

THE IMPACT OF COVID-19: A STUDY OF ACADEMIC STRESS IN HIGH SCHOOL STUDENTS IN VIETNAM DUE TO THE TRANSITION FROM OFFLINE TO ONLINE LESSONS.

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ABSTRACT

COVID-19 had a detrimental impact on all humans in our society, from white-collar office workers to students. The outbreak caused stress in all individuals, leading to pressure, and a decline in learnability, even though its magnitude and origins varied. In context with the education domain, the students have suffered adverse repercussions due to the shift from traditional in-person classes to online learning modes, which has been a major cause of their mental health's downward spiral, leading to poor performances, and the inability to learn in unmonitored classroom conditions.

Aim. To assess the stress in high school students and correlate their stress levels with their end-of-year examination results for 2021.

Method. This can be achieved using Pearson's correlation coefficient, by assessing 78 high school students selected as per inclusion and exclusion criteria, from the public schools of Hanoi, with their respective results obtained for their end-of-year examinations of March 2021. The Academic stress will be calculated with the Student Academic Stress Scale (SASS), and, all the percentage of grades will be out of 100.

Results. The results obtained from the following Pearson's correlation coefficient tests showed a moderate negative correlation existing between Academic Stress levels and marks it obtained, with the r value of -0.447 . Limitations: The sample was collected from 4 public schools in Hanoi, not taking the rest of the country into account, and the accuracy of the stress level grading using SASS which can be affected by an impairment in cognitive function, excludes outliers from the research that was conducted.

Keywords: High school students, SASS, perceived academic stress

INTRODUCTION

Stress is a dynamic process occurring when an event is perceived as relevant to an individual's well-being, has the potential for harm or loss, and requires psychological, physiological, and behavioural efforts to manage the event and its outcomes (Lazarus & Folkman, 1984). Stress can also be the pathway to psychologically deal with the paradox between environmental burdens, and a person's ability to fulfill those demands.

Specifically, the WHO states that stress can be defined as a state of worry or mental tension caused by a difficult situation, stress levels can surge in catastrophic situations such as the COVID-19 pandemic, which brings concerns about health and financial burdens, that can hinder holistic growth of people (World Health Organisation). Stress is a natural human response that prompts one to address challenges and threats in one's life. Everybody experiences stress to some degree. However, the way one responds to stress makes a big difference to our overall well-being.

In light of this, when we talk about stress among students, heavy coursework is one of the biggest causes of stress, anxiety, and depression among students. It is particularly common and it can become quite overwhelming at times. Stress in students can be of two types – non- academic and academic. Diseases, poor social situations, extreme environmental conditions, family problems, difficulty in adaptation, self-image perceptions, etc may cause non- academic stress (Acosta-Gómez, 2023). whilst Academic causes may include exam stress, inability to understand the lessons, attending numerous classes, etc. Academic stress refers to hardships that arise from the numerous demands placed on students in the form of exams, maintaining academic lives, competing with peers, meeting the academic expectations of teachers and parents, and one's academic expectations.

One of the most common, yet impactful external factors was the COVID-19 pandemic that had a detrimental impact on all humans in our society, from white-collar office workers to students. The outbreak caused stress in all individuals, leading to pressure, and a decline in learnability, even though its magnitude and origins varied. In context with the education domain, the students have suffered adverse repercussions due to the shift from traditional in- person classes to online learning modes, which has been a major cause of their mental health's downward spiral, leading to poor performances, and the inability to learn in unmonitored classroom conditions.

The COVID-19 pandemic has significantly altered the educational landscape, particularly impacting high school students in Vietnam with the abrupt transition from offline to online lessons. As a teacher, it is imperative to understand the specific challenges our students face to provide effective support. This study aims to investigate the academic stress experienced by high school students during this transition.

The shift to online learning has disrupted students' familiar routines, leading to increased uncertainty and anxiety. Additionally, disparities in access to technology and resources exacerbate inequalities, hindering some students' ability to engage in online education fully. The absence of face-to-face interaction further contributes to feelings of isolation and detachment, impacting students' overall well-being.

Understanding the specific sources and manifestations of academic stress in high school students during the transition from offline to online lessons is essential for tailoring support mechanisms effectively. By gaining insights into students' experiences, educators like myself can advocate for targeted interventions and policies to alleviate stress and promote their holistic well-being in the face of ongoing challenges posed by the pandemic.

This research *aims to assess the stress in high school students of Vietnam and correlate their stress levels with their end-of-year examination results for 2021 and 2022.*

MATERIAL AND METHODS

This research was achieved using Pearson's correlation coefficient, by assessing 78 high school students selected as per inclusion and exclusion criteria, from the public schools of Hanoi, with their respective results obtained for their end-of-year examinations of March 2021 (online exam) and March 2022 (offline mode).

