



Remote Learning Stress, Adaptive Coping Strategies, and Academic Performance of Filipino University Students amid COVID-19 Crisis

Michael B. Cahapay^{1*} , Erwin Rotas² 

¹ College of Education, Mindanao State University, General Santos City, PHILIPPINES

² Upper Tumbler Central Elementary School, General Santos City, PHILIPPINES

*Corresponding Author: mbcahapay@up.edu.ph

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ABSTRACT

The current COVID-19 crisis forced most educational institutions all over the world to transfer to remote education. As a result, students experience remote learning stress and employ different adaptive coping strategies in order to succeed in their learning. This paper attempted to explore the relationships among remote learning stress, adaptive coping strategies, and academic performance of university students amid the COVID-19 crisis. Employing a correlation research design, this study surveyed a total of 123 college students in Mindanao, Philippines. The data were treated using descriptive and inferential statistics. The results showed that the students have a high level of remote learning stress, great extent of adaptive coping strategies, and average level of academic performance. It was further revealed that remote learning stress significantly influences the academic performance of the students. Thus, to help students to academically succeed in this time of crisis, this paper recommends for contextual measures that will reduce learning stress brought by remote learning.

Keywords: remote learning stress, adaptive coping strategies, academic performance, COVID-19 crisis

INTRODUCTION

The COVID-19 crisis continues to affect the lives of people worldwide. The education sector is neither spared as it is plagued by different problems and complexities amid the transition to the “new normal” period. This multitude of problems and complexities confronting the education sector has resulted in an educational crisis. The massive change of educational implementation to an emergency remote modality in all levels of learning affected billions of students around the globe (Di Pietro et al., 2020). Despite efforts to counter the inevitable problems and complexities, the psychological consequences of the crisis to the students are enormous (Matias et al., 2020; Tull et al., 2020).

The COVID-19 crisis has caused a serious disturbance in the mental aspect of the students (Liang et al., 2020). Some mental issues related to remote learning such as depression and anxiety eventually became causes of stress to handle for the students. Some researchers support that stress negatively influences various conditions to learn (Lai et al., 2020). Stress is a major issue prevalent among students even in normal circumstances (Babore et al., 2020). It has been reported in past studies (e.g. Ajmal & Ahmad, 2019; Kwaah & Essilfie, 2017; Silinda & Brubacher, 2016) that stress drawn from remote learning negatively impacts the lives of the students. They revealed stressors such as family problems, overloaded course works, writing researches, poor student support services, and issues in admission process, and financial problems associated to remote learning.

Remote learning, the dominant instructional delivery mode amid the COVID-19 crisis, is a form of learning from a distance using various approaches (The Albert Team, 2020). It is a planned teaching and learning arrangement that uses a wide spectrum of technologies aimed at delivering education to students who cannot attend school (Valentine, 2002). Triggered by mandatory lockdowns and COVID-19 fear, students are faced with a challenging reality of remote learning. A different mode from the traditional one (Hodges et al., 2020), remote learning amid the COVID-19 crisis offers exceptional stressful events to the students. Rotas and Cahapay (2020a) previously indicated that some of these stressful events include financial constraints, overloaded lesson activities, poor internet connectivity and mental health struggles. Sundarasan et al. (2020) further revealed that students are stressed over challenges like the uncertainty of their future, physical exhaustion, decreased motivation, and adjustment to new learning styles. If not given action, it may translate to serious educational problems and significantly affect learning conditions specifically the overall academic performance of the students.

Despite the stress brought about by remote learning, however, students find themselves adapting to the new mode of remote learning. This positive concept is called adaptive coping strategies. It refers to a set of coping styles and practices used by a person to counter the challenges at hand. This concept has already been proven in past and current studies related to coping strategies

(e.g., Croft et al., 2020; Gong, 2020; Green et al., 2020; Kwaah & Essilfie, 2017). Especially the current studies, they report that students employ several contextual coping strategies to adapt to the overwhelming challenges in remote learning amid the COVID-19 crisis. These strategies specifically include finding support from peers, practicing time management, borrowing resources, diverting attention to other activities, taking extra jobs, and praying (Rotas & Cahapay, 2020b).

