



## SELECTED NURSING STUDENTS' ACADEMIC STRESS: COPING AND ACHIEVEMENT STRATEGIES AMIDST COVID-19

Johdel Cabaluna<sup>1i</sup>,  
Maria Karmela Del Rosario<sup>2</sup>,  
Kyla Christine Antipala<sup>3</sup>,  
Mariden Claire Alvaran<sup>3</sup>,  
Camille Faye Candelaria<sup>3</sup>,  
Vennieve Jane Eder<sup>3</sup>,  
Ashley Nickole Alexis Castelo<sup>3</sup>

<sup>1</sup>RN, MAN, PhD,

Adamson University,  
Philippines

<sup>2</sup>PhD Candidate, RN, MAN,  
St. Louis University of Baguio,  
Philippines

<sup>3</sup>Wesleyan University,  
Philippines

### Abstract:

Online classes are proven to be challenging for students during the COVID-19 pandemic. The researchers determined the nursing student's academic stress: coping and achievement strategies amidst COVID-19 at Wesleyan University, Philippines during the Academic Year 2020–2021 (second semester). The study was quantitative descriptive, which utilized total enumeration sampling to examine the entire population of the 177 Level II nursing students. Survey questionnaires were adapted and collected through Google Forms, which were analyzed using frequency and percentage, total weighted mean, and Kendall's tau. Thus, this study determined the demographic profile, age, sex, religion, academic stress, coping, and achievement strategies of the respondents. In conclusion of this study, respondents have a high level of academic stress and use adaptive coping strategies and self-motivation to learn learning strategies. Researchers recommended to universities, colleges, and professors some considerations to enhance the academic performance of students.

**Keywords:** online classes, COVID-19 pandemic, academic stress, coping strategies, achievement strategies, nursing students

---

<sup>i</sup>Correspondence: email [jdale\\_rn@yahoo.com](mailto:jdale_rn@yahoo.com)

## 1. Introduction

The Novel Coronavirus (2019-nCov) was first distinguished and revealed by the WHO China Country Office on December 31, 2019, as cases of pneumonia with obscure etiology (unknown cause) that happened in Wuhan City, Hubei Province of China (WHO, 2020). The world is currently experiencing a life and death situation when the World Health Organization declared the COVID-19 pandemic. It is progressing within 2020.

Additionally, it has now become a global public health emergency. As of now, there are 1,620,294 deaths worldwide and the United States is the leading country with the highest cases of COVID-19 (John Hopkins Coronavirus Resource Centre, 2020). This expanding threat results in growing clinical and administrative demands on physicians and healthcare workers. It also dramatically impacted the community and, therefore, the education of the students.

According to the CDC, some considerations must be made about different countries affected or not by COVID-19. At this point, people must avoid making contact and limit themselves to mass gatherings. There is a lower risk of having the disease if they are involved in virtual-only activities, events, and gatherings. In addition to that, students are discouraged from participating in face-to-face classes since school premises are shut down for safety measures. Everyone needs to reconcile through virtual learning to aid the education of each student. In the midst of the COVID-19 pandemic and the requirement for social distancing, this virtual learning has drastically helped reshape and improve the instructor and students' engagement with education.

Since in-person classes moved online and the "Stay Home Stay Safe" executive order was implemented, many students have faced a stressful change in their status (Sheroun et al., 2020). Institutional shutting down during this inevitable time is to be found demandable as an option to institutional shutting down. It has become a solution for the continuity of the teaching and learning process for students during the COVID-19 pandemic. Undoubtedly, it seriously affected the students, but since no one knows when this pandemic will completely vanish, educational institutions chose to utilize the generally accessible technological resources to create virtual learning materials for students.

