

Exploring the Effects of Stress, Anxiety and Depression on the Academic Achievement of Adolescents in the Post-Covid Period

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Abstract

The second decade of the 21st century witnessed an unprecedented pandemic that has shaken the entire world in a span of a few months. The novel coronavirus COVID-19, which shattered the entire world and was highly contagious with the possibility of causing severe respiratory disease, impacted the government and public health systems quickly. The impacts of the new coronavirus pandemic (SARS-CoV-2) on the population's mental health are one of the greatest challenges faced by humanity in the twenty-first century. The education sector was also severely impacted by COVID-19. All stakeholders, including learners, teachers, and the government, have been prompted to make several changes in service delivery to ensure that the provision of quality education continues. In this backdrop, the present study was conducted to investigate whether COVID-19-related factors have any significant effect or not on the academic performance of secondary school students. A sample of 200 secondary school students was randomly selected from different government and private secondary schools. Out of the total number of respondents, 100 were selected from the government, and the remaining half were selected from the private schools. The Depression, Anxiety, and Stress Scales (DASS), developed by Lovibond and Lovibond in 1995, are administered to measure the level of depression, anxiety, and stress. From the analysis of the data, it is found that COVID-19-induced stress, anxiety, and depression severely and significantly affected the academic achievement of adolescents.

Keywords: Adolescent, Stress, Anxiety, Depression, Academic achievement, Covid-19.

I. INTRODUCTION

The impact of the new coronavirus pandemic (SARS-CoV-2) on the population's mental health is one of the greatest challenges faced by humanity in the twenty-first century. The virus was first identified in the city of Wuhan, China, and has been recognised as the cause of severe acute respiratory syndrome, under the acronym COVID-19 (Corona Virus Disease 2019). The World Health Organization declared a state of pandemic in March 2020 (*World Health Organization, 2020*) due to the exponential increase in the number of cases, the speed of infection, and the number of deaths caused by the disease. The emergence of the unprecedented social context is creating the optimal conditions for the emergence of psychological factors, affecting people's quality of life and psychological well-being. All stakeholders, including learners, teachers, and the government, have been prompted to make several changes in service delivery to ensure that the provision of quality education might continue (Adnan & Anwar 2020). However, several

achievement gaps existed before COVID-19, and it is believed that the gaps in student achievement will widen as we move through the pandemic. The changes in the learning process and environment have also impacted the students emotionally. The psychological and emotional impacts of the changes include depression and anxiety, negatively affecting the student's perception of social-emotional development (Baloran, 2020). Students are also forced to learn in an environment where they do not have the teacher's attention necessary in facilitating their development process, making the issue a significant area to study. Several measures have been undertaken to curb the spread of this dread virus, such as closing campuses, lockdowns, and staying in the required period of quarantine. All of this has drastically altered academic lives as well as the learning process of postgraduate students.

II. REVIEW OF LITERATURE

From the review of the literature available, it was noticed that a growing body of evidence has confirmed that adolescents not only experience the whole spectrum of mood disorders but also suffer from the significant morbidity and mortality associated with them specifically in post COVID period.

Adolescent

Adolescence, transitional phase of growth and development between childhood and adulthood. The World Health Organization (WHO) defines an adolescent as any person between ages 10 and 19. This age range falls within WHO's definition of young people, which refers to individuals between ages 10 and 24. Hall characterised adolescence as a "new" developmental phase resulting from social change. Hall's exhaustive study ushered in a new approach to understanding of adolescence. Adolescence is characterized by notable changes in mood known as mood swings. Hall denoted this period as one of "Strom and Stress". It is a unique developmental period involving challenges and changes in the physical, psychological, affective, social, academic, and cognitive development domains (Cunningham, Werner, & Firth, 2004; Gherasim, Butnaru, & Mairean, 2013; Hall-Lande, Eisenberg, Christenson, & Neumark-Sztainer, 2007;).

