

# INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY: APPLIED BUSINESS AND EDUCATION RESEARCH

2023, Vol. 4, No. 10, 3481 – 3488

<http://dx.doi.org/10.11594/ijmaber.04.10.03>

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## Research Article

### The COVID-19 Anxiety, Depression and Stress Levels of AIMS Students and their Impact on Well-Being: Inputs for Mental Resiliency Program

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#### Article history:

Submission August 2023

Revised October 2023

Accepted October 2023

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#### ABSTRACT

The COVID-19 pandemic brought uncertainties and complexities to both national and global societies, impacting various sectors, including education. This study focuses on the effects of pandemic-related challenges on students' achievement and mental well-being at the Asian Institute of Maritime Students (AIMS). The closure of schools and the rapid shift to online learning during lockdowns disrupted students' achievement and mental health. This research aimed to assess the levels of COVID-19-related anxiety, depression, and stress among AIMS students and their subsequent impact on overall well-being.

Using a descriptive-correlation research design, data on anxiety, depression, stress, and well-being were collected from a sample of 369 AIMS students through stratified random sampling. The Depression, Anxiety, and Stress Scale (DASS-21) by Lovibond and Lovibond (1995) measured mental health, while the Well-Being Checklist by Loomans (2018) assessed overall well-being.

Results indicate that AIMS students experienced mild stress (M= 17.31) and moderate depression (M= 16.78), with notably severe levels of anxiety (M= 15.67). Their overall well-being ranged from moderate to high, encompassing physical, emotional, mental, and spiritual dimensions, resulting in an overall well-being score of 6.95 (moderate). Notably, depression exhibited a significant inverse correlation with overall well-being, while anxiety and stress also showed significant relationships when considered separately.

The findings emphasize the need for targeted interventions to enhance students' mental resilience. Programs addressing depression were recommended, given its potential long-term negative impact on students' well-being. These insights contribute to the development of a comprehensive mental resiliency program, vital for promoting the holistic welfare of AIMS student.

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#### How to cite:

Garibay, M., Jasmin, P., Adesna, M. C., Makilang, D. M., & Pangilinan, J. A. E. (2023). The COVID-19 Anxiety, Depression and Stress Levels of AIMS Students and their Impact on Well-Being: Inputs for Mental Resiliency Program. *International Journal of Multidisciplinary: Applied Business and Education Research*. 4(10), 3481 – 3488. doi: 10.11594/ijmaber.04.10.03

**Keywords:** Anxiety, Asian Institute of Maritime Studies (AIMS), Covid-19, Depression, Stress, Well-Being

## Introduction

The COVID-19 Pandemic has introduced uncertainty and complications into major aspects of national and global society including schools and universities (Kuhfeld et al., 2020). It is indubitable that the education sector's closure during the first period of the lockdown impacted the achievement of students along with the rapid conversion of classroom instruction to online platform that continue to affect their achievement.

Higher education Institutions in the country have implemented proactive policies for the continuance of education despite the global crisis. These policies include modified form of online learning that aim to facilitate student learning activities. Online learning might be in terms of synchronous, real-time lectures and time-based outcomes assessments, or asynchronous, delayed-time activities, like pre-recorded video lectures and time-independent assessments (Joaquin, Biana et al., 2020). To respond to the need of the learners, the Asian Institute of Maritime Studies had modified its curriculum and adhered to the policies mandated by the Commission on Higher Education (CHED). However, these radical changes not only reform the way students will learn but also influenced the way students will feel and act.

According to Singh et al. (2020), young people such as college students are particularly vulnerable to the adverse mental and psychological health consequences of the stay-at-home orders or lockdown measures, as they pose a potential threat to their physical, mental and emotional health as well as their educational and developmental progress. Students' mental wellness and well-being had been the center of the AIMS Student Welfare Services program. During the start of the academic year, SWS personnel has been dedicated to looking into students' current condition and determining the best assistance the school can provide to them. Through feedback and observation, it is beyond doubt that the problems brought by the global crisis are starting to manifest. However, no formal study has been conducted yet to

determine the effects and extent of the pandemic on AIMS students' physical and mental well-being. Thus, the researcher aims to determine the COVID-19 anxiety, depression, and stress levels of AIMS students and the impact on their well-being. The results of this study will provide valuable inputs that can contribute to the development of a mental resiliency program that intends to respond to the emerging needs of AIMS students.

