ONLINE LEARNING CHALLENGES AND EFFECTS ON MENTAL HEALTH OF THE HOSPITALITY MANAGEMENT STUDENTS AT ROMBLON STATE UNIVERSITY

Gina Mapalad (0009-0009-3939-5031)
Romblon State University, Philippines

Abstract

Evidence shows that the COVID-19 pandemic has increased stress and despair levels. During the outbreak, everyone's health and safety are given high importance. The only practical option at this time is for schools and institutions all around the world to switch to online classes. Students, parents, professors, and teachers in the Philippines are aware of the long-term difficulties of online learning, notably their effects on college student's mental health. This hasn't, however, been adequately documented. The challenges and consequences of online learning on the mental health of students taking up the Hospitality Management program at Romblon State University were investigated in this study. It would add to the body of knowledge regarding mental health, especially for Filipino students. The descriptive-quantitative research was employed in the study, and purposive sampling was used to choose the respondents. A researcher-modified instrument with a Perceived Stress Scale (PSS-10) was translated into a Google form and it was used as the standard tool to collect data. The online survey was carried out and data analysis was done using frequency and percentage distribution as well as weighted mean. According to the results, the respondent's 3-5 hours weekly online activity demonstrates their lack of involvement. Home distractions, a lack of engaging online teaching techniques, procrastination, increased workload, depression, and anxiety are a few of the difficulties encountered. The effect on the HM students is a perceived stress scale interpreted as stressed sometimes.

Keywords: Covid-19 effect on college students; Hospitality Management students; Online learning; Romblon State University; Students' mental health

Introduction

The abrupt adjustment to e-learning caused by the Covid-19 pandemic was not as smooth sailing as many have expected. Along with the transition came various problems including lack of internet connectivity, computer vision syndrome, shortage of educational materials, and the uncertainty and inexperience of operating online educational platforms such as Google Meet, Google Classroom, Moodle, Zoom, and others (Roach, 2022). Evidence suggests that these have generally increased levels of stress and depression among students. An article by the Kentucky Counseling Center (2021) mentioned the different effects of online classes on students' mental health. Some include feelings of isolation, lack of motivation, and loneliness brought on by a lack of social interaction. The phrase "Zoom fatigue," which was recently developed during the COVID era and describes feelings of exhaustion following lengthy Zoom classes or video conference calls, was also referenced. Further, the article brought up how difficult it is to maintain concentration in online classes, and made clear how students, parents, and even professors' mental health are impacted by online education.

Meanwhile, Son et al. (2020) identified a number of stressors that raised students' levels of stress, anxiety, and depressed thoughts. This included fear and worry about their own health and of their loved ones, difficulty in concentrating, disruptions to sleeping patterns, decreased social interactions due to physical distancing, and increased concerns about academic performance. These health issues have not been thoroughly documented in the Philippines, especially among tertiary-level students. This study provides information that is pertinent to those teaching, and studying hospitality management. It examined, in particular, the challenges and effects of online learning on the mental health of students majoring in Hospitality Management at Romblon State University.

Materials and Methods

The descriptive-quantitative research method was employed in the study, and the purposive sampling technique in choosing the 34 fourth-year student respondents who were enrolled in the Hospitality Management Program at Romblon State University and had experienced the online learning method. On the basis of the research literature and studies gathered, a modified survey questionnaire was designed by the researcher for the challenges of online learning. The Perceived Stress Scale (PSS-10) was used to measure the degree of stress related to the respondents' living circumstances over the previous months in order to determine the impact of online learning on students' mental health. It had ten items, each of which was evaluated on a 5-point Likert scale (Zhan et al., 2021). In validating the whole instrument, a psychologist from Germany and a psychiatrist from the United States of America who are both qualified professionals in the field of the study were called upon by the researchers. The results of a reliability pre-test showed that 47 items had a Cronbach's Alpha score of .922 out of 100. This displays the great degree of dependability of the instrument. The researchers then conducted the Google survey online with a letter of informed consent, confidentiality, and privacy of the information. The frequency and percentage distribution were used in the data analysis of the respondent's profiles, and the weighted mean to capture the challenges encountered and the effect of online learning on students' mental health.