Based on a synthesis of related studies in education, a vast body of scholarly works confirms the significant influence of stress on academic performance (Aafreen et al., 2018; Daniel et al., 2018; Elias et al., 2011; Lin et al., 2020; Mehfooz & Haider, 2017; Oboth & Odiemo, 2018; Oduwaiye et al., 2017; Pascoe et al., 2019) and of coping strategies on academic performance (e.g., Carnicer et al., 2019; Hill, 2014; Hsieh et al., 2012; Truccia et al., 2013; Vizoso et al., 2018; Yazon et al., 2017). The trend further shows that stress and coping strategies influence the academic performance of students, ranging from moderate to very high correlations. However, gaps can still be drawn from these works as no or fewer studies have been conducted in the context of remote learning amid the COVID-19 crisis which presents a unique context that is plagued by exceptional structural challenges.

A remote learning experience that is free from stress and coupled with the practice of adaptive coping strategies is a key to educational success. This current inquiry opens a deeper understanding that will translate to actions supportive of remote learning. If the goal of this research is achieved, empirical bases can be derived for improvement of the practices and remote learning can be an opportunity for more inclusive education. Considering the problems and complexities encountered by students in remote learning, this paper attempted to explore the relationships among remote learning stress, adaptive coping strategies, and academic performance of university students amid the COVID-19 crisis. Specifically, it answered the following questions:

1. What is the prevalence of remote learning stress, adaptive coping strategies, and academic performance of the students?
2. Do remote learning stress and adaptive coping strategies significantly influence the academic performance of the students?

THEORETICAL FRAMEWORK

This paper is grounded on the transactional theory of stress and coping (Lazarus & Folkman, 1984). This theory posits three major stages of an appraisal. At the first appraisal, the individuals identify whether the stress poses a threat. At the second appraisal, the individuals evaluate whether the resources or coping strategies at hand can dispose or address perceived threats. At the last appraisal, the individuals continually repeat the process to counter the stress. When individuals successfully overcome stress using appropriate coping strategies, it may lead to better outcomes in performance. This theory can be translated to the current study which aims to explore the influence of independent variables which are the remote learning stress and adaptive coping strategies on the dependent variable which is the academic performance of university students in the context of the COVID-19 crisis.

METHODS

A correlational research design was entailed in this study. This research design measures the association between two or more variables without manipulating them. It aims to find out whether there is either correlation between or among them (McCombes, 2019). It is considered suitable for the study as it aimed to determine the relationships among remote learning stress, adaptive coping strategies, and academic performance of the students.

This research was conducted in a higher education institution in Mindanao, Philippines. After COVID-19 forced educational institutions to shut down, they were allowed to open provided that they carefully consider appropriate delivery modes subject to compliance with minimum standards and the situation on the ground (Commission on Higher Education COVID Advisory No. 7, 2020). As a response after considerations, the university where this study is set opened its classes through a remote learning program.

This study involved a sample of 123 college students enrolled in a teacher education program. They were primarily chosen based on their engagement in the remote learning program, thus have considerable experience in remote learning stress and adaptive coping strategies. They were chosen regardless of age, gender, course standing, socioeconomic status, and geographical location. A preliminary survey from selected from the same sample shows that a large majority (74.19%) of the respondents use a mobile phone and the minority of them (25.81%) use either a mobile phone, laptop computer, or desktop computer in remote learning.

