

# Effects of Perceived Risk of COVID-19 on the Academic Stress of Undergraduate Students

**Ma. Janice J. Gumasing, Daniel Perez, Franco Sanchez, and Ervin Santos**

School of Industrial Engineering and Engineering Management

Mapua University

Muralla St., Intramuros, Manila, Philippines

[mjgumasing@mapua.edu.ph](mailto:mjgumasing@mapua.edu.ph)

## Abstract

As the number of COVID-19 cases increases, the transition to online education has affected college students' academic stress and their compelling environment. Students may experience significant stress due to such a rapid and abrupt change in the educational system. Family-related pressure, financial problems, an excessive amount of workload, fear of contagion, isolation, and their relationship to academic life contribute to academic stress. This study aims to determine whether there is a relationship between the perceived risk of COVID-19 and college students' academic stress. A total of 303 college students participated in the online survey questionnaire to measure their perceived risks of COVID-19 and their academic stress. The results were tallied and analyzed using statistical procedures. The results were treated using correlation analysis to determine the relationship between the perceived risk of COVID-19 and academic stress factors. Results revealed that the perceived risk of COVID-19 had a significant effect on undergraduate students' academic stress, specifically on factors such as isolation, contagion, and relationship to academic life. These findings suggest that some students may be particularly vulnerable to academic stress and poor emotional well-being due to the pandemic, emphasizing the need for immediate intervention and prevention strategies.

## Keywords

Academic stress, perceived risk, COVID-19, undergraduate students.

## 1. Introduction

The COVID-19 pandemic has disrupted many lives in many different sectors and industries. It changed how life and many other things work since the pandemic arrived. In the Philippines, the Coronavirus (COVID-19) pandemic has wreaked havoc on the health care system and the education system. Students' learning losses are projected to be considered a result of school closures and issues in the delivery of remote learning. While the number of students taking online courses has expanded in recent years, most students are still unfamiliar with the concept of distant learning. This lack of expertise could be exacerbated by difficult home conditions, such as a lack of academic resources (e.g., computers and internet access) and distractions in the home learning environment. Preliminary research indicates that at-home distractions (such as interruptions from other family members and additional responsibilities) pose a significant challenge for COVID-19 college students learning from home (Son et al., 2020). These issues, when considered collectively, are likely to cause severe academic stress and uncertainty.

Students are also dealing with the emotional impact of COVID-19 and the stressors associated with a potentially unfamiliar online learning environment. Fear of contracting the virus, a lack of treatment, a higher mortality rate associated with the virus, and uncertainty about when the virus will be controlled and when a vaccine will be available are the major factors found to be highly responsible for increasing psychological distress, adjustment, and even more serious mental health problems. Economic loss, disruption of daily routine, inability to participate in social events and constant news exposure are all factors that negatively impact mental health. In the U.S., a study showed that college students exhibit mental health and well-being problems comparable to those in other parts of the world dealing with COVID-19 (Luo et al., 2020; Son et al., 2020).

During times of pandemic, emotional well-being is influenced by both individual and societal factors. Until now, COVID-19 research on emotional well-being has primarily focused on societal-level factors such as response to

situational stressors (e.g., infection fears, constraints on physical movement, limited social contact, and sudden lifestyle changes) (Clabaugh et al., 2021).

### **1.1 Objectives**

Academic stress related to the ability of students to succeed in this new environment is a particular source of anxiety for higher education students. This content research analysis intends to identify the academic stressors by examining the concerns and fears that undergraduate students in the Philippines are experiencing during the time of COVID- 19.