Results and Discussions

Profile of the Respondents and Time Spent in Online Learning

As shown in Figures 1 and 2, the respondents were mostly female, given that women make up the majority of HM students, and all were single. Figure 3 shows that most of them spent 3-5 hours on online learning per week. The National Board of Professional Teaching Standard recommends 3-4 hours that grade 9-12 students should plan on spending number of hours learning online. As students advance in grades and work with more challenging course material, the amount of time spent online learning rises (EduWW, 2022). So, the fact that many of these HM students spend between 3-5 hours each week on online learning and only a few spend longer time demonstrates a lack of engagement. According to the article by Morin, A. (2020), there are five reasons students are not engaging in distance learning: First, students' life circumstances have changed; second, students are dealing with stress and trauma; third, the content is not accessible; fourth, students need more structure and support; and fifth, the teacher's expectation for engagement has not changed.
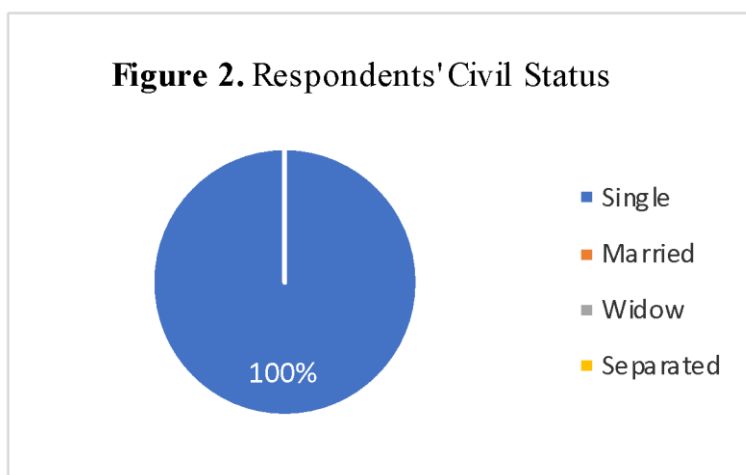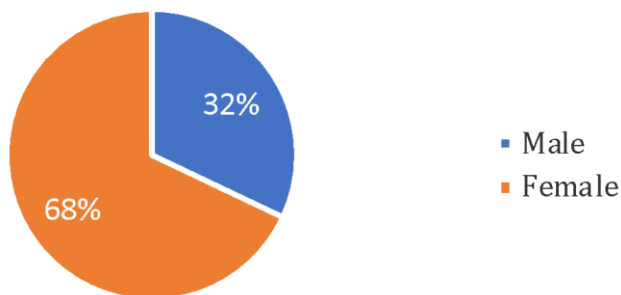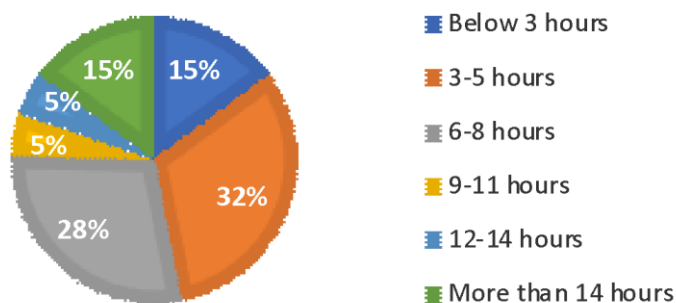

Figure 2. Respondents' Civil Status

Figure 1. Respondents' Sex

- Male
- Female

32%
68%

Figure 3. Hours spent on asynchronous activities

- Below 3 hours
- 3-5 hours
- 6-8 hours
- 9-11 hours
- 12-14 hours
- More than 14 hours

15%   15%
5%
5%
32%
28%

Challenges of Online Learning on Student's Mental Health

Table 1 shows the difficulty in concentration, with a total weighted mean of 2.45, verbally interpreted as Disagree. It means that respondents had trouble focusing at home rather than being overly distracted by social media, the internet, or online gaming. This is consistent with the study of Barrot et al. (2021) whose findings revealed that the greatest online learning challenge of college students was connected to their learning environment at home; and aligns with Son et al.'s (2020), who claimed that students are interrupted by their families and household chores. Further, when a student cannot concentrate in class while online, it may be due to the online teaching approach that does not provide an interactive learning environment. In the study by Libre (2021), it mentioned that active learning activities were reported by many instructors as difficult to implement in an online environment. In addition, a lack of student-student or student-faculty interactions, particularly in online classes, may prevent students from remaining engaged and motivated throughout the semester.