This study used a survey instrument "remote learning stress scale." It consists of 12 items designed to gauge the level of remote learning stress. These items were a result of the earlier qualitative research (Rotas & Cahapay, 2020a) on the difficulties of college students in remote learning. The scale was framed based on the suggested scale of Brown (2010) with 1 as "strongly disagree" and 4 as "strongly agree." The pilot test obtained a Cronbach's alpha of .807 which means that the scale is acceptable (Tavako & Dennick, 2011).

On the other hand, another instrument used in this research is the "adaptive coping strategies scale." It has 12 items intended to determine the extent of coping strategies employed by the students. The items were adapted from the study qualitative study (Rotas & Cahapay, 2020b) on the coping strategies that students use in remote learning. It was also framed according to the scale suggested by Brown (2010) with 1 as "never" and 4 as "often." It generated a Cronbach alpha of .789 which means that the scale is acceptable (Tavako & Dennick, 2011).

Table 1. Remote learning stress, adaptive coping strategies, and academic performance

Variable	Minimum	Maximum	Mean
Remote learning stress	2.79	3.58	3.16
Adaptive coping strategies	2.57	3.73	2.75
Academic performance	25	81	50.02

Note: n=123

Table 2. Influence of remote learning stress and adaptive coping strategies on academic performance

Variable	Academic performance
Remote learning stress	($r=-0.279$) 0.019*
Adaptive coping strategies	($r=0.129$) 0.153

Note: * $p<.05$

This study also used scores generated from a summative assessment in a course handled by one of the researchers. The summative assessment is an 85-item, multiple-choice, online-proctored, cognitive test designed to measure the acquisition of knowledge in the course offered in the remote learning program. The individual scores of the students in this cognitive test served as the academic performance variable in this study.

The data collection of this research was implemented by first, asking the consent of the respondents. The researchers explained the purpose of the study and their role in furnishing the needed data. Furthermore, the students were informed of the confidentiality of the data obtained from them as well as their voluntary participation. Then, a Google link to the electronic survey was posted on the online discussion board of the class. The students accessed and answered the survey and their responses were automatically recorded. Finally, the researchers generated the data.

The researchers employed descriptive statistics such as frequency count, percentage rate, and weighted mean to interpret the gathered data. Furthermore, Pearson product moment coefficient correlation was used to ascertain the direction of association among the remote learning stress, adaptive coping strategies, and academic performance of the students. All tests were done at 0.05 level of significance.

RESULTS AND DISCUSSION

This paper initially attempted to answer the question: What is the prevalence of remote learning stress, adaptive coping strategies, and academic performance of the students? The result is presented in **Table 1**.

The result disclosed that remote learning stress ranged from 2.79 to 3.58 with a mean of 3.16. This means that the students experience a high level of stress brought by remote learning. Finding found similarity with the results of studies that explored students engaged to distance education (e.g., Ajmal & Ahmad, 2019; AlAteeq et al., 2020; Kwaah & Essilfie, 2017; Silinda & Brubacher, 2016). This high level of stress could be attributed to the fact that the nature of remote learning poses massive stress from a variety of negative factors. This may include psychological pressures, large volume of course activities, financial hardships, and insufficient support from teachers and peers. Kwon et al. (2010) opined that students who just started remote learning are more likely to experience overwhelming stress.

Furthermore, adaptive coping strategies ranged from 2.57 to 3.73 with a mean of 2.75. This signifies that the students employ a great extent of coping strategies. Studies dealing with distance education students (e.g., Nurunnabi et al., 2020; Osafo, 2017) support the general result of the present study. This result is usually the case for a remote learning modality that requires several coping strategies and survival techniques due to high levels of psychological concerns such as lack of sleep, emotional adjustment, and mental health struggles (Nurunnabi et al., 2020). It can be further noted from the results that students have developed an admirable culture of regulation within themselves to adapt to the stress.

