Effect of Psychological Stress on High Preparatory Schools Students and its Relationship with Academic Achievement

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ABSTRACT

Background: academic achievement refers to which the student has achieved their learning goals measured through examinations or continuous assessments. stress among students have long been recognized as interrelated difficulties that might affect an individual's entire well-being. Stress has become an important topic in academic circle as well as in our society. The purpose of this study was to find out the effects of psychological stress on high preparatory schools' students and its relationship with academic achievement.

Methods: A descriptive study design from the period 11th October 2024 to 10th May 2025. Probability simple random sample was used to select study sample. The study instrument used were Academic Achievement Scale and student's stress rating scale. The statistical method applied were (frequency, percentage test, mean test, Pearson correlation test) by used (SPSS-ver. 26).

Results: The study results showed demographic characteristics analysis of the sample concerned, the large number of the sample that was with age (15-17) years old half of them male and female, resident in rural and urban area. Also the study results depict the overall evaluation responses for study subject about academic achievement and stress are the most students suffer from Good academic achievement with a mean (1.60) and majority of students have a Moderate level of stress with a general mean (3.86). However, there is a indicate that student stress levels have little effect on academic achievement in this study.

Conclusion and Recommendations: The study indicated the students experience of good academic achievement and moderate level of stress. This indicated that students stress level have little effect on academic achievement in this study Recommendations include Support and mentoring student's health, Health education programs, encourage students exercise regularly, eat well, sleep well, Parents should reduce the work overload.

Key words: Academic achievement, Student, Stress, School.

1.1: Introduction:

Students are seen as society's investment in the future. Their mental health and overall well-being matter not just for their own sake, but also because they play a vital role in the health of society as a whole. Academic achievement reflects how well individuals meet specific goals set within learning environments like schools, colleges, and universities. Since the beginning of formal education, boosting student achievement has remained a top priority at every level. With numerous factors potentially influencing academic success, it's crucial for every education system, school, and teacher to continually evaluate the impact of each factor on student progress **(1)**. At its core, 'achievement' means successfully completing something. In education, this usually refers to clearly defined learning objectives. While learning can happen in many different settings, educators primarily concentrate on what students learn within formal instructional spaces, such as classrooms and schools. In these settings, teachers work deliberately and with clear goals to help students gain specific knowledge and skills. **(2).**

Stress refers to anything that challenges or threatens a person's well-being. It can occur in any setting, including at home or in school. Students often face academic stress due to various pressures, such as the need to succeed and perform well academically **(3)**. Stress has become a major focus in both academia and society. Behavioral science researchers have conducted extensive studies on stress and its effects, emphasizing the need for more attention to this issue. Children and teenagers experience stress and anxiety as frequently as adults. Contributing factors include parental neglect, high expectations in academics or other areas, traumatic childhood experiences, the pressures of growing up, and family responsibilities **(4)**.

While some stress can motivate students to perform at their best, poor stress management due to a lack of coping resources can lead to negative outcomes for both students and educational institutions **(5)**. A qualitative study of 450 Iranian high school students aspiring to enter university found multiple sources of academic stress. Similar findings have been reported in other societies regarding adolescent stress **(6)**.

According to Fereidooni-Moghadam, students' motivation to achieve is strongly linked to their academic performance **(7)**. However, some studies argue there is no significant connection between stress and academic performance **(3)**. Academic stress is specific to the school environment and commonly results from excessive teacher expectations, too many exams, and heavy homework loads **(8)**.

Western studies have shown that high academic stress is often linked to increased anxiety, depression, and even suicidal thoughts **(9)**. A World Health Organization sponsored study across Europe and parts of Canada revealed growing school-related pressure, especially among older teens **(10)**. Understanding the factors that help prevent mental health issues like anxiety and depression in adolescents is crucial from both scholarly and clinical perspectives.

Two lifestyle factors—physical activity and sleep duration—have been identified as influencing the likelihood of anxiety and depression in adolescents **(11), (12)**. In China, academic burnout among adolescents is particularly severe. A 2020 survey by the China Care for the Next Generation Working Committee found that over 30% of elementary students felt bored with school, and more than 70% of adolescents experienced academic burnout **(13), (14)**. Research shows that academic burnout can lead to issues like school absenteeism, negatively affecting families **(15)**. This study, therefore, seeks to explore the link between academic stress and achievement in adolescents and aims to provide evidence to help address the problem of academic stress.

