

Perceived Stress as Predictors of Depressive Symptoms among PUP Academic Scholars during COVID-19 Pandemic

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Abstract

The Coronavirus disease has resulted to people's feeling of stress and depressive symptoms. This study aims to identify how perceived stress in the current epochal crisis can yield to depressive symptom among PUP Academic Scholars. Specifically, it seeks to describe the stress level of the respondents, describe the severity of depression symptoms they manifest, and lastly, determine significant relationship between the stress level and depressive symptoms of the respondents. The study employed quantitative correlational method. Students came from Polytechnic University of the Philippines, and they were selected through simple random sampling. Tools in the study include the Perceived Stress Scale for assessing the respondents' level of perceived scale and the Beck Depression Inventory-II for assessing their depressive symptoms. Based on the results, the perceived stress level of the respondents has a mean of 28.80 and a standard deviation of 5.99 which is considered as High Level, while the level of depressive symptoms has a mean of 23.57 and a standard deviation of 11.39 which is considered as moderate. The Pearson Product Moment Coefficient Correlation was employed to determine the relationship between perceived stress and depressive symptoms. The study found that there is a significant positive relationship between perceived stress and depressive symptoms with .05 level of significance in a 2-tailed test. This means that as the perceived stress increases, the depressive symptom increases as well, which is a systematic direct relationship. In the end, recommendations are directed toward the university administration intervention programs and the PUP academic scholars for proactive responses.

Keywords: Perceived Stress, Depressive Symptoms, COVID-19

Introduction

The world is greatly challenged by the COVID-19 pandemic which has greatly caused great effect to the whole continuum of our society including modified human practices, relations and ways of life. It is true not just in business and employment, but especially in education. As COVID-19 exacerbated inaccessibility, students are faced with emotional challenges such as feelings of stress, fear, and uncertainty. They fear that their loved ones, and even they themselves, may also be infected, and this fear generates psychological effect. These feelings together with increasing cases of infected students further increases their stress (Harper et al., 2020; Ahorsu et al., 2020). Leading mental health problems among others, are related to stressors caused by this COVID-19 pandemic (Rehman et al., 2020; Hossain et al., 2021).

Beyond the detriment of the virus, many studies have proven how students are being ravaged by severe stressors due to juggling academic demands, psychological issues, existential crisis among other factors that contribute to a decline in their mental health state (Movassaghi, 2020). In exemplification, this remote learning has incurred detrimental struggles and challenges among students as it ensues conundrums on their sanity (Benham et al., 2021). Such pestilences have shown that stu-

dents are in danger of creating both short-term and long-term mental health issues (Fazel et al., 2014), as relatively great percentage encountering undeniable degrees of anxiety and other mental illness symptoms (Hoyt et al., 2021). Baloch and colleagues (2021) also stated that as students' perception of a virtual self was explored, it appeared that they feel more lonely and anxious (Boursier et al., 2020; Lippke et al., 2021) which are heaved with reluctance and exhaustion (Ilonga et al., 2020).

Even more interestingly, one study revealed that the intensity of these mental health distresses is almost doubled by scholars or students who are performing better in their academic endeavors (Arslan et al., 2021) because of magnified issues in self-studying, and absence of rest (Dwyer & Walsh, 2020), with reworkings subsequent from the requirement of extensive effort, compliance to bulks of assignment and time management problems (Jo-ann et al., 2020).

Because of this, university scholars are prone to accumulate an assortment of physiological and psychological burdens as they are being delivered with a massive toll of pressure (Rotas & Cahapay, 2021; Toquero, 2020). In that notion, many academic scholars build up a degree of apprehension, lack of inspiration, psychological disturbance (Acob & Arifin, 2021) and even panic attacks (Herlitz et al., 2020). Thus, it ought to be noticed that in the Philippine setting, much of the time, students are subjected to diminished rest and discouragement (Castillo and Schwartz, 2013) due to the implemented online modalities.

In addition to these studies that deal with stress particularly during this pandemic, Gallagher and colleagues (2020) found out the COVID-related experiences are greatly associated with perceived stress which symptoms are a headway to a more critical condition—depression. In fact, in previous global studies, it was found that 27, 18, and 3% of scholar undergrads experience the ill effects of mild, moderate and extreme depression, separately (Macalli et al., 2020). Anxiety (Kang et al., 2020) and overpowered feelings are very common of undergraduate students (Shi, 2021), including the individuals who are achievers (Kim et al., 2021; Song & Bae, 2020). Over 83% of understudies from the University of Lodz experience the ill effects of fatigue (Maniecka-Bryła et al., 2005; Parimoo et al., 2020; Cho & Jang, 2021). What's more, as per two French examinations, 15% of understudies had suicidal considerations (Lafay et al., 2003; Kokou-Kpolou et al., 2021) while 3% had a suicidal tendency in Taiwan, Korea and other countries (Chen et al., 2020, Boujut et al., 2009; Byun et al., 2020).