COVID-19 Pandemic has brought different problems and radical changes to the lives of many, particularly to students. Through AIMS SWS' extensive efforts and routine interviews, it reflects that the changes brought by this disease significantly affect the mental and physical health condition of the AIMS students. Following this, the researchers want to conduct a quantitative study to measure the influence of the COVID-19 Pandemic on AIMS students in SY 2021-2022. Specifically, the study seeks to answer the following questions:

1. What is the COVID-19 anxiety, depression and stress level of AIMS students?
2. What is the measure of well-being of AIMS students in terms of the following aspects:
  - 2.1. Physical
  - 2.2. Emotional
  - 2.3. Mental
  - 2.4. Spiritual
3. Is there a significant relationship between the following paired variables:
  - 3.1. Anxiety and well-being;
  - 3.2. Depression and well-being; and,
  - 3.3. Stress and well-being?
4. Based on the findings of the study, what inputs can be drawn to contribute in the development of a mental resiliency program for AIMS students?

**Conceptual Framework.** This study will look into the impact of the COVID 19 pandemic on the well-being of AIMS students. With this objective, the study will posit the cause-and-effect relationship of variables. Thus, the Independent Variable – Dependent Variable (IV-DV) format will be applied (see Figure 1).

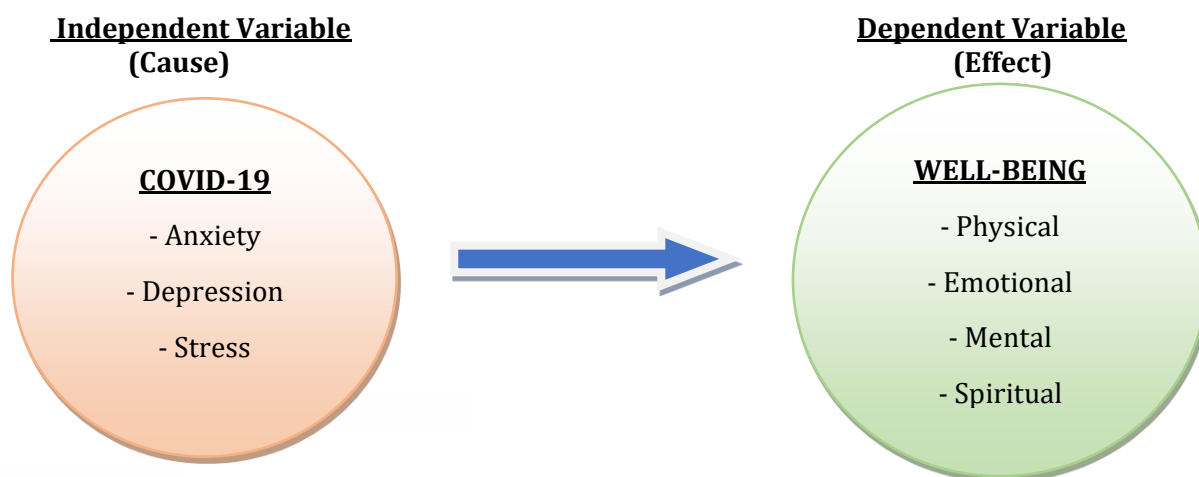


Figure 1. Research Paradigm

According to Patrick et al (2020), the independent variable of the study is the cause where its value is independent of the other variables while the dependent variable is the effect and its value depends on the changes in the independent variable. Henceforth, anxiety, depression, and stress levels are the independent variables. The levels of these variables were believed to have increased due to the advent of the COVID-19 pandemic. On the other hand, physical, emotional, mental, and spiritual well-being are the dependent variables. With the assumed increase of anxiety, depression, and stress levels, the well-being variables' stability is assumed to be affected. Hence, in considering that the independent variables possibly impact the dependent variables, determining their relationship is essential as this will answer the study's primary objective. Thus, the above premise became the basis in expressing the hypothesis of the study.

**Hypothesis.** At 0.05 level of significance, the study will test if there is a significant relationship between the anxiety, depression, stress levels and the well-being of the AIMS students.

## Methods

**Research Design.** The study will use the descriptive design. A descriptive method is concerned with conditions that are prevailing,

processes that are going on, and effects that are felt in trends that are developing. Variables of the study requiring descriptive data are anxiety, depression, and stress levels as well as the well-being of AIMS students. To further determine the relationship between anxiety and well-being; depression and well-being; and, stress and well-being, correlational design will be used. According to Calmorin and Calmorin (2012), "correlation is designed to determine the relationship of two variables (X and Y)." Hence, the utilization of a correlational method for the study.