Material and Methods

3.1. Design of the study:

A descriptive study design was used to assess the effect of psychological stress on high preparatory school's students and its relationship with academic achievement between the period from 11th october 2024 to 10th may 2025.

3.2. Data Collection

The data was collected from 1th February 2025 to 19th February 2025, the time was between 15 to 20 minutes to complete the data collection through the self-report questionnaire

3.3. Study population and Setting of the study:

Probability simple random sample was used to select study sample. The study population was adolescents school students from 3 different schools (Shatt Al-Arab secondary school for girls, AL-jazaer secondary school for boys, Sinaa secondary school of both sex), for different age groups. An appropriate sampling method was used to collect a total number of 100 according to the following: -

School name	Students	Percentage
Shatt Al-Arab secondary school for girls	33	33%
AL-jazaer secondary school for boys	33	33%
Sinaa secondary school	34	34%
Total	**100**	**100%**

3.4 Study Instruments:

• Part one:

Section 1: demographic data: This section contains information regarding(age, sex, grade level, School Location).

Section 2: Family Background: This section contains information regarding(Parental Education Level, Family Income Level, having any siblings currently enrolled in school).

Section 3: Academic Information: This section contains information regarding (What is your average grade in the current academic year, Do you participate in extracurricular activities ,Do you think academic achievement is important to you ,How many hours per day do you typically spend on school-related tasks (study, homework, etc.)).

• Part two: Subjective Academic Achievement Scale **(16)**.

The scale included 5 items It includes life situations that the student faces, each situation consisting of two alternatives (yes, no).

 One of them is chosen by the student so that his choice is the closest alternative that is most compatible with his personality.

• Part three:

 Students stress rating scale **(17).**

The Student Stress Rating Scale includes five key factors:

1. Physical, Physiological or Psychosomatic factors

These involve physical symptoms experienced during stress, such as fatigue, muscle tension, a pounding or rapid heartbeat, cold sweats or hot flashes, irregular or shallow breathing, a choking or smothering feeling with chest pain, nausea, numbness or tingling, dry mouth, repeated swallowing, diarrhea, changes in sexual drive, asthma, dizziness, headaches, constipation, back or shoulder pain, trouble sleeping, and weight loss.

2. Emotional factors

These signs include feeling down or depressed, detached from oneself, fearing a loss of control or death, intense worry or fear, panic attacks, irritability, anger, crying spells, and more frequent conflicts with others.

3. Social factors

Stress in this category stems from social issues such as feeling unaccepted by family, reluctance to share with others, loneliness, or limited recreational engagement.

4. Examination factors

Stress related to academic tasks like exams, tests, coursework, or competitions falls under this category and is commonly seen among students.

5. Behavioral factors

These include restlessness, trembling, irritability, avoiding social interactions, excessive smoking, drinking or sleeping, sleep issues like insomnia or nightmares, appetite changes, slower movement or reaction time, overworking, social withdrawal, fatigue, and weight loss etc.

3.4. Administrative and ethical permission:

To achieve the study objectives, the following administrative steps performed:

- University of Babylon award its primary acceptance from the council of the college of nursing.

- After getting the validity of the study questionnaire, the objective and questionnaire submitted to gain the approval of the scientific committee- college of Nursing.

- Approval was also obtained from the Babylon Governorate Education Directorate.

Also, the researcher obtains a verbal consent from participants before data collection to protect participant rights.

3.5. Statistical Data Analysis Approach

The data analyzed through the application of descriptive statistical data analysis approach, (frequency & percentages) for categorical variables, Pearson correlation for analysis of relationship between variables of the study. By using SPSS.

Results and Findings

Table 1: Distribution of study sample related to demographical characteristics

Variables		Frequency	Percent
Age	15-17 years	54	54.0
	18-20 years	46	46.0
	Total	100	100.0
Sex	Male	50	50.0
	female	50	50.0
	Total	100	100.0
	Single	97	97.0

Marital Status	married	3	3.0
	Total	100	100.0
Grade level	Fourth Grade (Preparatory)	29	29.0
	Fifth Grade (Preparatory	27	27.0
	Sixth Grade (Preparatory)	44	44.0
	Total	100	100.0
School Location	Urban	67	67.0
	Rural	33	33.0
	Total	100	100.0

Table 1 presents the distribution of the study sample based on demographic characteristics. The participants' ages ranged between 15 and 20 years, with 54% aged 15–17 years and 46% aged 18–20 years. The sample had an equal gender distribution, with 50% male and 50% female. In terms of marital status, the majority (97%) were single, while only 3% were married . Regarding grade level, 29% were in the fourth grade of preparatory school, 27% in the fifth grade, and 44% in the sixth grade. Additionally, 67% of the participants were from urban areas, whereas 33% resided in rural areas.