Table 1. Difficulty in concentration

	Indicators	WM	MI
1.	I'm having difficulty concentrating since I'm home. As I'm around my family, it's hard to focus on what I need to do.	2.62	A
2.	I just want to lay in my bed. Now no one is keeping me accountable. If I'm on my phone, I'm not paying attention to any of these lectures.	2.32	DA
3.	My desk is right next to my bed so I could just go take a nap or watch Netflix or be on social media such as Twitter, Instagram, Facebook, YouTube, etc. the whole time.	2.41	DA
4.	I cannot focus on class when it's online. Through the classes, I don't think there's a lot of instruction to make students engaged.	2.74	A
5.	Now I'm stuck only doing everything on a computer. So, I'm pretty much on the computer all day and can divert my focus to playing online games.	2.18	DA
	Total	2.45	DA

Weigthed Mean (WM): 3.51-4.50 - Strongly agree (SA); 2.51-3.50 – Agree (A); 1.51-2.50 – Disagree (DA); 1.00 – 1.50 – Strongly Disagree (SD)

In terms of sleeping habits (Table 2), a total weighted mean of 2.56, verbally interpreted as Agree, means the respondents had erratic sleeping patterns. New research from Simon Fraser University reveals that students who learn remotely develop a night owl personality rather than sleeping more, assuming that young adults would sleep more if they had the time. And in spite of having any early classes, the research suggests that students slept less soundly, less at night, and more during the day than they did in previous semesters (Shaw, 2021).

Table 2. Sleeping habits

	Indicators	WM	MI
1.	I'll be up until dawn, and sleep through the day. Now that most of my classes are online, I sleep through them and watch the lectures later.	2.41	DA
2.	I now have an irregular sleeping pattern. I stay up really late and then I wake up very early or sometimes I go to sleep early. I wake up really late.	2.56	A
3.	I'm sleeping a lot more now. I'm living at home. I don't have to do anything. I just have more time to sleep.	2.56	A
4.	Now I wake up constantly. I have a hard time staying asleep and going/staying asleep.	2.71	A
	Total	2.56	A

Weigthed Mean (WM): 3.51-4.50 - Strongly agree (SA); 2.51-3.50 – Agree (A); 1.51-2.50 – Disagree (DA); 1.00 – 1.50 – Strongly Disagree (SD)

A sense of social isolation was also present among the respondents, as shown in Table 3, with all responses and a total weighted mean of 3.22, verbally interpreted as Agree. In Nunez' (2021) study, it mentioned that students feel isolated in the distance or online learning process since they study alone, with maybe little to no assistance or support from peers or even the school, and with less feedback. It is said that online learning provides convenience and flexibility, however, the trade-off results in a loss of connection and engagement.

Table 3. Social relation/Social isolation

	Indicators	WM	MI
1.	With the asynchronous method, there is significant social isolation from peers and from those whom I want to hang out with.	3.21	A
2.	I don't see my friends that much and no face-to-face interaction but only through text.	3.06	A
3.	I also like meeting new people and friends. The asynchronous learning method lessens my chance to do that.	3.38	A
	Total	3.22	A

Weigthed Mean (WM): 3.51-4.50 - Strongly agree (SA); 2.51-3.50 – Agree (A); 1.51-2.50 – Disagree (DA); 1.00 – 1.50 – Strongly Disagree (SD)

In terms of academic performance (Table 4), a total weighted mean of 3.24, verbally interpreted as Agree, shows a negative effect of online learning on the student's perception of their academic performance caused by learning struggles, anxieties, and procrastination. Academic procrastination typically happens when one activity is unduly postponed and people experience really intense agitation when they start thinking about it. This is one of the reasons linked to academic failure, according to a study by Zarrin et al. (2020). Procrastination by students typically results in late assignment submission, worry, a rush to finish exam preparation, and social anxiety. They are fully aware of the consequences of this delay, and this occurrence may make their performance less satisfying. Thus, students must possess good digital skills in order to execute academic work and successfully complete learning activities, claim Kim et al. (2019).