Despite the unexpected imposition of lockdowns, universities were ready to implement technological solutions to ensure class continuity across courses. However, it has led to more difficult decisions for medical schools (Remtulla, 2020). As a result of an inadequate learning approach, students faced academic stress. Virtual learning is not suitable for medical courses, specifically nursing students, as it is practice-based and has clinical procedures. Nevertheless, it does not apply to students who are not digitally advanced, which is why the effectiveness of virtual learning is not guaranteed for most students.

Additionally, students worry about their academics as they are new to the virtual learning type of education, especially students from the health profession. There would

be quality concerns regarding the education delivered through online learning and the motivation or satisfaction level experienced by the students. They may also face a lack of technical support from institutes and instructors due to insufficient access to technology, which has hampered their development experience and resulted in significant obstacles in virtual learning (Hasan et al., 2020).

Moreover, the usual way to complete education in medical school has always been predictable. The students need to demonstrate their knowledge and dedication to medicine and enhance themselves in clinical-based practice or non-clinical activities. With the COVID-19 pandemic, this has been significant concern about medical students' future careers and lives. Students can continue their education, specifically medical students, through alternative ways, which will lessen the impact of the pandemic in health profession courses (Ferrel and Ryan, 2020). Academic stress is one of the hindrances most students face that prevents them from learning, as spending an extended amount of time in front of a computer or any device could manifest a negative physical outcome or effect on a student.

The worldwide pandemic has proven to be challenging for students. It has a critical impact on clinical education wherein clinical instructors and medical students are working within the most troublesome of circumstances in a hospital-based setting or clinical practice. The research studies of Fawaz & Samaha (2020) together with Sheroun et al. (2020) discuss the e-learning factors that contribute to the academic stress that influences students' academic performance. Moreover, the study of Adnan & Anwar (2020), together with Al-Tammem et al. (2020), discusses the essential coping strategies of the students from educational organizations; however, only some of the reviewed literature focused on nursing students' academic stress: coping and achievement strategies.

Thus, this study aims to analyze the nursing students' academic stress and their coping and achievement strategies during the COVID-19 pandemic to hone their academic performance.

## **2. Methodology**

This study utilized a quantitative descriptive research design. The quantitative descriptive method of research is a fact-finding study with an adequate and accurate description and interpretation of the findings. It describes, with emphasis, what exists, such as current conditions, practices, situations, or any other phenomena (Polit & Beck, 2006).

This study used descriptive analysis by means of quantitative approaches. The researchers used descriptive analysis in order to provide further knowledge about the nursing students' academic stress: coping and achievement strategies amidst COVID-19 at Wesleyan University, Philippines during the Academic Year 2020–2021 (second semester).

This study's participants are second-year Bachelor of Science in Nursing students at Wesleyan University, Philippines during the Academic Year 2020–2021 (second semester). The researchers chose the second-year students of Bachelor of Science in Nursing to know the nursing students' academic stress: coping and achievement strategies amidst COVID-19. Level II nursing students were chosen to be the respondents of this study because they experienced having a face-to-face class when they were in their first year in nursing school. Moreover, due to COVID-19, they need to use the virtual mode of learning as a substitute for the traditional mode of learning when they are in their second year in nursing school. For this reason, they are suitable to be the respondents of this study to determine the academic stress, coping and academic strategies of the nursing students. The number of respondents consists of 177 second-year students, which is 27.3% out of 643 nursing students at Wesleyan University, Philippines.

### 3. Discussion

**Table 1:** Frequency and Percentage Distribution on the Age of the Respondents (N = 177)

Age	Frequency	Percent
18	5	2.8%
19	59	33.3%
<b>20</b>	<b>85</b>	<b>48%</b>
21	18	10.2%
22	5	2.8%
24	1	.6%
25	1	.6%
30	1	.6%
31	1	.6%
34	1	.6%
Total	177	100%

Table 1 illustrates the percentage of the respondents in terms of age. The majority of the respondents are 20 years old, which has a total percentage of 48%. It was followed by respondents who are 19 years old, which has a total percentage of 33.3%. The respondents who are 21 years old have a total percentage of 10.2%. It means that most of the respondents who answered the survey are 20 years old.