The Academic stress was calculated with the Scale for Assessing Academic Stress (SAAS), a 30-item self-reporting scale based on restricted (yes or no) answers, and its scores are directly proportional to the individual's stress levels. This translates to a higher score, portraying a higher stress level. On the other hand, all the academic grades are percentage grades out of 100, which constitute the students' performance and learnability numerically.

After the collection of data, the correlation was calculated between the academic stress and academic achievements of end-term exams during online lessons (year 2021) and offline exams (year 2022). The mean score of SAAS and academic grades were used for the calculation of correlation.

This way, the researcher takes into account all casualties, in the response ratios, and takes into account further external factors affecting their stress levels, such as hereditary illnesses or the burden of examinations, by comparing the results with predetermined average stress results amongst students, including the present outliers.

INFORMED CONSENT

The informed consent was obtained verbally, as it was a voluntary participation, where the students could withdraw anytime they needed. Informed consent was obtained from all participants after they were provided with a detailed explanation of the study's objectives and procedures. Participants were assured of confidentiality and their right to withdraw at any time.

ETHICAL CONSIDERATION

This study received ethical approval from the Ministry of Education and Training (MOET) Vietnam before data collection. The ethical principles outlined by the Ministry of Education and Training were strictly adhered to throughout the study.

RESULTS AND INTERPRETATION

Data was analysed using the Statistical Package for the Social Sciences (SPSS) version 25.0 (IBM Corp. Armonk, NY) and it was presented as means and percentages. Pearson's correlation was used to find out the correlation coefficient between academic stress and the 10th and 11th-grade end-of-year exam percentages for the same students in the years 2021 and 2022.

A total of 78 high school students were selected according to the study criteria, and data were analysed.

Table 1
Sociodemographic and academic data

Variable	Results
Mean age (years)	15.80 ± 0.88
Locality of the students	Urban (□□ = 57, 73.08 %)
	Rural (□□ = 21, 26.93 %)
Grade 10 (%)	76.23 ± 5
Grade 11 (%)	82.96 ± 9
Mean (%) of both levels	79.60 ± 12.94

These results refer to their correspondent variable, as the Mean age = 15.08 years, with the error of uncertainty of 0.88 years more/less respectively. This table represents the Sociodemographic and academic data of the chosen sample for this study. This table shows that there were nearly 74 % of urban (n=57) and 26% of rural (n=21) students participated, which is almost a 3:1 ratio of the total sample. The majority of participants belonged to urban areas, which was the reason for collecting data, and showcasing more willingness of teachers and students from public schools located in Hanoi city. The mean age of the participants was 15.80 ± 0.88 years, which is appropriate and anticipated as per the high school students' age range in India (Ashok et al., 2023; De Anda et al., 2000; Singh et al., 2023). The researcher performed no analysis to see any relation between the mean age of urban and rural students and their academic performance.

Table 2
Gender-wise distribution of Data and Variables

Variable	Male	Female
Distribution	42	36
Mean age (years)	16.07 ± 0.75	15.5 ± 0.75
Locality of the students	Urban (□□ = 23, 54.76 %)	Urban (□□ = 17, 47.22 %)
	Rural (□□ = 19, 45.24 %)	Rural (□□ = 19, 52.78 %)
Grade 10 exam (%)	71.67 ± 5	80.67 ± 5
Grade 11 exam (%)	79.34 ± 5	84.96 ± 5
Mean (%) of both levels	75.50 ± 5	81.82 ± 5

This table represents the gender-wise distribution of the data collected, to showcase how higher grades have been proclaimed by female students than the male students. After interpreting these results 45.24% of Male students contributed to the r value of being negative to such an extent. Contrastingly, Female students have mainly contributed to affecting and increasing the r value in the Grade 11 examinations with their highest mean score being 84.96%

Table 3
Academic Stress Level Scale (SAAS)

Academic year	Level of academic stress	Result
Grade 10 (2021)	Low (< 6)	8 %
	Moderate (< 14)	52 %
	High (> 14)	40 %
Grade 11(2022)	Low(< 6)	15 %
	Moderate (< 14)	48 %
	High (> 14)	37 %

The Academic Stress Level of students is shown in Table 3. It shows how more than one- third (40% & 37% in 2021 and 2022 respectively) of participants had a high level of academic stress on SAAS, and nearly half (52% & 48%) had moderate stress. This corresponds with a previous study that had a similar distribution of levels of stress justifying the derived hypothesis of this research (Kapali, 2019).