Table 4. Academic performance

	Indicators	WM	MI
1.	Meeting my module deadlines is difficult because it's hard comprehending the instructions compared to a face-to-face meeting.	3.24	A
2.	I think my internship is going to be shortened. I need to get more work experience before graduation.	3.29	A
3.	I feel like I started procrastinating. I was trying to avoid this situation, but still delaying the work which stresses me more academically.	3.18	A
	Total	3.24	A

Weigthed Mean (WM): 3.51-4.50 - Strongly agree (SA); 2.51-3.50 – Agree (A); 1.51-2.50 – Disagree (DA); 1.00 – 1.50 – Strongly Disagree (SD)

An inconsistent eating pattern, as shown in Table 5, with a total weighted mean of 2.77, verbally interpreted as Agree, is also revealed among the respondents which showed similar results to the study by Pung (2021) stating that more than half of the respondents skipped meals; breakfast was the most skipped meal; the majority of the respondents snacked between meals; and biscuits, bread, and fruits were the most common snack foods.

Table 5. Eating patterns

	Indicators	WM	MI
1.	I've been munching a lot of snacks recently since I'm at home.	3.12	A
2.	I'm home all the time. Sometimes I eat once or twice a day. Sometimes I don't eat at all. It's something I haven't done before.	2.62	A
3.	I'm having trouble eating. I just don't eat when I'm anxious. So, I've had no appetite.	2.56	A
4.	I eat so much now just out of boredom because there's nothing to do really.	2.76	A
	Total	2.77	A

Weigthed Mean (WM): 3.51-4.50 - Strongly agree (SA); 2.51-3.50 – Agree (A); 1.51-2.50 – Disagree (DA); 1.00 – 1.50 – Strongly Disagree (SD)

In terms of changes in the living environment, as shown in Table 6, with a total weighted mean of 2.88, verbally interpreted as Agree, indicates that respondents lived at home and studied by themselves during the time of pandemic when the online mode of learning was implemented. Although the online method can allow students to work independently of time and place (Van der Keylen et al., 2020), not all learners are equipped with the appropriate strategies to benefit from this potential advantage (Hartnett, 2015). Learning at home, especially in an online platform, requires more self-study skills to stay on track, including enough motivation and will to follow learning goals.

Table 6. Changes in the living environment

	Indicators	WM	MI
1.	Things are different at home. I am studying now in my bedroom rather than in the library or on campus.	3.59	SA
2.	By living with family, I don't have any privacy. I don't feel very focused because I am distracted.	2.62	A
3.	I live in the boarding house so there's basically no one around me. It makes me unhappy.	2.41	DA
4.	Now I'm at home. I'm literally sitting on the same seat for five or six hours a day.	2.88	A
	Total	2.88	A

Weigthed Mean (WM): 3.51-4.50 - Strongly agree (SA); 2.51-3.50 – Agree (A); 1.51-2.50 – Disagree (DA); 1.00 – 1.50 – Strongly Disagree (SD)

With regards to financial difficulties (Table 7), with a total weighted mean of 3.52, verbally interpreted as Strongly Agree, indicates a financial crisis encountered by the respondents while studying in online mode, having a sense of anxiety, burden, and difficulty having money for the internet load, According to Barrot et al.'s (2021) study, COVID-19 worsened some students' financial problems due to their parents' unemployment and the high cost of Internet data, adversely affecting their ability to learn online.

Table 7. Financial difficulties

Indicators	WM	MI
1. Not all the time do I have enough money to load.	3.56	SA
2. I don't know until when are we going to afford to budget our money instead of buying essentials.	3.47	A
Total	3.52	SA

Weigthed Mean (WM): 3.51-4.50 - Strongly agree (SA); 2.51-3.50 – Agree (A); 1.51-2.50 – Disagree (DA); 1.00 – 1.50 – Strongly Disagree (SD)

Table 8, with a total weighted mean of 3.12, verbally interpreted as Agree, expresses the respondents' concern about increased workloads, which are supported by numerous student reports (Aristovnik et al., 2020), including recorded lectures or student presentations, as well as more online forum discussions, both of which are essential components of the idea of online settings (Fabriz et al., 2021).