Lastly, academic performance ranged from 25 to 81 with a mean of 50.02. This conveys that the students obtained an average level of mastery of the course. According to Swan (2002), the lack of real interactivities and social cues may negatively affect the performance of students in virtual classrooms. This could be the reason why students surveyed cannot obtain scores that are closer to excellent rating. As with previous studies in distance education (e.g., Elfaki et al., 2019; Gossenheimer et al., 2017; Russell, 2006), students typically gained an average level of academic performance which is comparable to the result of the study.

This paper also sought to answer the question: Do remote learning stress and adaptive coping strategies significantly influence the academic performance of the students? The result is presented in **Table 2**.

The result of the correlation test revealed that it was only the remote learning stress ($r=-0.279$, $n=123$, $p=0.019$) that is significantly related to academic performance. It can be further gleaned that the direction of the relationship is found to be negative, which indicates that as remote learning stress increases, academic performance decreases, or vice versa. This result corroborates the results of a current study (Burke, 2020) that reveals that distance education challenges negatively affect student performance. Though the independent variable in that study is challenges and not stress, it can be noted that stress is derived from challenges. Since remote learning is always associated with stress, it can be considered comparable to the result of such a study. The trend in the past studies (Aafreen et al., 2018; Daniel et al., 2018; Dodd et al., 2009; Pascoe et al., 2019) report the consistent significant relationship between stress and academic performance in various disciplines in higher education, showing that overall grade point average decreases due to various challenges in online classes.

Furthermore, that the extent of the relationship between remote learning stress and academic performance was found to be low and there is no significant relationship between adaptive coping strategies ($r=0.129$, $n=123$, $p=0.153$). This result does not downplay the possible influence of learning stress and coping strategies. It rather points to the interplay of other factors not included in this study. Within the context of remote learning, these factors may include use of technology, interaction processes, traits of the students and the class (Ismail, 2018), regulatory learning strategies, frequency of web tools usage, and responses to the instructional procedures (Martins & Zerbini, 2016), administration support, course management systems, infrastructure, student familiarity with technology, learning motivation, and competence (Gonzales, 2012). This paper, nonetheless, provides evidence as regards the significant relationship between remote learning stress and academic performance of the students within the current COVID-19 crisis context.

CONCLUSIONS

Since the COVID-19 crisis ravaged the world, many educational institutions were obliged to adopt remote modality of instruction. One of the interesting consequences of this phenomenon is the interplay of remote learning stress, adaptive coping strategies, and academic performance of the students. Thus, this paper attempted to explore the relationships among remote learning stress, adaptive coping strategies, and academic performance of university students amid the COVID-19 crisis.

The results showed that the students have a high level of remote learning stress, great extent of adaptive coping strategies, and average level of academic performance. Of the two independent variables tested, it was further revealed that remote learning stress significantly influences the academic performance of the students. Though the extent of the relationship between the variables was found to be low, this paper provides empirical evidence as regards the significant influence of remote learning stress on the academic performance of the students within the current COVID-19 crisis context.

Based on the result of this study, concerned agencies and educational institutions are urged to institute measures focusing on psychosocial support services that will assist students to succeed in remote learning. It can be noted from the result that, for example, the mental struggle is major learning stress experienced by the students in remote learning and they tend to depend on self regulation strategies to adapt to the situation. The support services must focus on responding to these contextual psychosocial needs of the students. It should also include the parents as much of the learning environment of the students is situated within the homes and with their families. Moreover, teachers should rethink the contents of their instruction as remote learning stress may be attributed from overloaded lessons requiring too many activities.

Lastly, this paper focused on the influence of remote learning stress and adaptive coping strategies on academic performance. As indicated by the correlation values found in this study, there is a need to include more variables that may underpin the academic performance of the students amid COVID-19 crisis. Other researchers may look into the administration support, infrastructures and facilities, course management systems, use of technology, interaction processes, learner characteristics, learning strategies, reactions to instructional procedures, student familiarity with technology, learning motivation, and competence level. Hindered also by the considerably small sample from a teacher education department, future confirmatory studies in the field may be carried out involving larger samples across different fields of study.

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