Stress

Stress is viewed as a negative emotional, cognitive, behavioural and physiological process that occurs as a person tries to adjust to or deal with stressors (Bernstein, *et al.*, 2008). Stress is a necessary and inescapable concomitant of daily living. Stress is deemed necessary because without it, we would be listless and apathetic creatures. Students experienced academic stress arising from both their own expectations to excel as well as expectations arising from their parents and teachers (Ang and Huan, 2006). Academic stress can be very taxing on the parents and the students themselves. Stress has been tightening its grip on the students, as they have to compete at every step of their academic career in this fast-moving world. Academic stress is the product of a combination of academic related demands that exceed the adaptive resources available to an individual (Wilks, 2008). A student can be stressed due to different stressors such as financial, family, friends, emotions, and procrastinations. Some of the reasons why students perceive stress are- time pressure and the need to perform well in the exams (Erkutlu & Chafra, 2006). Mainly, the period before the exams is perceived as highly stressful by students (Nandamuri & Ch, 2011).

Anxiety

Anxiety is often an unpleasant and uncomfortable feeling of worry, fear and apprehension accompanied by one or more bodily sensations over an anticipated problem. Anxiety is an exceedingly complex concept with a variety of overtones and nuances of meaning from ordinary usage as well as from psychology, psychiatry and psychoanalysis. The word anxiety means to designate a strongly personal, phenomenally

experienced feeling of distress and anguish. Anxiety is a psychological and physiological state characterized by somatic, emotional, cognitive, and behavioural components (Ohman, 2000). The root meaning of the word anxiety is "to vex or trouble", in either the absence or presence of psychological stress, anxiety can create feelings of fear, worry, uneasiness and dread. Anxiety is considered to be a normal reaction to a stressor. It may help a person deal with a difficult situation by prompting them to cope with it.

Depression

Depression is an emotional condition in which an individual experiences being discouraged, gloomy, hopeless, unmotivated or disinterested in his or her life. However, when this state persists for more than two weeks and when the thoughts interfere with daily activities, it likely transforms into a psychological disorder that absolutely requires medical intervention (APA, 2013). It is widely observed that the incidents of depression in adolescents in general and in adolescent students who are preparing for competitive examinations in particular have increased over the last two decades. Adolescent depression may affect the teen's socialization, family relations, and performance at school, often with potentially serious long-term consequences. Many depressed individuals may be struggling to perform well in academic life because they lack courage in what they are doing. They may feel that they are not reaching the standard of performance set for them. As a result, they continuously feel disappointed and despairing. They perceive things negatively and consider themselves failures. This problem can definitely contribute to many serious problems in their academic lives, such as poor grades (Sadock BJ, 2007; Modabber-Nia MJ, Shodjai-Tehrani H, Moosavi SR, Jahanbakhsh-Asli N, Fallahi M, 2007).

It is observed that preceding the onset of the COVID-19 pandemic, mental disorders were already manifesting as a prominent health concern among the global youth demographic (Polanczyk et al., 2015). According to studies conducted in the pre-pandemic period, the prevalence of depression and anxiety was around 5.4% and 9% in children and adolescents (Vicente et al., 2012). During the pandemic, some measurements placed prevalences at 36% for depression (Moya-Vergara et al., 2023); likewise, an increase in anxiety levels was observed between 2018 and 2021 (Caqueo-Urizar et al., 2023). Depression, like anxiety and stress, not only affects the quality of life of children and adolescents but can also have lasting effects on their cognitive, emotional, and social development (Martínez-Líbano et al., 2023b; Martínez-Líbano and Yeomans, 2023; Yeomans et al., 2021; Martínez-Líbano and Yeomans-Cabrera, 2023; Alkhathami, 2014; Yeomans-Cabrera and Martínez-Líbano, 2023).

HYPOTHESES:

The present study will be conducted to examine the following hypotheses:

1. There will be a significant effect of Covid-19 induced stress on the academic achievement of the secondary school students.
2. There will be a significant effect of Covid-19 induced anxiety on the academic achievement of the secondary school students.
3. There will be a significant effect of Covid-19 induced depression on the academic achievement of the secondary school students.