Table 2: Distribution of study sample related to Family information

Father/Guardian	No formal education	5	5.0
	primary school	32	32.0
	High School	36	36.0
	Bachelor 's and above	27	27.0
	Total	100	100.0
Mother/Guardian	No formal education	10	10.0
	primary school	54	54.0
	High School	24	24.0
	Bachelor 's and above	12	12.0
	Total	100	100.0
Family Income	not enough	4	4.0
	fairly enough	37	37.0
	enough	59	59.0
	Total	100	100.0
Do you have siblings currently enrolled in school?	No	23	23.0
	Yes	77	77.0
	Total	100	100.0

Table 2 illustrates the distribution of the study sample based on family information. Regarding the educational background of fathers or guardians, 5% had no formal education, 32% completed primary school, 36% attained a high school education, and 27% had a university degree or higher. In contrast, mothers or guardians had a slightly lower level of education, with 10% having no formal education, 54% completing primary school, 24% finishing high school, and 12% obtaining a university degree or higher. In terms of family income, 4% of participants reported that their income was not enough to meet their needs, 37% stated it was fairly enough, and 59% considered it sufficient. Additionally, the majority of participants (77%) had siblings currently enrolled in school, while 23% did not.

Table 3: Distribution of study sample related to academic achievement

What is your average grade in the current academic year	Below 50%	8	8.0
	50% – 60%	22	22.0
	61% – 70%	24	24.0
	71% – 80%	18	18.0
	81% – 90%	19	19.0
	Above 90%	9	9.0
	Total	100	100.0
Do you participate in extracurricular activities	No	68	68.0
	Yes	32	32.0
	Total	100	100.0
Do you think academic achievement is important to you	Very Important	61	61.0
	Somewhat Important	30	30.0
	Not Very Important	8	8.0
	Not Important at All	1	1.0
	Total	100	100.0
How many hours per day do you typically spend on school-related tasks (study, homework,	Less than 1 hour	3	3.0
	1-2 hour	20	20.0
	3-4 hours	43	43.0
	5 or more hours	34	34.0
	Total	100	100.0
	Total	100	100.0

Table 3 presents the distribution of the study sample based on academic information. Regarding average grades in the current academic year, 8% of participants scored below 50%, 22% fell within the 50%–60% range, 24% achieved between 61%–70%, 18% scored 71%–80%, 19% attained 81%–90%, and 9% exceeded 90%. Participation in extracurricular activities was reported by 32% of students, while 68% did not engage in such activities. When asked about the importance of academic achievement, 61% considered it very important, 30% viewed it as somewhat important, 8% regarded it as not very important, and 1% found it not important at all. In terms of time spent on school-related tasks daily, 3% studied for less than an hour, 20% dedicated 1–2 hours, 43% spent 3–4 hours, and 34% studied for 5 or more hours. Lastly, 43% of participants allocated time to schoolwork individually, while 57% engaged in group study.

Table 4: Distribution of study sample related to Academic achievement

	Questions	N	Mean	Std. Deviation	Level
1	I am satisfied with my grades at school	100	1.87	.338	Good
2	I am successful in my study	100	1.50	.503	Good
3	My grades are appropriate for my effort	100	1.65	.479	Good
4	I progress adequately fast in my study	100	1.50	.503	Good
5	My fellow students study more successful than	100	1.50	.503	Good
	General mean	100	1.60	.465	Good

Poor <1.5   fair =1.5   good >1.5

Table 4 presents the distribution of the study sample concerning academic achievement. The responses to the five academic achievement-related questions (Q1–Q5) indicate that the mean scores ranged from 1.50 to 1.87, with standard deviations between 0.338 and 0.503. Each question was categorized at a "Good" level, reflecting a consistent academic performance among participants. The overall general mean score of 1.60, with a standard deviation of 0.465, also falls within the "Good" level, suggesting that, on average, students demonstrated a satisfactory level of academic achievement.