There is a greater need for student psychological therapy as a result of the rapid shift in the education system due to the high levels of stress and moral instability of generation Z students. The potential prospects of their careers were demonstrated by a very recent study that was also released during the COVID-19 cycle (Fawaz & Samaha, 2020). In addition, the analysis reported that age was correlated statistically and substantially with the degree of stress; i.e., the younger the age, the greater the risk of suffering from psychological stress (Al-Tammem et al., 2020).

**Table 2:** Frequency and Percentage Distribution on the Sex of the Respondents (N = 177)

Sex	Frequency	Percent
Male	43	24.3%
<b>Female</b>	<b>134</b>	<b>75.7%</b>
Total	177	100%

Table 2 illustrates the percentage of the respondents in terms of sex. The majority of the respondents are females, which comprises 75.7%. Male respondents make up 24.3% of the total. It means that most of the students who answered this survey are female. This is to be expected, as the nursing profession is known to be dominated by females around the world. Based on the findings of Al-Tammem et al., 2020, no significant difference between males and females was found in the overall psychological stress ratings. Nevertheless, a higher degree of stress was reported among females and university students compared with males. Females were more vulnerable to anxiety (Al Ateeq et al., 2020). Gender variations in the hormone response to stress may be due to this finding (Al-Hanawi et al., 2020). Based on the study by Oducado et al. (2021), there were no significant differences in the e-learning attitude regardless of female and male nursing students' gender in the two selected nursing schools in the Philippines. Perhaps, as opposed to male students, female students from Malaysian universities are more oriented to the E-learning platform (Shahzad et al., 2020).

**Table 3:** Frequency and Percentage Distribution of the Religion of the Respondents (N = 177)

Religion	Frequency	Percent
Roman Catholic	<b>129</b>	<b>72.9%</b>
Iglesiani Cristo	8	4.5%
Methodist	13	7.3%
Others	27	15.3%
Total	177	100%

Table 3 illustrates the percentage of the respondents in terms of religion. There are 129, or 72.9%, of the students who answered Roman Catholic, followed by the students who answered Others, garnering 27 or 15.3%. Next on the list were respondents who are Methodist, with a total response of 13, or 7.3%, and lastly, 8 or 4.5% of the respondents answered Iglesiasiani Cristo as their religion. It means that most of the students who answered this survey are Roman Catholic.

In the study of Aftab et al. (2018), religious engagement was found to have a positive influence on improving life satisfaction and reducing stress in students, which could help them do better academically.

**Table 4: Weighted Mean of the Respondents towards Academic Stress (N = 177)**

<b>Academic Stress</b>	<b>Mean</b>	<b>Verbal Interpretation</b>
1. Are you having a hard time in studies when memorizing long notes and difficult terminologies?	3.04	Agree
<b>2. Do you have fear of examinations such as a final professional exam, ward tests, class tests, or assessments?</b>	<b>3.07</b>	<b>Agree</b>
3. I often have a hectic timetable.	3.03	Agree
4. Are you lacking feedback from your professors or clinicians?	2.36	Disagree
<b>5. I have no guidance and supervision from my professors.</b>	<b>1.99</b>	<b>Disagree</b>
6. I have less time for preparation for exams and the Inability to meet deadlines for assignments	2.60	Agree
7. I am discouraged to study because of the completion among class fellows.	2.54	Agree
8. My parents and relatives are highly demanding of better grades.	2.42	Disagree
<b>Overall Mean for Academic Stress</b>	<b>2.63</b>	<b>Agree</b>

**Legend:**

1.0-1.99	Strongly Disagree	Very low level of academic stress
2.0-2.99	Disagree	Low level of academic stress
3.0-3.99	Agree	High level of academic stress
4.0-4.99	Strongly Agree	Very high level of academic stress