Moreover, another study tracked down that 60% of students with perceived stress are from public universities (Sechrest, 2021) and according to Tee and colleagues (2020) were essentially founded on economic status, resources, and responsibilities as scholars (Strenna et al., 2009; Labrague et al., 2020; Cueto & Agaton, 2021).

By stating all these, it is evident that during the COVID-19 pandemic, these emotional wellness issues among understudies are of developing concern (Castillo and Schwartz, 2013; Milojevich and Lukowski, 2016; Cleofas, 2020). As there have also been several studies that deal with stress and depression in the past years (Hammen & Cochran, 1981) and during this pandemic (Shi, 2021), the different results show such that perceptions of stress at present time are linked to COVID-related experiences (Gallagher et al., 2020) and are greatly associated with risk of emotional disorders like depression.

Given these, little is known about the extent to which university students in the Philippines particularly the academic scholars, experience stress and whether they may manifest depressive symptoms out of these experiences. Hence, this study serves as an opportunity to study stress as a predictor of depressive symptoms among academic scholars, particularly of the Polytechnic University of the Philippines.

Objectives

This study aims to examine the dynamics of depressive symptoms among academic scholars of Polytechnic University of the Philippines by looking at their stress during this COVID-19 pandemic as predictors. Specifically, this study seeks to:

1. describe the perceived stress level of the respondents.
2. describe the extent of depressive symptoms manifested by the respondents.
3. determine significant relationship between the stress level and extent of depressive symptoms of the respondents.

Materials and Methods

Respondents and Sampling Design

Respondents to this study are academic scholars of Polytechnic University of the Philippines for the 2 semesters of Academic Year 2020-2021. Random sampling was used to ensure that all qualified students of PUP campuses are given the chance to be part of the research. The questionnaire was sent to qualified students through the Office of the Director for Student Affairs. A total of 255 academic scholars in different PUP campuses participated in this research.

Data Collection Procedure and Research Instruments

This study employed the quantitative research approach specifically the correlational method. This design is practicable to describe the underlying links between perceived stress and depressive symptoms of PUP scholars. The design includes derivation of relationships between variables without the researcher monitoring or operating any of them (Williams, 2007). It exposit that the researchers will discern on the grounds of a situation being studied in connection. Overall, the study technique guarantees an accuracy of representation (De Gennaro, 2021) as this is statistical and inquisitive in nature, and can be generalizable on probable perspectives of the populace.

Two standardized tests were utilized to gather data such as the Perceived Stress Scale and the Beck Depression Inventory II. The Perceived Stress Scale is a 10-item questionnaire that measures the students' self-reported level of stress by assessing their feelings and thoughts during the last month. The Beck Depression Inventory II is a 21-item questionnaire that measures the students' feelings for the past two weeks. Data gathering was held from July 30 to August 2, 2021.

Data Analysis Procedure

The quantitative data was analyzed using the Statistical Package for the Social Sciences. Frequency and percentages were used to describe the respondents' distribution in each perceived stress level and severity of depressive symptoms. Pearson Product Moment Correlation was used to determine the relationship between the stress and depressive symptoms of the academic scholars and see whether stress is a predictor of depressive symptoms.

Results

Perceived Stress Level of the Respondents

Table 1. Stress Level of the Respondents

Score	Perceived Stress Level	Frequency	Percentage
0-13	low	4	2
14-26	moderate	71	28
27-40	high	180	71
		255	100

Mean = 28.80; SD = 5.99

Table 1 presents the stress level of the respondents as determined by their Perceived Stress Scores (PSS).

Based on the findings, the perceived stress of the respondents falls under High Level having a mean of 28.80 and a standard deviation of 5.99. Mean result indicates that the respondents generally have experienced the stress symptoms for most of the time during the past month. This result is further supported by the frequency result for the total population sample where about 71 percent have high perceived stress level, while about only 2 percent has low stress level. Twenty-eight percent, however, has moderate perceived stress level. Moreover, the standard deviation of 5.99 indicates that the dispersion of the responses is relatively high and that there is variation in the responses.