Table 8. Class Workload

Indicators	WM	MI
1. Professors require us to go to a Zoom class. Some of them record those Zoom meetings and then you can watch them on your own time. It doubles the time I have to dedicate each week to that class.	3.21	A
2. Four or five out of my six professors have given me more work than they would have had if it were face-to-face.	3.03	A
Total	3.12	A

Weigthed Mean (WM): 3.51-4.50 - Strongly agree (SA); 2.51-3.50 – Agree (A); 1.51-2.50 – Disagree (DA); 1.00 – 1.50 – Strongly Disagree (SD)

The study's findings reveal too that respondents are like to have depressive thoughts, as shown in Table 9, with a total weighted mean of 2.85, verbally interpreted as Agree. Depression is defined as frequent feelings of unhappiness, hopelessness, and often a loss of motivation or interest in actions that an individual previously enjoyed (Torres, 2020). In the study by Mohammed et al. (2022), depression affects a much higher percentage of undergraduate students than the 23% of college students in the United States who are thought to be affected by it. Also, depression rates among college students are at an all-time high, probably as a result of the psychological stress brought on by the COVID-19 pandemic.

Table 9. Depressive Thoughts

Indicators	WM	MI
1. I feel like I need to go out but there is nowhere to go.	3.18	A
2. I am suffering from chronic depression which has become worse through online learning.	2.38	DA
3. Online education can become a routine, it makes me down. I feel hopeless about not being able to enjoy my normal day-to-day activities.	2.76	A
4. A lot of extra-curricular activities that I wanted to participate in have all been canceled. And now it feels like the skills I have are useless.	2.91	A
5. I'm overwhelmed with all the class subject requirements, which makes me go crazy.	3.00	A
Total	2.85	A

Weigthed Mean (WM): 3.51-4.50 - Strongly agree (SA); 2.51-3.50 – Agree (A); 1.51-2.50 – Disagree (DA); 1.00 – 1.50 – Strongly Disagree (SD)

Finally, as to the challenges of online learning on students' mental health in terms of suicidal thoughts, Table 10 reveals a total weighted mean of 2.46, verbally interpreted as Disagree, showing that respondents' thoughts of suicide would normally come up but there are no real intentions of actually doing it. The respondents only admitted having fear and anxiety. Other studies would show that online learning has led, among undergraduate students, to anxiety and depression which could get worse. According to data from the National Crime Record Bureau (NCRB), in India, one student commits suicide every hour. The causes of stress that students experience include personal inadequacy, competitive tests, financial difficulties, a more challenging curriculum, and alcoholism. The aforementioned factor may create students' long-term stress, which may result in suicide among them (Rajendran, 2021).

Table 10. Suicidal thoughts

	Indicators	WM	MI
1.	Suicidal thoughts go hand in hand with depressive thoughts. I am just tired of existing because I feel worthless.	2.26	DA
2.	It just has to do with depressive thoughts and just overthinking. I have a lot of time to think about things that happened in the past. But there's no fixing it.	2.47	DA
3.	It comes up daily. Sometimes as a joke, I want to die. But it's something that I know I have no intention to ever act on and never would like. It's just become incorporated into my life purposely or unconsciously when I do something especially related to academics.	2.56	A
4.	I have some problems with my family. And now I'm stuck at home with them. I guess it's more often than normal.	2.26	DA
5.	I feel afraid, and I often think that the worst part is more fear of what will come and the outcome.	2.76	A
	Total	2.46	DA

Weigthed Mean (WM): 3.51-4.50 - Strongly agree (SA); 2.51-3.50 – Agree (A); 1.51-2.50 – Disagree (DA); 1.00 – 1.50 – Strongly Disagree (SD)

Effects of Online Learning on Student's Mental Health

College students' stress levels need to be gauged and researched in order to assess their mental health. Table 11 shows the effects of online learning on students' mental health using the Perceived Stress Scale (PSS-10)**.** The total weighted mean is 3.27 which implies that students occasionally were worried and overwhelmed or underwent increased stress, anxiety, fatigue, and burnout. Overall, the result disclosed that respondents, based on the total mean, felt stressed "Sometimes". This suggests that respondents somehow have a good level of confidence in handling their personal problems, making decisions, and dealing with their school work. In comparison with other countries like China for example, college students experience high levels of stress, anxiety, and depression during the Covid-19 pandemic, thus, finding measures to lower their stress levels was crucial (Zhan et al., 2021; Yu et al., 2021).

