

The Impact and the Causes of Stress among High School Students

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Abstract: Stress is present in every aspect of life, affecting different demographics. This abstract explores the nature of stress, its physiological and psychological effects, and its social implications. Examining stressors like academic pressure and the COVID-19 pandemic, we uncover individuals' complex challenges. Efficient coping methods are emphasized, highlighting proactive actions to safeguard mental and physical well-being. Academic stress significantly impacts students' mental health, with certain demographics more affected, and the pandemic exacerbating these pressures. Our investigation reveals a clear connection between heightened academic stress and deteriorating mental health in all student populations.

Keywords: student, stress, suicide, education, mental health, pandemic, Academic stress, family problems, pressure, bad living conditions, health problems.

I. INTRODUCTION

Stress is a natural part of human life that has been extensively researched over the years. The purpose of this study is to investigate the historical context, key figures, and the effects of stress exposure. Understanding stress is critical because it affects our physical and mental health. By looking at the origins of stress research, we can gain insight into the trends and influences that have shaped the field. The introduction of stress and its research has had a significant impact on many aspects of human existence. First, stress research has resulted in advances in psychology and medicine. It has provided information about the physiological and psychological mechanisms by which stress affects human health. This understanding has enabled the development of stress-management interventions such as stress-reduction techniques, counseling, and pharmacological approaches. To summarize, stress is a universal experience that has a wide range of consequences for people. With the demands of work, personal relationships, finances, and societal expectations, stress has become an unavoidable part of contemporary life. However, it is critical to recognize the impact of stress on our well-being and actively seek healthy coping strategies. Individuals can control their stress by prioritizing self-care, seeking support, effectively managing time, and developing healthy coping mechanisms.

II. BACKGROUND

Students in secondary and tertiary education settings face a wide range of ongoing normative stressors, which can be defined as normal day-to-day hassles such as ongoing academic demands. Students commonly self-report experiencing ongoing stress relating to their education, which we refer to as academic-related stress, such as pressure to achieve high marks and concerns about receiving poor grades. The Organisation for Economic Co-operation and Development (OECD) recently conducted a survey involving 72 countries consisting of 540,000 student respondents aged 15–16 years. On average across OECD countries, 66% of students reported feeling stressed about poor grades and 59% reported that they often worry that taking a test will be difficult. The OECD further found that 55% of students feel very anxious about school testing, even when they are well prepared. As many as 37% of students reported feeling very tense when studying, with girls consistently reporting greater anxiety relating to schoolwork compared to boys (OECD, 2017). This data demonstrates that education and academic performance are a significant source of stress to students.[8]

2.1 Academic-related stress and physical health

Stress, that is, the state of threatened or perceived as threatened homeostasis, is associated with the activation of the stress system, mainly comprising the hypothalamic-pituitary-adrenal axis and the arousal/sympathetic nervous systems. Fetal life, childhood, and adolescence are particularly vulnerable periods of life to the effects of intense acute or chronic stress. Similarly, these life stages are crucial for the later development of behavioral, metabolic, and immune abnormalities. Developing brain structures and functions related to stress regulation, such as the amygdala, the hippocampus, and the mesocorticolimbic system, are more vulnerable to the effects of stress compared with mature structures in adults.[8]

2.2 Academic-related stress and achievement

The World Health Organisation states that students must be healthy and emotionally secure to fully participate in education (World Health Organisation). Indeed, the abovementioned OECD survey reports that anxiety about schoolwork, homework, and tests has a negative impact on students' academic performance in science, mathematics, and reading. In 293 students in Grades 7–10 from the United States, the frequency of positive emotions during classes was associated with higher student engagement. Conversely, the frequency of negative emotions was associated with lower engagement. This finding is important as engagement in learning is necessary for achievement, as illustrated by the findings of a survey conducted by the National Union of Students. This survey reported that the main factor affecting the tertiary studies of Australian university students aged 17–25 was stress.[8]