Depressive Symptoms of the Respondents

The table below shows the severity of depressive symptoms manifested by the respondents for the past two weeks of the data-gathering phase. The results were determined using the Beck Depression Inventory II (BDI-II).

Table 2. Depressive Symptoms of the Respondents

Score	Severity of Depressive Symptoms	Frequency	Percentage
0–13	minimal	52	20
14–19	mild	42	16
20–28	moderate	77	30
29–63	severe	84	33
		255	100

Mean = 23.57; SD = 11.39

The mean results show that the respondents generally experience moderate depression during the past two weeks of the data gathering period. With moderate depression the respondents generally experience depressive symptoms and these experiences may interfere with their normal functioning. Considering however the distribution of the respondents according to severity of depressive symptoms, majority or about 33 percent experienced severe depressive symptoms, while the least percentage (16 percent) experience mild depressive symptoms. Having 11.59 standard deviation, the data shows relatively high dispersion of scores from the mean which follows greater variation of the responses.

Relationship Between Perceived Stress and Depressive Symptoms

This study also determined the relationship between perceived stress level and depressive symptoms of the respondents. Table 3 shows the result.

Table 3. Relationship between Perceived Stress and Depressive Symptoms of the Respondents

Variables	N	1	2
Perceived Stress	255	-	
Depression	255	.385**	-

**Correlation is significant at .05 level of significance (two-tailed)

As revealed, yielding the result of .385 using the Pearson Product Moment Correlation Coefficient at .05 level of significance, the data shows that there is a significant positive relationship between the respondents' perceived stress and the depressive symptoms they experience. The result

indicates that as level of stress increases, the presence and severity of depressive symptoms also increase. The results obtained further show that students in preclinical years of study have significantly higher scores in perceived stress and in depression.

Discussion

The results of this study reflect the suggestive current mental health and wellbeing of students, most specifically the academic scholars of Polytechnic University of the Philippines during this time of pandemic. For the past month that the students have been juggling with academic requirements in order to maintain academic scholarship, they have been stressed most of the time. Moreover, depressive symptoms which have somehow disrupted the respondents' normal functioning were evident among them. This being the result in the context of COVID-19 pandemic, it follows that perceived stress and depressive symptoms, along with other mental health issues can be attributed to the predominance of COVID-19 pandemic.

The studies presented, along with other related literatures, explain how varied socio-demographic profile can be associated with high anxiety and stress and how university students during COVID-19 pandemic tend to manifest negative emotions such as anger, fear, sadness, nervousness and emotional disturbances, especially scholars who are in constant worry regarding academic standing and other academic problems (Sahu, 2020). These supported the results of this study; whereas, PUP academic scholars reported high level of stress amid the COVID-19 pandemic.

High Perceived Stress among PUP Academic Scholars

The high level of perceived stress among PUP academic scholars revealed in the present study is further explained by results from other studies relating to lifestyle, school requirements, paper submissions, and course workload which are some of the academic-related stressors commonly pointed out by the university students (Dy et al., 2015; Mazo, 2015). Alongside online courses, uncertainty about the activities (Moawad, 2020), lack of tech-resources and finances (Baticulon 2021), and difficulty to self-study contribute to students' perceived stress. These strengthened the argument that most students manifest increased perceived stress and anxiety due to pandemic (Son, et al, 2020; Ozdin, et al, 2020). The stress experienced by the respondents are their responses to the new classroom experience resulting from the pandemic. There was an imbalance between the situation they were in and the skills and resources available to them during this current situation (Lazarus and Folkman, 1984). The restrictions resulting from the pandemic being an unexpected experience resulted to tension and worry. In addition to that, being pressured with academic requirements and the demands of maintaining academic scholarship add up to these feelings. They feel anxious, unfocused, festered, and incapable to defeat stacked up challenges (Yu et al., 2021). Moreover, these feelings of uneasiness, stress, and depression happened and even heightened because of the absence of social interaction and effective communication due to social distancing during this pandemic (Wang et al., 2020). Pressure brought about by scholastic, monetary, and social difficulties can also be attributed to this high perceived stress (Shah et al., 2021). The more the students fail the assessments and the less acknowledgment and encouragement they get, the greater the possibility that they will get stressed, and the more likely that they will experience depressive symptoms (Iorga, et al, 2018).