III. METHODOLOGY:

a) SAMPLE: The study will be conducted on a sample of 200 adolescents from Siwan district, Bihar. In which 100 were selected from the government schools, and the remaining half were selected from the pri-

vate schools, comprising subjects of both sexes.

b) MEASURING INSTRUMENTS: The following measuring tools and instruments were applied to obtain data:

1. *DASS-21*: The *Depression Anxiety Stress Scale* (Lovibond and Lovibond, 1995)-is employed to evaluate the extent of depression, anxiety, and stress experienced by individuals. The DASS-21 scale comprises three self-report subscales that have been specifically developed to assess the severity and occurrence of Anxiety (7 items), Depression (7 items), and Stress (7 items). The grading system spans from 0 to 3. The depression scale assesses emotions such as melancholy, emptiness, self-criticism, loss of interest, and inability to get pleasure. The Anxiety scale evaluates the psychological and physical manifestations of fear, autonomic nervous system activation, anxiety in certain circumstances, and the individual’s subjective perception of feeling anxious (Huerta-Ojeda et al., 2021). The scale score is determined by summing the scores.
2. *Academic Achievement* – to assess academic achievement of the participants marks obtained by their 10th class board annual examination was taken as a secondary data.

IV. RESULT AND DISCUSSION

COVID-19 has created a severe impact on every sphere of life. Even adolescents could not escape its devastating impact. The following tables would make it adequately clear:

Table 1
Academic achievement of high and low stress adolescent students

Variables	N	Mean	SD	SE _D	t value	df	Significance	Interpretation
High Stress	100	245.50	2.89	0.751	26.24*	198	p < 0.01	Hypothesis accepted
Low Stress	100	255.98	2.76					

*Significant 0.01**

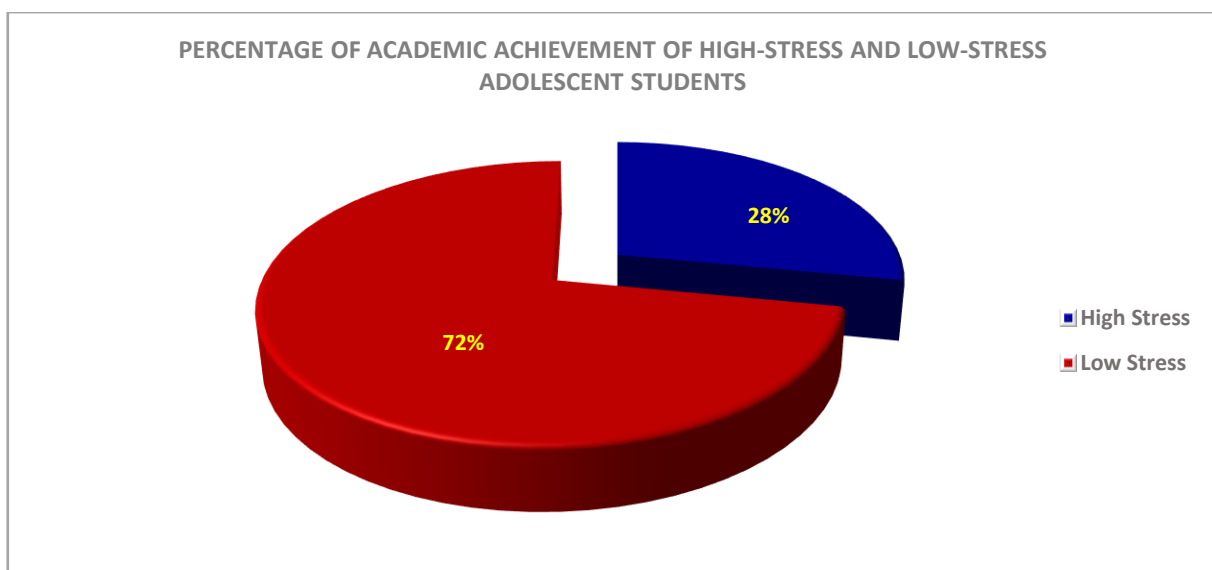


Figure:1

(Source: Author’s generated using Microsoft Excel).

