that may be more important in the onset of generalized anxiety.

The descriptive statistics showed that both scores were understandable and measurable within the sample with Academic Stress having a much higher mean score (64.88 ± 24.40) compared to the Generalized Anxiety (25.34 ± 11.09). The one sample t-test (with both mean scores being significantly different from zero, $p < .001$) was used.

LIMITATION OF THE STUDY

There are several methodological constraints to be taken into account in interpreting these findings. Convenience sampling is used which restricts the generalizability of the results to all the adolescents of Pakistan. The selection of participants did not reflect the full range of socio-economic, linguistic and educational diversity of the various provinces and regions; it was targeted to those schools that the researchers could reach. Future research must utilize stratified random sampling from several districts, to obtain more nationally representative results. Secondly, causal inferences are not possible with the cross-sectional research design. The causal relationship between academic stress and anxiety is not known, nor is it known if increased anxiety increases stress appraisals, and whether there is a common but unmeasured third variable causing increased stress and anxiety. Longitudinal designs following students over the school year, with a focus on exam times, would help to make sense of the direction and time of the relationship. Thirdly, using self-report instruments only carries the risk of a response style bias,

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such as social desirability effects. Younger teens may not report psychological distress because of stigma or lack of emotional self-awareness, or may agree to items more generally because of not being able to differentiate between a normal emotional experience and a clinically elevated one. Observational or clinician rated measures in addition to self-report measures would be useful in future research. Fourth, some moderating factors, such as coping strategies, parental pressure, peer support, teacher-student relationships, and socioeconomic background, were not accounted for in the current analysis. Because there was no formally analyzed grouping variable for school-type, a complete statistical evaluation of Hypothesis 2 was not possible. These factors would help future research better characterize the stress–anxiety relationship in this population while also accounting for other factors in the equation.

FUTURE DIRECTION

Longitudinal designs with the ability to measure academic stress and anxiety over an entire school year, accounting for changes that occur throughout the school year (examinations, deadlines, grade level changes), should be emphasized in future studies. Such designs would enable researchers to understand the temporal course of the relationship between stress and anxiety and would enable them to identify the vulnerable times in Pakistani high schoolers. Future implications of the study could be strengthened by having nationally representative, stratified random samples of urban and rural communities from several provinces. Integrating the role of mediating and moderating variables in future analytical models is also important. Academic self-efficacy, emotional regulation, perceived parental expectations and teachers' support have been consistently associated with both stress and anxiety among adolescent groups and should be incorporated into future multivariate designs. In the Pakistani context, these are complex relationships, which can be better tested simultaneously by structural equation modeling (SEM) to provide a more complete theoretical account of the influence of academic environment on psychological well-being. Lastly, there is a lack of culturally adapted, age normed screening instruments for Pakistani secondary school students, which would fill an important methodological gap in the existing literature. There are ways that the understanding could be enriched further by adding qualitative interviews or focus groups to the quantitative scales to provide more information about the meaning that students give to academic pressure and emotional distress in their particular cultural and institutional context, with the combinations referred to as mixed-methods approaches.

IMPLICATION OF THE STUDY

The present study highlights the high prevalence of moderate to severe anxiety among Pakistani high school students, emphasizing the need for systemic interventions targeting their psychological well-being. School-based counselling programs, integrated into both public and private institutions, can identify at-risk students early, provide short-term evidence-based interventions such as Cognitive Behavioural Therapy (CBT), and facilitate clinical referrals. Teachers play a critical role in shaping students' stress experiences, and trauma-informed, stress-sensitive classroom management can reduce unnecessary psychological pressure. Parental involvement is equally important, as psychoeducation can help parent's moderate performance expectations and foster constructive communication. Theoretical models of stress and anxiety developed in Western contexts may not fully capture the experiences of adolescents in collectivist cultures; factors such as family honour, collectivist coping norms, and mental health stigma should be incorporated into culturally relevant frameworks. Policy-wise, these findings support integrating mental health services into national education policies, mandating mental health assessments, training school counsellors, and tailoring interventions to the distinct contexts of private and public schools to create supportive learning environments.

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