## **2. Literature Review**

### **2.1. Academic Stress**

One of the things that students usually feel in their everyday lives, especially during the Covid-19 pandemic, is stress. The Covid-19 pandemic had a significant impact on everyone's lives since they could not go out of their houses for an extended period. This caused schools and universities to implement online classes. According to a study, American students reported higher self-imposed stressors such as frustrations, conflicts, pressures, etc., and more significant behavioral reactions to stressors than international students (Misra & Castillo, 2004). Academic stress is defined as the body's response to academic-related demands that exceed the adaptive capabilities of students. According to a study made by Alsulami et al. (2018), an estimate of 10-30% of students experiences academic stress during their whole academic career. One of the most significant health obstacles for college students is academic stress.

Due to the Covid-19 pandemic, the world has been put into a state where all schools and universities are forced to shut down for a while. As an alternative, online classes have been implemented. The sudden shift from face-to-face to online courses has impacted the students' daily lives, which has caused stress for some. According to an article from emerald insight, some findings indicated the differences between students' fear of academic failure and the online environment (Chandra, 2020). Since being stuck at home gives you no freedom to socialize with your friends/classmates, students tend to become bored, especially during online classes. They try their best to distract themselves by doing different activities.

Some causes of academic stress come from stress due to some factors such as scholarship, family-related pressure, competition, and financial burdens that are being experienced by students (Misra and Castillo, 2004). These are several factors that students may encounter at home during their academic year. Many things may have caused students to feel stressed about their academic workload. An article from the University of Botswana said that it was found that academic workload, inadequate resources, low motivation, and deficient performance have led to stress among students (Agolla et al., 2009).

### **2.2. Online Transition of Schooling**

Being able to adapt to an unfamiliar environment is a feat that not all of us can do. Some people can adapt to their environment quickly, and some may need time to adjust to their unfamiliar environment, while some are having a challenging time adjusting to their unfamiliar environment. This is what happened to students when the COVID-19 pandemic started. The students are forced to adapt to their unfamiliar environment, which is online classes. According to a study from Saudi Arabia, online courses were well-received, that online sessions are time-saving, and students improved due to online classes. However, they also encountered methodological, content perception, technical and behavioral challenges during online classes and exams (Khalil et al., 2020).

As time goes on, students, teachers, and schools can adjust to online learning. A study surveyed students about their perceptions of before and after online classes. It is said that overall, students reported a positive academic outcome. However, it has increased their stress and anxiety (Lemay et al., 2021). Although students can perform well during online classes, there is still stress building up inside them because of the sudden change. A study shows that students' effort in online courses and face-to-face classes only had a minor difference from each other. According to a study from the University of Tasmania, 72.6% of students who answered their survey gave positive reactions to face-to-face classes, while 25% gave negative, and 9% had mixed feelings. 50% of their students gave positive feedback on online classes, while 35.7% gave negative, and 14.3% had mixed feelings about online classes (Kemp, 2020).

The COVID-19 pandemic has disrupted the world's higher education. After the spread of covid 19, students were forced to shift from face-to-face to online classes. Students are the most affected by this shift. According to a study,

one of the experiences that changed from students' experiences during this shift is good teaching, clear goals and standards, and many more.

### **2.3. COVID-19 Effects on Students**

The outbreak of the Covid-19 virus has caused significant psychological distress to people from different countries. It was observed that the transmission of the virus happens when an infected person coughs or sneezes in a high populated area, causing many individuals to breathe in the same air. The virus can also be transmitted by touching objects or surfaces contaminated by the said virus. The number of reported nationwide cases in the Philippines was 3,493,447, with 53,736 deaths (Covid-19 Tracker: Department of Health, 2022). The rapid increase of the cases caused significant effects on the psychological and mental health of the people, resulting in the administration announcing preventive measures to lessen the number of cases; these actions include physical and social distancing, lockdown or staying at home, and the use of facemask when in public.

The COVID-19 pandemic has become a public health problem in the country. Many individuals suffered during the pandemic. Some suffered economically by losing their jobs and closing their stores, while others suffered physically and mentally among people of all ages. Educational institutions are also no exception to the pandemic, and all institutions have been closed to prevent the spread of the disease. College students had no choice but to continue and pursue their studies via e-learning. According to several studies, Covid-19 and e-learning have caused adverse effects on students, expressed as anxiety, fear, and worry (Cao et al., 2020). Findings show that college students experience stress because of the Covid-19 outbreak.