2.3 Academic-related stress and dropout

Academic-related stress and burnout include exhaustion, depersonalization, cynicism, and inefficacy or reduced accomplishment. Academic-related stress is strongly related to decreased student academic motivation and academic disengagement (National Centre on Addiction and Substance Abuse at Columbia University (CASA) United States of America). In 298 Chinese secondary school students, academic-related stress in Grade 10 negatively predicted intrinsic academic motivation and positively predicted lack of motivation in Grade 12. This indicates that decreasing academic-related stress might preserve students' ongoing intrinsic academic motivation (Liu, 2015; Liu & Lu, 2011). Similarly, in 495 Japanese students in junior secondary school, self-reported academic-related stress was found to negatively relate to feelings of self-growth and academic motivation (Shinto, 1998). A recent literature review highlights how stress and burnout can also affect academic achievement by increasing the risk of school dropout. School dropout is associated with a lifelong reduction in earning capacity and secure employment (Lamb & Huo, 2017). Individuals with lower education levels report having poorer mental health and more illness than those with higher levels of education (Turrell, Stanley, de Looper, & Oldenburg, 2006). Early dropout from school has also been reported to contribute to intergenerational issues including unemployment, poverty, and less academic achievement.[8]

III. LITERATURE REVIEW

Stress is a fact of nature that is unavoidable in a normal human's life. Stress is a common factor that largely diminishes individual morale[2]. It develops when a person cannot handle their inner and outer feelings. When the stress becomes chronic or exceeds a certain level, it affects an individual's mental health and may lead to different psychological disorders. Stress can be a neutral, negative, or positive experience. Regardless of the negativity or positivity of stress, a certain level of stress is required for well-being. The effects are even more significant among adolescents as studies have shown that excessive stress during the teen years can hurt both physical and mental health later in life. Some of the common triggers of stress in teens might be anxiety to perform well in academics such as getting into a good college, peer pressure, interpersonal relationships, or body image issues. Stress among high school students can reduce the motivation to do the work, impact overall academic achievement, and increase the odds of dropping out. Stress can also cause health problems such as depression, poor sleep, substance abuse, and anxiety[3]. Everyone is exposed to stress at some time in their lives, that uncomfortable situation that affects our sense of well-being and quality of life. According to the cognitive-transactional model of stress, stress is the dynamic relationship between an individual and the environment in which a stimulus disturbs an individual's homeostasis, causing him/her to respond to the situation with all available resources[6]. Academic Stress is an important factor accounting for variation in academic achievement. It also contributes to major mental health hazards and problems with both physical and mental stress-related diseases. Stress makes a significant contribution to the prediction of subsequent school performance and acts as a negative predictor of academic performance in school children showing the components of Academic Stress Hussain. Academic Stress is mental stress with respect to

some anticipated frustration associated with academic failure or even an awareness of the possibility of such behavior [7]. Stress can also be defined as any change in the body's equilibrium. Any negative stress is also known as distress. Distress occurs when while performing a task or throughout a day-to-day activity tension builds up, there is no longer any fun in it and there seems to be no relief. This may lead to poor decision-making. The general characteristics of the person in distress are, over-aroused, tense, unable to relax, touchy, easily upset, irritable, easily startled, nervy, jumpy, fidgety, and intolerant of interruption or delay. As mentioned earlier, excessive stress results in an increased prevalence of psychological problems like depression, anxiety, substance abuse, and suicide ideation[8]. Students' achievement is defined by the extent to which predetermined learning goals are obtained, and it is usually measured through test scores and ongoing assessments. Several preliminary studies used the Grade Point Average (GPA) to analyze students' academic achievements[9]. In comparison, this study interpreted it as an indicator of the knowledge and understanding level of the mathematics material. It is a complex score influenced by learning media, environment, teaching methods, parental support, and personal factors [10]. Studies on parents' support generally analyze the relationship between parents and students' psychological well-being. parental support, directly and indirectly, affects students' physical health[11]. Stress is considered to be a part of a student's life and can impact the student's coping strategies in accordance with the demands of academic life. This is so because academic work is always accomplished with stressful activities. Students reported their experience of high academic stress at predictable times in each semester which resulted from preparing and taking exams, class ranking competitions, and mastering huge amounts of syllabi in comparatively very small amounts of time[12]. Among college students, a strong relationship is found between stressful life events and reduced academic performance as well as there is a link between health-related quality of life and stress.