Table 5: Distribution of study sample related to Student stress rate

	Questions	No	Mean	St .deviation	Sum	Level
1	I get angry	100	5.29	1.940	529	High
2	I do not take proper rest	100	4.53	2.125	453	Moderate
3	I do not share my misgivings with others	100	2.85	2.302	285	Low
4	I complain about the past.	100	3.23	2.361	323	Moderate
5	I feel lonely	100	3.07	2.328	307	Moderate
6	I get jealous of others.	100	2.47	2.222	247	Low
7	I suffer from headaches	100	3.96	2.331	396	Moderate
8	I find it difficult to sleep.	100	4.05	2.512	405	Moderate
9	I have difficulty in concentrating on my studies	100	4.87	2.290	487	Moderate
10	My heartbeat increases during examinations	100	5.36	2.259	536	High
11	I worry about my future	100	5.59	2.189	559	High
12	I have difficulty in remembering things.	100	4.45	2.280	445	Moderate
13	I get depressed after taking an examination.	100	4.31	2.398	431	Moderate
14	My parents scold me.	100	2.35	2.032	235	Low
15	My teachers scold me.	100	2.44	2.022	244	Low
16	No one understands me.	100	3.63	2.456	363	Moderate
17	I cry or feel like crying.	100	3.39	2.465	339	Moderate
18	I take long time to recover from illness.	100	3.72	1.970	372	Moderate
19	I enjoy games only when I win.	100	3.94	2.514	394	Moderate
20	I eat fast	100	3.38	2.506	338	Moderate
21	I talk fast	100	3.50	2.443	350	Moderate
22	I feel restless when I have to take a surprise test / examination.	100	5.47	2.144	547	High

23	I feel tired even though I had enough sleep.	100	5.02	2.296	502	High
24	I have the problem of constipation.	100	1.90	1.481	190	Low
25	I suffer from diarrhea	100	1.75	1.158	175	Low
26	I get nervous when I forget points that I really know.	100	5.75	2.086	575	High
27	I get viral infections.	100	2.06	1.413	206	Low
28	I feel stiffness or pain in my neck.	100	3.72	2.408	372	Moderate
29	I find myself think of consequences of failing in an examination.	100	5.23	2.378	523	High
30	I do not maintain my body weight.	100	3.42	2.535	342	Moderate
31	I get irritated.	100	3.79	2.492	379	Moderate
32	I can't find time to have fun to enjoy myself.	100	4.52	2.263	452	Moderate
33	I become tensed with delays or interruptions.	100	3.64	2.359	364	Moderate
34	I fail to see the humor in situations where others find funny	100	4.02	2.370	402	Moderate
35	I rush through the day.	100	4.51	2.572	451	Moderate
	General		3.86	2.22	386	Moderate

Sum. low 100-299   moderate 300-499   high 500-700

Table 5 presents the distribution of the study sample concerning student stress levels. The results indicate a range of stress levels across different questions, with mean scores varying from 1.75 to 5.75 and standard deviations between 1.158 and 2.572. Several questions, such as A1 (5.29), A10 (5.36), A11 (5.59), A22 (5.47), A23 (5.02), A26 (5.75), and A29 (5.23), were categorized as "High" stress levels. Meanwhile, a considerable number of responses fell under the "Moderate" category, including A2 (4.53), A4 (3.23), A5 (3.07), A7 (3.96), A8 (4.05), and many others. A few questions,

such as A3 (2.85), A6 (2.47), A14 (2.35), A15 (2.44), A24 (1.90), A25 (1.75), and A27 (2.06), were classified as "Low" stress levels. The overall general mean score of 3.86, with a standard deviation of 2.22, indicates that students, on average, experience a "Moderate" level of stress. This suggests that while some aspects contribute significantly to student stress, others appear to have a lesser impact.

Table 6: Correlation between Student stress and Academic achievement.

The Pearson's R correlation coefficient is 0.054 with an asymptotic standard error of 0.087, indicating a weak positive relationship between the two variables. Similarly, the Spearman correlation coefficient is 0.106 with a standard error of 0.091. With 100 valid cases, the results indicate that student stress levels have little effect on academic achievement in this study.