In addition, college students also experience social stigma because they currently live in infected urban areas or live with family members working outdoors and casually being exposed to the public. The study also stated that the students' anxiety also affects their academic performance and future employment. The continuous increase in the number of positive cases is the fundamental cause of why college students experience anxiety. Further, studies found that mental and health problems such as stress and depression are also considered a threat to college students due to the pandemic. An excessive amount of workload is one of the most common stressors among college students during the pandemic. Students are required to have academic tasks or requirements to enhance their skills and improve their performance. However, during the pandemic, academic pressure arises in taking care of one's mental health while preparing for upcoming tasks or exams. This pressure could result in excessive stress, which may cause students to suffer from headaches, lack of energy, loss of appetite, etc. Prolonged stress is also associated with mental problems such as depression and anxiety, affecting the students' academic performance. Yang et al. (2021) proposed three common stressors among college students amid the Covid-19 outbreak; these are (1) academic workload, (2) separation from school, and (3) fears of contagion. The study shows that these three stressors have a significant impact on the students' mental health during the Covid-19 pandemic. Another study conducted by Chaturvedi et al. (2021) concluded that the Covid-19 outbreak had significantly impacted students' mental health, social life, and academic performance. The student's lack of social interaction may lead to several health conditions. Some students are more motivated and comfortable working in a social environment, particularly in a school environment. A study by Seipp B. (1990) shows that having anxiety contributes a lot to the disruption of academic performance. The study shows that people with anxiety tend to do less good in academic performance.

In collaboration with anxiety, stress, and depression, students are also worried and uncertain when they think about their future. In the study conducted by Aucejo et al. (2020), the Covid-19 pandemic had caused a significant negative impact on the future of college students. According to the study, students have delayed their graduation due to the outbreak, lost their internships and job offers, and some expect to earn less after graduating. A study shows that anxiety has been severe in people due to the pandemic leading to disruption to various aspects of their life, such as relationships with people and disruption in their daily activities, and a possibility of having depression due to severe anxiety. The stigma and discrimination that people who survived COVID-19 leads to the disruption of their life. Posing as threats to the various aspects of their life. (Bagcchi, S., 2020)

### **3. Methods**

A total of 303 university students participated in the study. Participation was anonymous and voluntary. Online survey questionnaires were used to determine the perceived risk of students for COVID-19 as well as academic stress factors such as contagion, isolation, and relationship to academic life. To assess the stress as perceived by the students, a standard questionnaire Perceived Stress Scale, was used. It is a self-reported questionnaire that measures the degree to which an individual appraises a situation in their life as stressful. The scale consists of eight (8) negatively phrased

items. Each item is rated by respondents on a 5-point scale ranging from 'strongly disagree (1)' to 'strongly agree (5)'. The scale has been used in numerous studies and has shown good reliability. The questionnaire was evaluated psychometrically and determined to be a valid and reliable tool before data collection. The alpha coefficients of Cronbach's alpha for the dimensions ranged from 0.79 to 0.89, indicating that the questionnaire's internal consistency was adequate.

The obtained data were coded and entered into the SPSS version 25 statistical tool for analysis after each questionnaire was checked for completeness and consistency. Descriptive statistics were used to measure the participants' risk perceptions and baseline characteristics. Correlation analysis and a multiple regression model with a 95 percent confidence interval were used to determine the strength of the link between the risk factors and perceived risk for COVID-19, and the goodness-of-fit was used to test model fitness. A 0.05 p-value was declared as the significance level.