IV. METHODOLOGY

4.1 Research Design

The major objective of this research is to identify causes of academic stress which can possibly have important effects on the performance and the health of students. A questionnaire is required to adequately consider the students' social, economic, environmental, and other related sources of stress happening to these students. The questionnaire consists of 18 items which are divided into 6 parts A) personal information B) stress relating to other people (3 items) C) personal factors (5 items) D) academic factors (4 items) E) environmental factors (3 items) F) scales of the stress state (3 items)

4.2 Materials

This research is conducted by using the questionnaires via Google Forms in order to save time and reduce the refusal rate.

4.3 Participants

The targeted participants for the research will be the current senior high school students.

4.4 Data collection

We use the Yamane formula to calculate the number of high school students.

$$n = \frac{N}{1 + Ne^2}$$

n = Sample size (309 students)

N = The total number of all of the high school students (1333 students)

e = Margin of error (5%)

We collect the scale of stress from many factors by using Google Forms to see the range of stress in high school students.

V. RESULTS

The sample comprised 353 students in high students with mean grades 10, 11, and 12. The total sample is 353 high students. Separated by grade, there are 32.3%, 30.3%, and 37.4% in M.4, M.5 and M.6, respectively. From a total of 353 samples of high school students, 51% of them are studying in the Science - Math program while 49% of them are studying Art - Language program. In addition, there are 75.9% of females in this survey whereas only 20.1% of males do it. Additionally, there are 4% of other genders.

Table 1 presents the means and the standard deviations for all potential sources of stress distributed by grades and studying programs.

Table 2 presents the scale of stress state questionnaire and Table 3 presents the number of students choosing each scale of stress by grades and studying programs.

Table 1 contains 16 sources of stress divided into four categories, which are: 1.) Stress relating to other people, 2.) personal factors, 3.) academic factors, and 4.) environmental factors.

Stress relating to other people - Art - Language program students reported higher mean than Science - Math program due to changes in relationships with others in every grade. However, Science - Math program students reported higher mean due to family problems in M.4, and M.5 and frustration due to misunderstanding in M.5.

Personal factors - Pressure scored the highest mean in every grade and studying program. However, lack of social contacts has been reported to be the lowest mean in both studying programs.

Academic factors - The examinations scored the highest mean for both programs in every grade. On the other hand, missing some classes scored the lowest mean at under 3 in both programs.

Environmental factors - Art - Language program students scored higher than Science - Math program in being placed in unfamiliar situations in every grade. However, Science - Math program reported higher ratings due to Lack of vacations/breaks and bad living conditions in M.4, and M.5 than Art - Language program students

TABLE I: DESCRIPTIVE STATISTICS OF THE STRESSORS OF POTISARNPITTAYAKORN STUDENTS BY SCIENCE-MATH AND ART-LANGUAGE PROGRAMS.