The study will employ stratified random sampling. According to Mukundan (2018), stratified sampling is a method of dividing the population into various subgroups or strata and drawing a sample from each. Each subgroup or stratum consists of items that have common characteristics. Thus, the process of selecting a simple random sample from each stratum is referred to as "stratified random sampling". Further, proportionate and disproportionate sampling will be specifically applied. This is yielded by dividing the Total Sample Size over the Entire Population and multiplying by the Population of Subgroups. Using the program/course of the respondents as the basis for stratification, this procedure will be applied to the BSMT, BSMarE, BSCA, BSNAME, BSHM and BSBA (See Table 1 below).

Table 1. Total Population and Sample Size of Respondents, N=2,229

Program/Course	Total Population*	Sample Size
1. BS Marine Transportation	1,592	245
2. BS Marine Engineering	308	47
3. BS Customs Administration	121	19
4. BS Nav. Arch. & Mech. Engineering	87	13
5. BS Hospitality Management	66	10
6. BS Business Administration	24	4
7. BS Computer Science	6	6**
8. BS Electrical Engineering	4	4**
9. BS Mechanical Engineering	7	7**
10. BS Industrial Engineering	3	3**
11. B Performing Arts – Dance Track	8	8**
12. B Performing Arts – Theater Track	3	3**
<b>Total:</b>	<b>2,229</b>	<b>369</b>

\*Source: 1<sup>st</sup> Trimester, SY2021-2022, Center for Student Records and Certification, AIMS

\*\*Disproportionate Samples

On the other hand, disproportionate sampling will be applied for the BSCS, BSEE, BSME, BSIE, BPea-Dance and BPea-Theater courses. According to James & Beer (2021), in a disproportionate sampling, the size of each stratum is not proportional to its size in the population. This is so applied because responses from minority subsets have a sample size that would otherwise be too low for the study to draw any statistical conclusions (“What is stratified sampling...,” 2021). Hence, the application of this sampling method for the remaining programs/courses as they all have a very low subgroup size. In application of the above sampling techniques, the sample size of the study will be 369 AIMS students taken from a total population of 2,229.

**Instrument.** To measure the depression, anxiety and stress levels of the respondents brought by the COVID-19 pandemic, the study will adapt the 21-item “Depression, Anxiety and Stress Scale” (DASS-21) of Lovibond and Lovibond (1995). The DASS-21 is a widely used instrument that intends (Basha & Kaya, 2016) to reveal the psychological status of individuals as well as in determining the level of negative emotional states. It has been demonstrated to be a reliable and valid measure in assessing mental health in Filipinos and Chinese, hence, was used in research related to the COVID-19 epidemic (Wang et al., 2021).

Two main statistical procedures/tools were employed in yielding the data of the study. First, the weighted mean was used to describe the extent of the following variables: depression, anxiety, stress, and well-being. This is reflected in problems 1 and 2 of the study. Second, Simple and Multiple Linear Regression was used to test if there exist a significant relationship on the following variables: between anxiety and well-being; between depression and well-being; and, between stress and well-being. This is specifically presented in problem 3 of the study. To specifically derive the results of the study, the Statistical Package for Social Science (SPSS) was used.

## Result and Discussion

The results of the study present that the student participants from Asian Institute of Maritime Studies (AIMS) have mild levels of Stress (M= 17.31, SD= 10.91). This may mean that the students experience a low level of over-arousal and inability to relax. They were also found to have moderate levels of Depression (M= 16.78, SD= 11.80). This shows that, on average, the students are experiencing a little higher than normal level of mental health concerns like depression, feeling gloomy, and dispirited.

A significant finding suggests that the participants have severe levels of Anxiety (M= 15.67, SD= 10.89). It can be inferred based on

the instrument used that the students of AIMS experience a very high level of apprehensions and worrying. This is for the reason of the wide variety of circumstances that the students experience during the pandemic. Fear of

contracting the disease, problems with academics, changes in social relationships, limited physical interaction with families and friends and so on are all factors affecting their level of anxiety.

Table 2. Descriptive Statistics of the Participants' Level of Depression, Anxiety, and Stress (N=368)

	Mean	SD	Verbal Interpretation
Depression	16.78	11.80	Moderate
Anxiety	15.67	10.89	Severe
Stress	17.31	10.91	Mild

Depression: 0-9 = Normal, 10-13 = Mild, 14-20 = Moderate, 21-27 Severe, 28+ = Very severe  
 Anxiety: 0-7 = Normal, 8-9 = Mild, 10-14 = Moderate, 15-19 = Severe, 20+ = Very severe  
 Stress: 0-14 = Normal, 15-18 = Mild, 19-25 = Moderate, 26-33 Severe, 34+ = Very severe

Furthermore, the results also show that the students have well-being ranging from moderate to high level, in terms of: Physical (M= 6.11, SD= 1.86); Emotional (M= 7.33, SD= 1.66); Mental (M= 7.09, SD= 1.91); Spiritual (M= 7.29, SD= 1.88); and Overall Well-being (M= 6.95, SD= 1.68).