Table 11. Perceived Stress Scale

	Indicators	WM	MI
1.	In the last month, how often have you been upset because of something that happened unexpectedly?	3.32	S
2.	In the last month, how often have you felt that you were unable to control the important things in your life?	3.41	O
3.	In the last month, how often have you felt nervous and stressed?	3.68	O
4.	In the last month, how often have you felt confident about your ability to handle your problems?	3.21	S
5.	In the last month, how often have you felt that you have been making the right decisions?	3.12	S
6.	In the last month, how often have you found that you could not cope with all the school works that you had to do?	3.06	S
7.	In the last month, how often have you been able to control the negative emotions in your life?	3.24	S
8.	In the last month, how often have you felt that you were in control of situations?	3.09	S

9.	In the last month, how often have you been angered because of situations that were outside of your control?	3.24	S
10.	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	3.29	S
	Total	3.27	S

Weigthed Mean (WM): 3.51-4.50 - Strongly agree (SA); 2.51-3.50 – Agree (A); 1.51-2.50 – Disagree (DA); 1.00 – 1.50 – Strongly Disagree (SD)

Conclusion

Over the past few years, online learning has grown in popularity, and the COVID-19 epidemic has further increased this tendency. This shift to online learning has brought with it a number of challenges, particularly for students who are now learning in a completely new environment. One of the biggest challenges of online learning is its impact on the mental health of students. Some of the academic implications of online learning challenges include reduced engagement among students as they may not feel as connected to their peers and instructors; limited interaction with faculty as they may not be able to receive the same level of support as they would in a traditional classroom setting; limited access to resources such as textbooks and other materials which can hinder their ability to learn effectively; and technical difficulties, particularly for students who may not be as comfortable using technology.

The effects of online learning on the mental health of students can also be significant. Some of the industry implications of this include reduced productivity as students who are struggling with mental health issues may not be able to complete assignments or meet deadlines; higher dropout rates as students who are struggling with mental health issues may also be more likely to drop out of online courses; institutions may also see reduced student retention rates due to the impact of mental health issues on student success; and increased demand for mental health support services from students who are struggling with online learning.

Based on the results and discussion of the study, the 4th-year Hospitality Management students of Romblon State University, all single and mostly female respondents, who spent about 3-5 hours in online classes or activities per week show that they lack engagement in online learning. They encountered many challenges which included finding their surroundings at home distracting, a lack of an interactive learning environment in the online method of teaching, becoming night owls, a loss of connection and engagement, academic procrastination, irregular eating patterns, learning at home solitarily, lack of funding for their online classes, increased workload, depression, and anxiety. All these significantly affected their mental health resulting in being stressed "sometimes".

To address these challenges, institutions should prioritize providing adequate support services for students, including mental health resources and technical support. Additionally, faculty should strive to create a supportive and engaging online learning environment to help students feel connected and motivated.

Acknowledgement

References

Aristovnik, A., Keržič, D., Ravšelj, D., Tomaževič, N., & Umek, L. (2020). Impacts of the COVID-19 pandemic on life of higher education students: A global perspective. *Sustain. For.* 12:8438. https://doi.org/10.3390/su12208438

Barrot, J. S., Llenares, I. I., & Del Rosario, L. S. (2021). Students' online learning challenges during the pandemic and how they cope with them: The case of the Philippines. *Education and Information Technologies*, *26*(6), 7321-7338.

EduWW. (2022). *How Much Time Should Students Spend Studying Online?* http://edu.ww.net/how-much-time-should-students-spend-studying-online

Fabriz, S., Mendzheristskaya, J., & Stehle, S. (2021). Impact of synchronous and asynchronous settings of online teaching and learning in higher education on students' learning experience during COVID-19. *Frontiers in Psychology Sec. Educational Psychology, 12*. https://doi.org/10.3389/fpsyg.2021.733554

Hartnett, M.K. (2015). Influences that undermine learners' perceptions of autonomy, competence and relatedness in an online context. *Australas, J. Educ. Technol., 31*, 86-99. https://doi.org/10.14742/ajet.1526

Kentucky Counseling Center (2021, April 20). *Mental Health Effects of Online Learning.* https://kentuckycounselingcenter.com/mental-health-effects-of-online-learning/?fbclid=IwAR3tUH41Zl4Y4wiWVKltNz9GOjqg0rxGjV0