Categories of stressors	Art - Language						Science - Math					
	M.4		M.5		M.6		M.4		M.5		M.6	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
A. Stress relating to other people												
1. Change in relation with others	3.14	1.18	3.2	1.08	3	1.23	3.11	1.05	3.19	1.22	2.81	1.27
2. Family problem	2.01	1.28	2.85	1.31	2.5	1.45	2.89	1.33	2.96	1.34	2.41	1.44
3. Frustration due to misunderstandings	3.08	1.16	3.03	1.32	3	1.06	3	1.11	3.46	1.29	2.97	1.14
B. Personal Factors												
1. Change in sleeping habits	3.22	0.98	3.16	1.01	3.42	1.08	3.2	1.04	3.2	1.08	3.15	1.3
2. Change in eating habits	3.27	0.96	3	1.11	3.17	1.06	3.11	1.15	3.13	1.05	3	1.26
3. Combining job with studies	3.14	1.12	3.05	1.18	2.78	1.33	3.11	1.27	3.12	1.36	2.54	1.37
4. Health problems	3.24	1.3	3.04	1.17	2.8	1.17	3.04	1.3	3.38	1.27	2.79	1.33
5. Pressure	3.61	1.27	3.51	1.26	3.58	1.1	3.62	1.18	3.89	1.02	3.64	1.38
6. Lack of social contacts	2.66	1.12	2.93	1.17	2.56	1.3	2.55	1.21	2.71	1.4	2.52	1.36
C. Academic Factors												

1. Increased class workload	3.17	1.29	3.15	1.11	3.41	1.12	3.35	1.27	3.58	1.03	3.34	1.37
2. Examinations	3.61	1.03	3.33	1.17	3.63	1.01	3.6	1.18	3.85	1.01	3.69	1.17
3. Lower score	3.17	1.29	3.22	1.41	3.09	1.26	3.4	1.26	3.46	1.31	3.14	1.32
4. Missing some classes	2.81	1.25	2.51	1.25	2.54	1.3	2.58	1.03	2.52	1.25	2.33	1.27
D. Environmental Factors												
1. Lack of vacations/breaks	2.78	1.39	3.07	1.32	3.29	1.3	3.34	1.53	3.44	1.26	3.1	1.3
2. Bad living conditions	2.7	1.36	2.93	1.32	2.69	1.41	2.98	1.55	3.02	1.42	2.43	1.41
3. Placed in unfamiliar situations	3.05	1.17	2.96	1.28	2.92	1.48	2.87	1.33	2.87	1.35	2.85	1.28

VI. CONCLUSION

Stress from academic pressures negatively impacts students' physical health, emotional well-being, and academic performance. The anxiety related to schoolwork, tests, and grades can undermine students' engagement and motivation, leading to burnout and, in some cases, school dropout. Not only are these negative outcomes detrimental to academic achievement, but they can also have long-term effects on employment prospects, mental health, and socioeconomic stability. To improve students' educational experiences and future well-being, it is crucial to address academic stress. The objective of this research was to identify the causes of academic stress that impact students' performance and health, emphasizing social, economic, environmental, and personal factors.

A questionnaire consisting of 18 items was distributed to 353 senior high school students, covering stress related to other people, personal factors, academic factors, and environmental influences. The sample consisted of students from grades 10, 11, and 12, with a nearly equal distribution between Science-Math (51%) and Art-Language (49%). The majority of respondents were female (75.9%), with a smaller representation of males (20.1%) and other genders (4%).

Stress Relating to Other People: The data on stress relating to other people highlights that changes in relationships with others cause moderate stress, with many students rating this as a significant issue. Family issues can also cause a moderate amount of stress for students, but not as significantly. However, frustration due to misunderstandings appears to be the most stressful factor, with a significant number of students rating it as a significant source of stress.

Academic Factors: Many students are experiencing high levels of stress due to increased class workload and examinations, which are the most prominent sources of stress in academics. Lower scores and missing classes also cause a moderate amount of stress, but the overwhelming concern seems to revolve around exams and workload, which the majority of students rate as highly stressful.

Environmental Factors: Students may experience moderate stress due to environmental stressors such as lack of vacations or breaks and poor living conditions. Many students strongly agree that the most significant environmental stressor is being placed in unfamiliar situations, which causes considerable stress. Although the environmental factors are varied, it is clear that unfamiliarity and living conditions are the primary concerns.

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