Table 4 presents the academic stress of students during COVID-19. The respondents, who are second-year nursing students, obtained an overall weighted mean of 2.63, indicating a high level of academic stress. Meanwhile, the highest mean of respondents who are second-year nursing students was "Do you have fear of examinations such as a final professional exam, ward tests, class tests, assessments?", which was for academic reasons with a mean of 3.07, indicating a high level of academic stress. While, "I have no guidance and supervision from my professors," which is under social reasons, garnered the lowest mean of 1.99, which indicates a very low level of academic stress. The result shows that the respondents experienced a high level of academic stress when taking examinations. Students' stress during exams included Internet connection problems, exam structure, their preparedness and personal factors such as the exam environment at home that is not appropriate (Elsalem et al., 2020). A healthy, comfortable, and non-toxic environment helps improve students' academic performance. Academic institutions must provide this kind of environment for their students when learning in school. In terms of an online class setting, several suggestions may be considered. It is suggested that professors do not assign homework to their students. Through this, students' time spent doing academic work in their homes may be reduced. On the other hand, it is also suggested to implement interactive classes that can entertain students while learning to motivate them to engage in the education process (Vargas et al., 2020). Moreover, several articles show that the chances of students experiencing stress are low when professors guide and supervise them well. Studies suggest that teacher support is an important mechanism

through which teachers can foster students' positive academic emotions and reduce their negative academic emotions (Lawman and Wilson, 2013). Furthermore, even in an online class, teachers can also free their time for the students who will seek help from them. The teacher's assistance and support must be immediately available and can complement a student's other interpersonal relationships, particularly if those relationships are unstable. In addition to that, targeted interventions can assist students who are having problems in finding and utilizing teacher assistance to enhance their academic achievement (Lei et al., 2018).

**Table 5:** Weighted Mean of the Respondents towards Coping Strategies (N = 177)

Coping Strategies	Mean	Verbal Interpretation
<b>A. Adaptive Coping</b>		
1. I have been getting emotional support from others.	2.99	Agree
<b>2. I have been looking for something good in what is happening.</b>	<b>3.43</b>	<b>Strongly Agree</b>
3. I have been praying or meditating.	3.31	Strongly Agree
4. I have been concentrating my efforts on doing something about the situation I'm in.	3.29	Strongly Agree
5. I have been accepting the reality of the fact that it has happened.	3.41	Strongly Agree
6. I have been trying to get advice or help from other people about what to do.	2.97	Agree
7. I have been making fun of the situation.	2.26	Disagree
8. I have been thinking hard about what steps to take.	3.31	Strongly Agree
<b>B. Maladaptive coping</b>		
<b>1. I have been turning to work or other activities to take my mind off things.</b>	<b>3.04</b>	<b>Agree</b>
2. I have been saying to myself "this isn't real".	2.35	Agree
<b>3. I have been using alcohol or other drugs to make myself feel better.</b>	<b>1.58</b>	<b>Strongly Disagree</b>
4. I have been criticizing myself.	3.16	Agree
5. I have been giving up the attempt to cope.	2.59	Agree
6. I have been expressing my negative feelings.	2.83	Agree

**Legend:**

- 1.0- 1.99      Strongly Disagree
- 2.0- 2. 99      Disagree
- 3.0- 3.99      Agree
- 4.0- 4.99      Strongly Agree

Table 5 presents the coping strategies of respondents during COVID-19. Responses from participants show that 'looking for something good in what is happening or 'Positive Reframing/Optimism' as a coping strategy recorded the highest mean of 3.43, which is

under Adaptive Coping Strategies. While 'using alcohol or other drugs to make oneself feel better' as a coping strategy recorded the lowest mean of 1.58, which is under Maladaptive Coping Strategies.