Kim, H. J., Hong, A. J., & Song, H. (2019). The roles of academic engagement and digital readiness in students' achievements in university e-learning environments. *International Journal of Educational Technology in Higher Education*, *16*(1), 1-18. https://doi.org/10.1186/s41239-019-0152-3

Libre, N.A. (2021). A discussion platform for enhancing students interaction in the online education. *Journal of Online Engineering Education*, *12*(2), 07–12. https://www.onlineengineeringeducation.com/index.php/joee/article/view/49

Miao, C., Humphrey, R. H., & Qian, S. (2017). A meta-analysis of emotional intelligence effects on job satisfaction mediated by job resources, and a test of moderators. *Personality and Individual Differences, 116*, 281-288. https://doi.org/10.1016/j.paid.2017.04.031

Mohammed, T.F., Gin, L.E., Wiesenthal, N.J., & Cooper, K.M. (2022). The experiences of undergraduates with depression in online science learning environments. *CBE-Life Sciences Education, 21*(2). https://doi.org/10.1187/cbe.21-09-0228

Morin, A. (2020). *5 Reasons Students Aren't Engaging in Distance Learning*. Child Mind Institute. https://childmind.org/article/5-reasons-students-arent-engaging-in-distance-learning/

Nuñez, J. (2021). Lived experience of overcoming the feeling of isolation in distance learning in the Philippines: A phenomenological inquiry. *Pakistan Journal of Distance and Online Learning, 7*(2), 55-68. https://ssrn.com/abstract=4314307

Pung, C.Y.Y., Tan, S.T, Tan, S.S. & Tan, C.X. (2021). Eating behaviors among online learning undergraduates during the COVID-19 pandemic. *Int J Environ Res Public Health*. *18*(23), 12820. doi: 10.3390/ijerph182312820.

Rajendran, V.G., Jayalalitha, S., Adalarasu, K., & Thalaimalaichamy, M. (2021). A review on stress detection among college students using PSS and physiological signals. *Interntational Journal of Pharmaceutical Research, 13*(2), 3433-3439. https://web.p.ebscohost.com/abstract?direct=true&profile

Roach, K. (2022). Impact of Covid-19 on perceptions of asynchronous learning in higher education: Students' perspective. *4ᵗʰ World Conference on Research in Teaching and Education held on March 18-20, 2022 in Prague, Czech Republic.* https://www.dpublication.com/wp-content/uploads/2022/03/24-6433.pdf

Shaw, M. (2021, May 6). *Online learning doesn't improve student sleep habits, research suggests*. Simon Fraser University. https://www.sfu.ca/sfunews/media/issues-experts/2021/05/online-learning-doesn-t-improve-student-sleep-habits--research

Son, C., Hegde, S., Smith, A., Wang, X., & Sasangohar, F. (2020). Effects of COVID-19 on college student's mental health in the United States: Interview survey study. *Journal of Medical Internet Research, 22*(9), e21279. doi: 10.2196/21279

Torres, F. (2020). *Depression*. American Psychiatric Association. https://www.psychiatry. org/ patients-families/depression/what-is-depression

Van der Keylen, P., Lippert, N., Kunisch, R., Kuhlein, T., & Roos, M. (2020). Asynchronous, digital teaching in times of COVID-19: a teaching example from general practice. *Journal for Medical Education, 37*(98). https://doi.org/10.3205/ZMA001391

Yu, M., Tian, F., Cui, Q., & Wu, H. (2021). Prevalence and its associated factors of depressive symptoms among Chinese college students during the Covid-19 pandemic. *BMC Psychiatry, 21*. https://link.springer.com/article/10.1186/s12888-021-03066-9

Zarrin, SA., Gracia, E., & Paixão, MP. (2020). Prediction of academic procrastination by fear of failure and self-regulation. *Educational Sciences: Theory and Practice, 20*(3), 34-43. http://dx.doi.org/10.12738/jestp.2020.3

Zhan, H., Zheng, C., Zhang, X., Meng, Y., Zhang, L., & Jia, X. (2021). Chinese College Students' Stress and Anxiety Levels Under Covid-19. *Frontiers in Psychiatry, 12*. https://doi.org/10.3389/fpsyt.2021.615390