Adapting to the online mode may turn into a test for university undergraduate students (Li et al., 2021). This determines their capacity to manage technology and attend classes from home, as revealed by other studies. Attending online classes may be challenging as some students may find it hard to understand some topics when delivered remotely. There are learning activities that are better accomplished through face-to-face discussion than through online platform (Charles et al., 2021). During online classes, physical contact between the students and instructors are not evident consi-

dering that instruction is delivered over the internet, which is something the students were not used to. This lack of social connection may have also put the students under much pressure and have affected their class performance as well (Wilson-Oliver et al., 2021). Moreover, not all students have stable internet connection and some needed gadgets for this mode of learning. Brown (2017, as cited in Basilaia et al., 2020, p. 27), further mentioned that the complicated nature of the technology used in distance learning are beneficial to those who are tech savvy, but to students who are not, and even those who do not have the needed gadgets for this mode of learning. this results to further stress.

Aside from COVID-related reasons, respondents' high levels of stress and severe depressive symptoms can also be attributed to arising predicaments such as seeking after character, pursuing freedom, and having various jobs to fulfil (Lee et al., 2021). These factors are considered since the respondents are university scholars with empowered grit to do well in their career (Son et al., 2020). Other sources of stress include the overlapping assessment tasks and academic demands, expansive educational plans, parental pressing factor, dejection, and stressing about the future, among others.

Moderate State of Depressive Symptoms among PUP Academic Scholars

The students not only reported increased stress level but also manifested moderate depressive symptoms. It is also explained by Brook (2020), who stated that students during pandemic tend to suffer from stress and manifests depression. This includes symptoms of anxiety flashbacks and reliving of traumatic experiences (Tull & Block, 2020) which can be developed after a person experiences trauma such as the COVID19. These are shown through depressed mood, diminished pleasure on doing formerly pleasurable activities weight gain or loss, retardation of thoughts and psychomotor abilities, fatigue, feelings of worthlessness difficulty to focus, and even persistent suicidal thoughts and/or attempts. On the contrary, however, Tee and colleagues (2020) reported majority of the respondents in their study reported having normal to mild depressive symptoms while a lesser percentage reported moderate to severe depressive symptoms (Pragholapati, 2020; Coughenour et al., 2020).

The varying results of the present study and other similar studies earlier mentioned also show varying college life experiences and other circumstances surrounding the college students. It is expected though that college life has factors which may add to symptoms of depression such as feelings of helplessness and hopelessness, loss of interest in daily activities, appetite or weight changes, sleep changes, anger or irritability, loss of energy, self-loathing, and reckless behavior (Husky, 2020). The severity of these symptoms, however, depend upon how the students deal with these experiences and how they get support from people surrounding them. Students who join on-line classes, for instance, experience this as their first run through, and this experience may expose them to loss of the conventional social support (Chaturvedi et al., 2021) and this trigger the severity of symptoms. Similarly, the academic scholars of PUP consider these triggers to their depressive symptoms.

In this study, the moderate depressive symptoms of the academic scholars could also be attributed to academic pressure and other day to day scholastic activities. Furthermore, as scholars are known to be achievers, grade consciousness is a notable factor to sadness leading to depressive symptom (Kerr et al., 2020). It is associated with the imbalanced lifestyle of the students, and lack of vital human needs such as sleep, quality of food, and time spent with family (Arusha & Biswas, 2020; Li et al., 2020). Liu, et al (2021) supports this as he mentioned that another factor to severity of depression is sleep deprivation, which is incredibly normal among college achievers. Lack of support, to include social support, moral support and financial support, is also a factor as it leads to prolonged exhaustion and sluggishness (Ibrahim et al., 2013). All of these could lead to academic problems and are potential triggers to depressive symptoms.

Relationship between Perceived Stress and Depressive Symptoms

This study provides a significant result which suggests that perceived stress can predict the manifestation of depressive symptoms among the participants. It was supported by the study carried out by Grant et al. (2013) who found out that the possibility for students to experience depression is greater when they also have high level of stress. Similar results were also found out by Gerber, et al (2018) whose pre-pandemic study concluded that lower mental toughness are associated to high stress scores, high burn-out level and more depressive symptoms. Son, et al (2020) also found out increased stress and anxiety among college students during this COVID-19 pandemic, which led to increased depressive thoughts as well.