		Value	Asymptotic Standard Error[a]	Approximate T[b]	P.value
Interval by Interval	Pearson's R	0.054	0.087	0.539	0.051[c]
Ordinal by Ordinal	Spearman Correlation	0.106	0.091	1.056	0.294[c]
N of Valid Cases		100			

Discussion

Stress among students at schools is extensively reported, and it has a negative impact on students' well-being and social functioning. The current study aimed to investigate the relationship students stress and academic achievement.

1-Part one: demographical characteristics:

The findings of this research reveal that school students' stress levels are impacted by factors such as gender, year of study, and age. Consistent with the globally published findings so far **(18)**. studies have suggested that women are more prone to stress and emotional instability than men **(19)**. Marital Status play a central role in shaping an individual's well-being across the life course **(20)**. A long-observed pattern is that men receive more physical health benefits from marriage than women, and women are more psychologically and physiologically vulnerable to marital stress than men

Part two: Distribution of study sample related to Family information

It has been concluded that children of parents with more education tend to have higher education themselves, as well as better health and performance in the labor market. Numerous studies indicate that the father's education has a stronger influence on the next generation's education compared to the mother's **(21)**. For each one-year increase in the father's and mother's

educational attainments, their child's education rises accordingly **(22)**. Using survey data from rural Gansu and a family fixed-effects model, researchers found that mothers with low educational levels tend to amplify non-cognitive ability differences between their children, while mothers with higher education are more likely to compensate for these differences **(23)**. The educational achievement gap has deep roots and becomes evident very early in a child's life, even before school entry. Socioeconomic differences—such as health and nutrition, home environments that provide access to academic experiences, mobility rates, and financial assets—can significantly affect academic achievement **(24)**. The responsibility of training a child lies primarily with parents. Furthermore, access to financial support can influence students' motivation to persist in their studies and succeed academically **(25)**.

Part three: Distribution of study sample related to Academic achievement

A strong record of academic achievement is highly regarded in many societies and is often linked to various benefits **(26)**. Every secondary school student is required to study Integrated Science as part of the goals of secondary education, one of which is to develop skilled manpower in applied science. Hence, it is important to recognize that excelling in integrated science at the junior secondary level gives students a solid foundation in the field of science. Academic achievement is a broad concept that represents an individual's educational success, skills, and intellectual development. It goes beyond grades, covering a wide range of disciplines and competencies **(27)**.

Part four: Distribution of study sample related to psychological stress

Students today encounter a variety of academic challenges in the highly competitive environment, including exam stress, lack of motivation to attend classes, and difficulty understanding subjects. Academic stress is the leading source of stress among adolescents and can lead to low self-esteem. Many psychological issues, such as depression and suicidal tendencies, often stem from low self-esteem **(28)**. Studies on the impact of school-related stressors on public school students revealed significant correlations. Therefore, it can be concluded that public school students experience higher levels of academic-related stress. The hypothesis suggesting greater academic stress among public school students was thus confirmed **(29)**. Furthermore, stress arising from strained relationships can trigger physiological responses that weaken immune function, affect the cardiovascular system, and heighten the risk of depression **(30)**.

Part five: Correlation between Student stress and Academic achievement

Students under stress often exhibit emotional difficulties, aggressive tendencies, shyness, social anxiety, and a lack of interest in activities they would normally enjoy. Since adolescence is a transitional phase between childhood and adulthood, young people are exposed to a wide range of stressors **(31)**, **(32)**. Research shows that academic stress has a significant negative relationship with both academic performance and adolescents' mental health, while academic achievement has a significant positive relationship with mental health **(33)**.

Conclusion and Recommendations:

The study indicated the students experience of good academic achievement and moderate level of stress. This indicated that students stress level have little effect on academic achievement in this study. Stress inflicted on the students is psychologically, socially, culturally, emotionally. Stress caused by exams and school environment and methods of education. Support and guidance are essential to ensure that stress is recognized early and managed effectively. Implementing health education programs, providing mentorship, and reducing excessive information in the curriculum are valuable strategies to help students better handle the pressures of secondary education. Greater emphasis should be placed on addressing the psychological well-being of students and examining teaching styles more closely. Students should also be encouraged to exercise regularly, maintain a healthy diet, and get sufficient sleep.

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