#### 4. Data Collection

A total of 303 respondents participated in the study. The results showed that most respondents are male (58%). Most of the respondents are aged 21 years old (54.46%), followed by 20 years old (25.74%), then 22 years old and above (11.88%), while 5.94% are 19 years old and only 1.98% are aged 18 and below. Since most of the respondents are 21 years old, most respondents are in the 3<sup>rd</sup> year level in college. Their area of residence mostly lives in the city (62.38%), while the rest lives in the province (37.62%).

### 5. Results and Discussion

#### 5.1. Perceived Risk of COVID-19

As presented in Table 1, the study results showed that the students had a high perceived risk for COVID-19. The majority of the respondents feel at risk for COVID-19 ( $x=3.44$ ); they worry that their family members might get infected with the disease ( $x=4.05$ ); they feel that their health will be severely affected if they get infected ( $x=3.77$ ); they feel disturbed because of COVID-19 ( $x=3.68$ ); they had stigma related to COVID-19 ( $x=3.69$ ); they fear going to the hospital even they get infected with COVID-19 ( $x=3.69$ ); they have a fear of contact with people with flu symptoms ( $x=3.94$ ), and they feel anxious because of COVID-19 ( $x=3.86$ ). A study by Ozdin S. (2020) stated that the COVID-19 pandemic had caused more severe anxiety to the people affected. It led to many other health issues and disruption to their daily activities. A study by Bagcchi (2020) revealed that front liners and people who survived COVID19 are facing stigma and discrimination from the people around them. This stigma and discrimination pose a threat to their personal life. This stigma and discrimination may also contribute to the worrying that health may be severely affected, worry a family member contracts COVID-19, and feeling disturbed about COVID-19.

Table 1. Summary of Perceived Risk for COVID-19

Items	Mean	Std. Dev.	Range	Agreement
Feeling at risk for COVID-19	3.44	1.04	1-5	Agree
Worry that family member might get infected	4.05	0.98	1-5	Agree
Health will be severely affected	3.77	1.20	1-5	Agree
Feel disturbed because of COVID-19	3.68	1.17	1-5	Agree
Stigma related to COVID-19	3.69	1.01	1-5	Agree
Fear of going to hospital	3.10	1.29	1-5	Agree
Fear of contact with people with flu symptoms	3.94	1.12	1-5	Agree
Anxiety	3.86	1.15	1-5	Agree

#### 5.2. Perceived Academic Stress

As presented in Table 2, the results of this study showed that the academic stress of students is evident during the pandemic. The survey questions were classified into three stress factors: contagion, isolation, and relationship to academic life. Based on the result, the majority of the students believed that there is a risk of contagion for COVID-19 ( $x=2.90$ ); they had experienced changes in social isolation due to COVID-19 ( $x=2.83$ ); they also experienced changes in their sexual life due to pandemic ( $x=2.45$ ); they also experienced changes in their relationship with their

relatives ( $x=2.53$ ); colleagues ( $x=2.79$ ); and professors ( $x=2.87$ ). Lastly, they also believed that their academic studying experience had changed due to the COVID-19 pandemic ( $x=3.41$ ).

The results proved that students experience academic stress due to COVID-19, which could lead to anxiety and depression. A study by Owens et al. (2012) stated that anxiety and depression negatively influence the academic performance of students. Students with anxiety tend to underperform compared to students who feel better. The results also showed that students experience social isolation and changes in sexual life due to COVID-19. A study conducted by Mosanya M. (2020) stated that social isolation produced loneliness and lack of control which significantly affected their academic performance during the COVID-19. Lastly, the results also showed that their relationships with academic life have considerably shifted due to the pandemic. A reason for this is that most of the communications during this time are done through social media. It can affect their relationship with their relatives, colleagues, professors, and overall academic studying experience, which generates academic stress among students.