Table 4
Correlation between SAAS and academic scores

Batch	Academic	Scale for Assessing Academic Stress		Academic Percentage		Correlation
		□□	□□□	□□	□□□	r
		□□		□□		
2021	Grade 10	0.96	20.04	-0.23	76.23	-0.447
2022	Grade 11	5	11.8	91	82.96	-0.067

Table 4 shows the calculation for Pearson’s correlation coefficient, which was calculated from the accumulated raw data of each student’s grades and their SAAS scores for 2021 and 2022 respectively. With the calculation, the derived coefficient of each of the results showed a moderately negative correlation lying between 0 and -1. That proves how the increase in their academic stress levels demotes their grades resulting in affecting their mental health, and not being able to satisfy their need to succeed, which promotes a lack of self-esteem, further increasing the stress levels. With the calculated r values, it is determined how the positive change in the environmental factors, such as the disease spread levels, has highly impacted the students, leading the mean score to increase from 76.23 to 82.96.

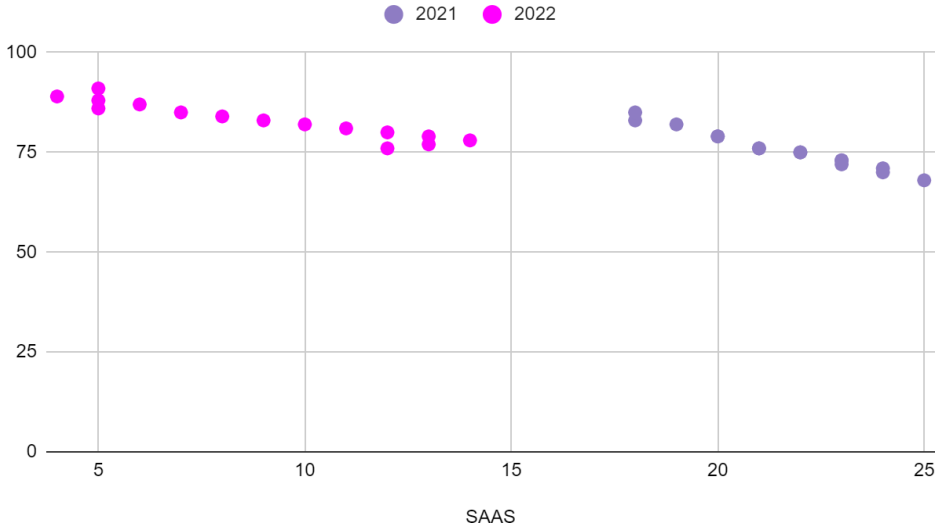


Figure 1
Representing the data collected

Graph 1 shows the graphical representation of the relationship between the SAAS scores (x-axis) and academic results (y-axis). It clearly shows how there is a moderately negative correlation as the SAAS score increases in both years, the academic score decreases, hence proving the calculation performed above. The gradient of the two graphs and the linearity of the two graphs are proven through the mathematical findings above.

CONCLUSIONS

Academic stress is omnipresent and can only be managed rather than eliminated. To achieve positive outcomes, students must eliminate stress through concentration, and motivation with the right guidance in a low stress-induced environment. However, when stress levels are moderate to high, it threatens the very purpose of learning and restricts the minds of students leading to further problems with memorability, and applicability in their daily lives and examinations that soon lead to various mental health issues. More than two-thirds of adolescents with moderate-to-high academic stress as found in this study are very alarming which showcases the importance of change in teaching methods to aid the students through such change in the external environment. These students must be identified at the earliest, and interventions or teaching must be introduced at the individual, family, community, and educational institution levels. Hence, based on the findings it can be concluded that in both cases stress levels and academic performance are negatively correlated but during the online method of exams it was moderately higher as compared to the traditional method of exams.

LIMITATIONS

The sample was collected from 4 public schools in Hanoi, not taking the rest of the country into account, and the accuracy of the stress level grading using SASS which can be affected by an impairment in cognitive function, excludes outliers from the research that was conducted.

Furthermore, Half of our participants (52% & 48%) had SAAS scores more than the mean value, similar to the findings of Reddy et al., (2018). also reported that approximately 50 % of students with average to high-stress levels. This was contradictory to the findings of Malhotra (2017) possibly due to their study sample of senior secondary school students

Additionally, the result in Table 4 is contradictory to the research carried out by Corzo Zavaleta et al., (2021) According to them, there is no relationship between stress and academic performance; where the average of the students is high and very high with 46 % and the stress of the 3 grouped dimensions is moderate with 57.3 %.

However, students report feeling stress in their academic preparation. Stress manifests itself on a physical level, mainly with headaches and insomnia, with 50.6 % of the moderate form; psychologically, with anxiety, demotivation, and sadness; but this does not directly affect their interpersonal relationships; moderately obtaining 55.1% and in the behavioural manifestations a 51.7%. The students indicate that the periods close to the evaluations generate more stress at the academic level; as well as the pressure to pass the subjects, mainly those of science that are considered the most complex. That proves that academic stress and academic performance are not directly affected, but one can stunt holistic growth in a stress-induced environment during examinations.

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