Tafet and Nemeroff (2015) explained that the link between stress and depression is due to multiple interactions between the effect of environmental stressors and individual factors of vulnerability. Among these include the long-term effect of environmental stressors experienced even during childhood which may stimulate continued activity of the hypothalamic-pituitary-adrenal axis. These environmental stressors also result to “increased availability of corticotropin-releasing factor and cortisol which are associated with hyperactivity of the amygdala, hypoactivity of the hippocampus, and decreased serotonergic neurotransmission”. All of these would lead one to be vulnerable to stress. With this vulnerability, biological mediators, which include the stimulation of neural structure fundamental to information processing and sensory pathways that provide information to the central nervous system and eventually allow adaptive responses to stress, may tend to be quickly activated. Nevertheless, continued and uncontrolled adaptive responses especially during chronic stressful situations, may lead to maladaptive changes and further development of pathological conditions including depression.

Genetic factors, as further explained by Tafet and Nemeroff (2015), are also attributed to this link between stress and depression. These genetic factors may lead to changes in some neural structures, which may further result to formation of “dysfunctional cognitive schemas” and eventually, “biased cognitive processing of environmental stimuli”. These activities increase one’s cognitive and emotional vulnerability and eventually, vulnerability to depression.

In this study, the academic scholars have become greatly vulnerable to stress. Aside from being put in this pandemic situation which in itself is a stressful event, maintaining academic scholarship and complying with the demands of it is stress-provoking situation. Majority of the students already have prolonged experience on this which makes them contributes greatly to their vulnerability. This vulnerability is mediated by biological and genetic factors leading to maladaptive changes and eventual development of depression as a pathological condition.

Conclusion and Limitations

The present study has found out that the academic scholars of Polytechnic University of the Philippines have high perceived stress level. As such, they also have moderate depressive symptoms. Related literatures have explained that the stress was due to several factors such as academic pressure, lack of social interaction, lack of financial support, and lack of basic needs, among others, including all the limitations brought about by the COVID-19 pandemic. Triggers to depressive symptoms are the same factors leading to the high perceived stress.

Moreover, the study found significant relationship between perceived stress and depressive symptoms. That is, the higher the perceived stress, the greater is the manifestation of depressive symptoms. Therefore, perceived stress is found out to be a predictor of depressive symptoms.

Nonetheless, although the present study can provide baseline information for possible intervention programs for PUP academic scholars, it still has some limitations considering that the re-

searchers utilized online Google forms for data collection that hindered the participation of a larger section of the population such as those who do not have internet connection. Not all campus are well-presented which affected the generalizability of the results.

In addition, self-report of members may prompt reaction predisposition to negative responses. Also, this study just investigated relationship between perceived stress, and depressive symptoms, and analyzed their significant relationship. Different elements related with depressive symptoms ought to be explored for future investigation. Also, as available recent literature provided insights about the potential sources of stress of the students, the researchers of this study recommend further investigation to explore on this aspect of student stress most especially in this time of pandemic.

Recommendation

Given the results, it is recommended that the school administration intensify and maximize the services of the Guidance and Counseling Office to monitor students who may have been experiencing high stress and/or depressive symptoms. There is a dire requirement for guidance counseling department to investigate mental intercessions to support students battling mental crisis through a more certain and dynamic adapting style (Weis et al., 2020). For instance, Tortella and colleagues (2020) detailed the necessity to give people more friendly help and extensive support to the students. Moreover, as a direct relationship exists between the variables, majority of the respondents experiencing high level of perceived stress and the general population sample experiencing moderate depressive symptoms, which was exacerbated by the pandemic, it would be helpful for scholars and students in general to engage in activities that that would alleviate these stresses. The Guidance and Counseling Office together with the Office of Student Affairs may come up with an intervention program for this matter.

Moreover, the administration must be ready to recognize academic students in danger for psychological well-being issues or potentially self-destructive conduct, just as to advance enthusiastic mindfulness among those individuals. It can be done through reaching out to students through telephone calls, emails, text messages, and chat messages, among others to connect with them and make them feel loved and cared for, and that they have people to turn to despite the limits of the pandemic. At instances when a student communicates his/her feelings, either positive or negative, he/she should be listened to. It is necessary that his/her feelings are validated so he/she is guided about personal decisions about his/her experiences. It is also important that the university administration guarantee students' access to an immediate help line if they need so. Likewise, the university can offer tips and ideas to guardians and families on how to determine if their children are experiencing emotional struggles.

The PUP academic scholars should also remain engaged in school activities and be proactive to alleviate their feelings of stress. Students who need assistance should not hesitate to seek help. They may consider participating in open virtual conversation.

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