Table 2. Summary of Academic Stress Measure

Variable	Items	Mean	Std. Dev.	Range	Remarks
Contagion	Risk of contagion	2.90	0.84	1-4	Agree
Isolation	Condition of social isolation	2.83	0.80	1-4	Agree
	Changes in sexual life	2.45	1.14	1-4	Agree
Relationship to academic life	Relationship with relatives	2.53	0.95	1-4	Agree
	Relationship with colleagues	2.79	0.90	1-4	Agree
	Relationship with professors	2.87	0.91	1-4	Agree
	Academic studying experience	3.41	0.76	1-4	Agree

### 5.3. Correlation Analysis

Pearson correlation analysis was performed to determine the strength of the relationship between the academic stressors and perceived risk for COVID-19. Based on the results shown in Table 3, a high association between contagion and perceived risk was determined. According to a study by di Crosta et al. (2020), the fear and consequences of COVID-19 contagion were predictors of high stress and anxiety. Similarly, a study in Iran also found that anxiety levels seem to be related to the fear of contagion of COVID-19, as assessed on an Iranian sample using a new validated self-report questionnaire (Ahorsu et al., 2020). The findings presented in this study help us better understand the impact of the COVID-19 pandemic on the population's mental health by identifying people at high risk of acquiring stress and anxiety. This may help with the execution of specialized procedures to prevent developing symptoms of stress and anxiety amongst students.

The study also revealed that the perceived risk of COVID-19 had a moderate association with the fear of isolation. A study by Jaspal et al. (2020) found that social isolation may lead to the development of stress and anxiety during the COVID-19 pandemic. Similarly, previous studies proved that social isolation had been linked to poor mental and physical health and greater morality (Cacioppo & Hawkley, 2003). Feelings of loneliness, or the subjective experience of being disconnected and separated, may be exacerbated by social isolation. The negative impacts can be much more severe for persons currently experiencing a severe lack of physical and interpersonal touch. Thus, a concerted effort to integrate psychological and medical intervention is required (Jaspal et al., 2020).

The present study also proved a moderate association between the perceived risk of COVID-19 and its relationship to academic life. Personal relationships among families, friends, and colleagues have been reshaped during the COVID-19 pandemic. Due to social distancing precautions, people have suffered from isolation from friends and the community. Such situations could lead to feelings of boredom and loneliness, which increases stress and anxiety among the target population. In addition, previous studies have shown that the academic performance of students had significantly declined throughout the pandemic and that individuals with developmental skills likely halted their progression to improved skills due to stress and anxiety caused by changes in the academic relationship during the pandemic (Al-Tammemi, 2020; Brookset al., 2020). The COVID-19 pandemic negatively affects social relationships, which could ultimately lead to adverse health implications. Hence, decision-makers are urged to implement educational initiatives to improve the students' mental health and well-being.

Table 3. Result of Correlation Analysis

Factors	Pearson Correlation (r)	p-value	95% CI for p	Remarks	Level of association
Contagion → perceived risk	0.584	<0.001	(0.439, 0.700)	significant**	high association
Isolation → perceived risk	0.312	0.001	(0.125, 0.479)	significant*	moderate association
Relationship to academic life → perceived risk	0.487	<0.001	(0.322, 0.623)	significant**	moderate association
Isolation → contagion	0.16	0.109	(-0.036, 0.345)	not significant	no association
Relationship to academic life → contagion	0.35	<0.001	(0.166, 0.510)	significant**	moderate association
Relationship to academic life → isolation	0.389	<0.001	(0.209, 0.543)	significant**	moderate association

\* p-value <0.001

\*\* p-value <0.005

## 6. Conclusion

The outcomes of this study revealed that the COVID-19 outbreak had had a substantial impact on student's mental health, education, and daily routine. The COVID-19-related disruptions bring critical issues and provide an opportunity to assess alternative educational strategies. Results of the present study revealed that the perceived risk of COVID-19 had a significant effect on undergraduate students' academic stress, specifically on factors such as isolation, contagion, and relationship to academic life. These findings suggest that some students may be particularly vulnerable to academic stress and poor emotional well-being due to the pandemic, emphasizing the need for immediate intervention and prevention strategies.

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