Observation and analysis of data mentioned in Table 1 and in Fig. 1 show the mean score of high-anxiety students is 245.50, and the mean score of the low-anxiety students is 255.98. The standard deviations (σ) of the high-stress and low-stress students are (2.89) and (2.76), respectively. As far as the Standard Error of the Difference (SE_D) between two sample means is concerned, it is (0.751), which shows a relatively small sampling fluctuation. The obtained t-value, i.e., 26.24, is more than the table value with df-198 at the 0.05 level, i.e., 1.96, and at the 0.01 level, i.e., 2.59. It obviously indicates that there is a significant mean difference in the academic achievement of high-stress and low-stress adolescent students in the post-Covid period. There exists sufficient evidence to say that COVID-19-induced stress has adversely influenced the academic achievement of adolescent students of government and private schools. Around 72% of students showed symptoms of low stress while 28% suffered from high stress. So, there is no exaggeration to say that the COVID-19-induced stress has influenced the academic achievement of secondary school' adolescents. Thus, the hypothesis, which states that “*There would be a significant effect of COVID-19-induced stress on the academic achievement of the secondary school students,*” is corroborated and accepted in light of statistical analysis of obtained data. Our findings received further consolidation from the review of earlier studies done in this area.

Table 2
Academic achievement of high anxiety and low anxiety adolescent students

Variables	N	Mean	SD	SE_D	t value	df	Significance	Interpretation
High Anxiety	100	225.50	2.89	0.750	27.92*	198	p < 0.01	Hypothesis accepted
Low Anxiety	100	236.67	2.77					

*Significant 0.01**

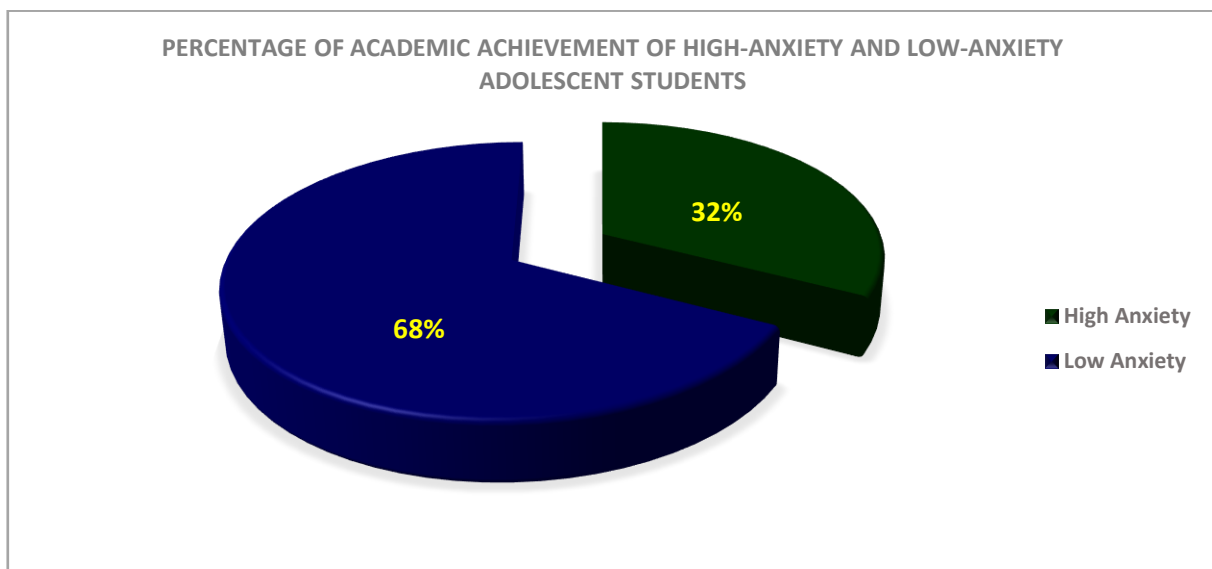


Figure:2

(Source: Author’s generated using Microsoft Excel).

Observation and analysis of data mentioned in Table 2 and in Fig. 2 show the mean score of high-anxiety students is 225.25, and the mean score of the low-anxiety students is 236.67. The standard deviations (σ) of the high-anxiety and low-anxiety students are (2.89) and (2.77), respectively. As far as the Standard Error of the Difference (SE_D) between two sample means is concerned, it is (0.750), which is a very small sampling fluctuation. The obtained t-value, i.e., 27.92, is more than the table value with df-198 at the 0.05 level, i.e., 1.96, and at the 0.01 level, i.e., 2.59. It obviously indicates that there is a significant mean difference in the academic achievement of high-anxiety and low-anxiety adolescent students in the post-Covid period. There exists sufficient evidence to say that COVID-19-induced anxiety adversely influenced the academic achievement of the adolescent students of government and private schools. Around 68% of students showed symptoms of low anxiety while 32% suffered from high anxiety. So, there is no exaggeration to say that the COVID-19-induced anxiety has influenced the academic achievement of secondary school' adolescents. Thus, the hypothesis, which states that “*There would be a significant effect of Covid-19-induced anxiety on the academic achievement of the secondary school students,*” is corroborated and accepted in light of statistical analysis of obtained data. Our findings received further consolidation from the review of earlier studies done in this area.