These indicate that, on average, the students of AIMS have positive measures of their well-being. Given the mild to severe levels of mental health concerns, it can be assumed that this can be a protective factor among the students.

Table 3. Descriptive Statistics of the Participants' Well-Being (N=368)

	Mean	SD	Verbal Interpretation
Physical	6.11	1.86	Moderate Well-being
Emotional	7.33	1.66	High Well-being
Mental	7.09	1.91	High Well-being
Spiritual	7.29	1.88	High Well-being
Overall Well-being	6.95	1.68	Moderate Well-being

Interpretation: 1-2 = Very Low Well-being, 3-4 = Low Well-being, 5-6 = Moderate Well-being, 7-8 = High Well-being, 9-10 = Very High Well-being

The researchers computed for Simple and Multiple Linear Regression Analyses using SPSS version 26 (IBM, 2019) to test and examine the significant relationship of the students' level of depression, anxiety, and stress on the level of their well-being.

The results reveal that there are significant relationships between the variables, especially when tested separately; that is, there are negative or inverse correlations with the Overall Well-being when regressed from: Depression,  $B = -.078$ ,  $SE = .006$ ,  $t = -12.621$ ,  $p = .000$ ; Anxiety,  $B = -.075$ ,  $SE = .007$ ,  $t = -10.599$ ,  $p = .000$ ; and, Stress,  $B = -.077$ ,  $SE = .007$ ,  $t = -11.089$ ,  $p = .000$ .

These mean that as one variable increases, the other decreases, or vice versa. The findings also indicate that for every one (1) unit/ score increase in: Depression, there is a  $-.078$  change in the students' well-being; Anxiety, there is a  $-.075$  change; and, Stress, there is a  $-.077$  change in their well-being. Although it is noted that there are small changes, these changes are significant.

Furthermore, a multiple regression analysis was computed to see the relationship of the mental health issues of depression, anxiety, and stress when all variables are considered in the model. The results show that when all the variables are taken into account, that is when we consider the presence of the levels of all the variables together (and not

separately; thus, this is closer to reality), only depression ( $B= -.064$ ,  $SE= .013$ ,  $t= -4.933$ ,  $p= .000$ ) was found to have a significant correlation to the overall well-being, and not anxiety,  $B= -.004$ ,  $SE= .015$ ,  $t= -.257$ ,  $p= .798$ , or stress,  $B= -.014$ ,  $SE= .016$ ,  $t= -.856$ ,  $p= .392$ .

This means that considering the level and the students' experience of having both depression, anxiety, and stress, it is found that only the depression may have a later negative and significant relationship with the student's overall well-being. Thus, when the students experience changes in their anxiety and stress levels, however mild or severe they could be, it may not be significant to cause any change in their well-being, unlike the changes in

depression. It is identified that depression is one of the causes that can impair a person's sleep, food, mental and physical health, self-esteem, social interaction, and academic achievement, among other things, according to the International Board of Credentialing and Continuing Education Standards. A student dealing with one of these can experience negative effects on their attention, interpretation, concentration, memory, social interaction, and physical health. Depression can be dangerous to one's health significantly if it lasts for a long time and has a moderate or extreme severity. It can make the affected person suffer and perform poorly at work, school, and family.

Table 4. Linear Regression's Model Summary Statistics of the Participants' Level of Depression, Anxiety, and Stress on their Overall Well-Being (N= 368)

Model	R	R <sup>2</sup>	Adjust R <sup>2</sup>	SE of Estimate
1 Depression	.551	.303	.301	1.401
2 Anxiety	.485	.235	.233	1.468
3 Stress	.501	.251	.249	1.452
4 Depression, Anxiety, and Stress	.553	.306	.300	1.402

Table 5. Linear Regression Coefficients of the Participants' Level of Depression, Anxiety, and Stress on their Overall Well-Being (N= 368)

Model	B	SE	$\beta$	t	p-value	Interpretation
1 Depression	-.078	.006	-.551	-12.621	.000	Significant
2 Anxiety	-.075	.007	-.485	-10.599	.000	Significant
3 Stress	-.077	.007	-.501	-11.089	.000	Significant
4 Depression	-.064	.013	-.453	-4.933	.000	Significant
4 Anxiety	-.004	.015	-.025	-.257	.798	Not Significant
4 Stress	-.014	.016	-.089	-.856	.392	Not Significant

Dependent Variable: Overall Well-being

The study primarily focused on determining the COVID-19 anxiety, depression, and stress levels of students and their impact on their overall well-being. This is to aid in the development of mental resiliency programs of the Student Welfare Services to alleviate the harmful effects of these factors. Based on the instrument used, the results indicate that students have mild levels of stress, moderate levels of depression and severe levels of anxiety. Depression and anxiety are the most common types of mental disorders, and comorbidity is also prevalent with these two disorders, which means that depression and anxiety may be

simultaneously present in one person. Many individuals with anxiety also have depression and vice versa (Beiter et al., 2014). Meanwhile, stress is the typical reaction of a person's physical and mental aspect towards any change that requires an adjustment or response to perceived threats in a person's life. May it be literal or imagined, stress affects the physiological and psychological well-being of people. In turn, these effects can result in several stress reactions, such as the fight-or-flight response (Seaward, 2018). In a conducted study amongst Filipino students, stress was positively associated with their everyday routine and significantly

affected their mental state. Such routines that correlate with their stress response were ranked in the following order: academics, amount of workload, and time management (Dy, Ferido, Espiritu-Santo, & Ria, 2015).

This only shows that the students are more susceptible to developmental health concerns especially during pandemic because of the fear of rapid quarantine, delays in school opening, and moving to online teaching.

Furthermore, the results also shows that the students of AIMS have a moderate to high measures of well-being. According to the World Health Organization (WHO), "wellbeing exists in two dimensions, subjective and objective. It comprises an individual's experience of their life as well as a comparison of life circumstances with social norms and values". The students' life circumstances include health, education, social relationships, their environment, security, civic engagement, housing and school-life balance that are fundamental to the overall health of a student, enabling them to successfully overcome difficulties and achieve their highest potential in life.

In addition, given the mild to severe level of mental health and the moderate to high measures of well-being, this can be inferred that this is a protective factor among the students. Since the pandemic brought myriad different stressors into the lives of most people, including college students, this was a time requiring extraordinary coping mechanisms. Based on the study conducted by Lopes et al (2021), the higher levels of satisfaction with life and dimensions of psychological well-being, as well as the use of appropriate coping strategies, may constitute protective factors in undergraduates in relation to depression, anxiety and stress symptoms.

Concerning the relationship among variables, the results presented that there is a significant relationship between mental health and well-being of the students. As one variable increases, the other variable decreases or vice versa. This means that when the level of anxiety, depression and stress decreases, the well-being of the students increases. This shows that students of AIMS are resilient to factors that may affect their well-being. However, it is

found that depression may have a later negative impact on the student's overall well-being.

## Conclusion and Recommendation

The researcher found out that AIMS students have a severe level of anxiety than the levels of depression and stress however, the students also have positive measures of their well-being. But, considering that depression may have a later negative and significant relationship with the student's overall well-being, programs related to this factor is recommended.

Based on the findings, the researchers developed recommendations for improving mental resilience and implementing preventive measures among students. It has emphasized the need for programs and projects of training workshops and coping with crises during academic studies. The researcher will also establish a mental-emotional intervention program guided by experts and will expand the teleconsultation services. At the same time, a collaborative project with ITDO and the Academic Department about educational support and digital literacy training to streamline distance learning, and ensure adequate skills to continuously adjust, adapt, and be accustomed to the hybrid modality of the new normal.

## Acknowledgement

The researchers want to express their appreciation and sincerest gratitude to the following persons who assisted and helped in the realization of this study, without them, this may not have been a success;

Ms. Maria Jinky M. Regente, the Head of the Student Welfare Services, for her time and untiring effort, inspiration, patience and encouragement, and her excellent guidance for the improvement of the study and in writing the manuscript.

Mr. Melvin Macuha, our Statistician, for his assistance in the research results and interpretation.

Ms. Carleen Ann H. Abayon, who provided insight and expertise that greatly assisted the research.

The CRID staffs, who guided the researchers and for all the suggestions that helped improved this study.

All the students who became the participants in this study, for the accommodation, and for their trust and willingness to share their time in answering the research instrument that helped the researchers come up with good results.

The Almighty God, for His guidance, strength, wisdom, knowledge and protection to overcome different trials and to finish this study.

The Researchers for strength and guidance.

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