Table 3
Academic achievement of high depression and low depression adolescent students

Variables	N	Mean	SD	SE_D	t value	df	Significance	Interpretation
High Depression	100	205.32	3.65	0.469	24.75*	198	p < 0.01	Hypothesis accepted
Low Depression	100	215.86	2.96					

*Significant 0.01**

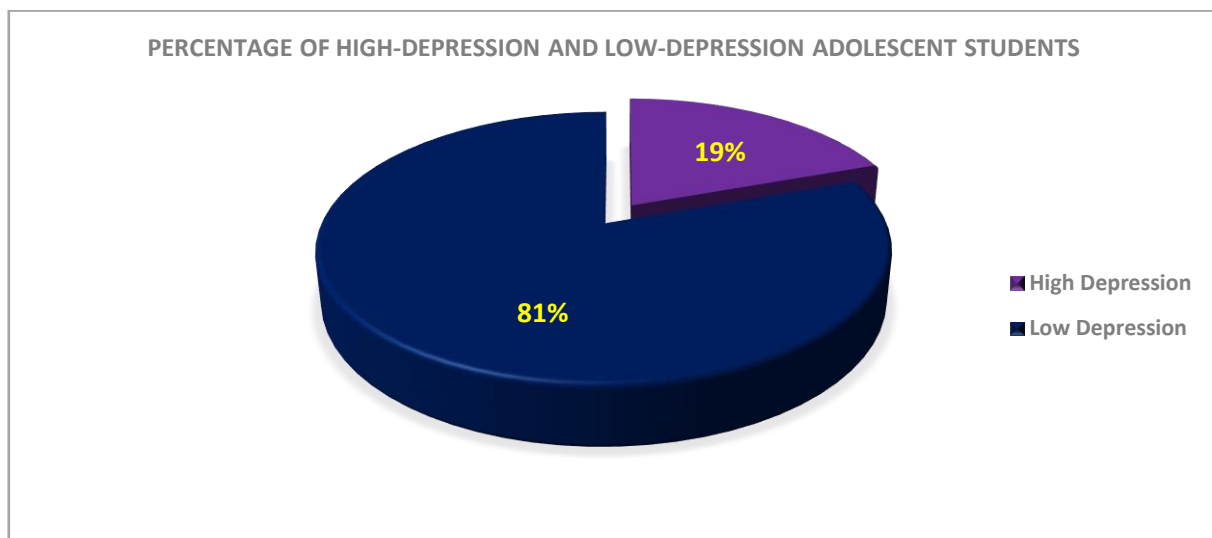


Figure 3

(Source: Author's generated using Microsoft Excel).

Observation and analysis of data mentioned in Table 3 and in Fig. show the mean score of high-depression students is 205.32, and the mean score of the low-depression students is 215.86. The standard deviations (SD) of the high-depression and low-depression students are (3.65) and (2.96), respectively. As far as the Standard Error of the Difference (SE_D) between two sample means is concerned, it is (0.469), which is a very small sampling fluctuation. The obtained t-value, i.e., 24.75, is more than the table value with df-198 at the 0.05 level, i.e., 1.96, and at the 0.01 level, i.e., 2.59. It obviously indicates that there is a significant mean difference in the academic achievement of high-depression and low-depression adolescent students in the post-Covid period. There exists sufficient evidence to say that COVID-19-induced depression adversely influenced the academic achievement of the adolescent students of government and private schools. Around 81% of students showed symptoms of low depression while 19% suffered from high depression. So, there is no exaggeration to say that the COVID-19-induced depression has severely influenced the academic achievement of secondary school' adolescents. Thus, the hypothesis, which states that "there would be a significant effect of Covid-19-induced depression on the academic achievement of the secondary school students," is corroborated and accepted in light of statistical analysis of obtained data. Our findings received further consolidation from the review of earlier studies done in this area.

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