The result shows that the highest number of respondents are using adaptive coping strategies. Several studies support that higher optimism and lower pessimism can decrease the negative impact of how a person adapts to the experience of psychological problems (Arslan et al., 2020). It minimizes or manages stressors, but those who ignore, avoid, or remove themselves from stressors and emotions are adversely associated (Conversano et al., 2010) for the reason that optimism was also having a negative effect and was correlated with avoidant coping (Eden et al., 2020). It means that excessive optimism can sometimes lead people to overestimate their chances of experiencing good things while avoiding negative ones. Future studies are needed to determine how to effectively use optimism as a coping strategy to avoid overuse that can lead to negative effects.

Adaptive coping was more likely to decrease perceived stress levels than maladaptive coping (Lopez, 2014). It shows that respondents are using more adaptive coping strategies than maladaptive coping strategies, as shown in the table. The highest mean under Maladaptive Coping is 'Turning to work or other activities to take my mind off things' or 'Self Distraction', only ranked 6th place overall with a weighted mean of 3.04. Self-distraction is defined as diverting one's attention away from a stressful situation by participating in activities such as watching television, exercising, reading, or indulging in other enjoyable activities. Based on the study of Wasil et al. (2021), self-distraction was the most frequently reported common strategy. Watching television and eating were the most commonly reported types of self-distraction. Self-distraction tends to be more effective in coping with uncontrollable stress (Wadsworth, 2015). However, the effectiveness of self-distraction likely varies among individuals using it as a coping strategy (Bendez et al., 2019). Future studies are needed to determine which types of self-distraction are most effective in every individual.

Overall, it was encouraging to find that adaptive coping strategies scored higher among respondents than maladaptive coping strategies. The results suggest that mental health should not be ignored, especially during a pandemic. Academic institutions should collaborate with government officials to improve the mental well-being of their students (Salmana et al., 2020).

**Table 6:** Weighted Mean of the Respondents towards Achievement Strategies (N = 177)

Achievement Strategies	Strongly Disagree	Disagree
<b>A. Computer/Internet Self-efficacy</b>		
1. I feel confident in my knowledge and skills of how to manage software for online learning.	2.75	Agree
2. I feel confident in using the Internet (Google, Canvas) to find or gather information for online learning.	2.80	Agree
<b>B. Self-directed Learning</b>		
1. I carry out my study plan.	2.88	Agree



2.I have higher expectations for my learning performance.	2.89	Agree
<b>C. Learner Control</b>		
1. I can direct my learning progress.	2.82	Agree
<b>2. I repeated the online instructional materials based on my needs.</b>	<b>3.19</b>	<b>Agree</b>
<b>D. Motivation for Learning</b>		
1. I like to share my ideas with others.	3.18	Agree
<b>2.I improve from my mistakes.</b>	<b>3.32</b>	<b>Strongly Agree</b>
<b>E. Online Communication Self-efficacy</b>		
1. I feel confident in expressing myself (emotions and humor) through text.	2.83	Agree
<b>2. I feel confident in posting questions in online discussions.</b>	<b>2.35</b>	<b>Disagree</b>

**Legend:**

- 1.0- 1.99            Strongly Disagree
- 2.0- 2.99            Disagree
- 3.0- 3.99            Agree
- 4.0- 4.99            Strongly Agree

Table 6 presents the Achievement Strategies of respondents during Covid-19. Responses from participants show that 'I improve from my mistakes' as an Achievement strategy recorded the highest mean of 3.32 which is under Motivation for Learning. Followed by 'I repeated the online instructional materials based on my needs', with a weighted mean of 3.19 which is under Learner Control. While 'I feel confident in posting questions in online discussions' as an Achievement strategy recorded the lowest mean of 2.35 which is under Online Communication Self-efficacy.

Due to pandemics, traditional classroom learning must modify to online learning. Therefore, students must adopt new and improved strategies to achieve their goals in learning. In the online learning environment, the effectiveness of the strategies that were used in a traditional classroom setting may be reduced. We should not presume that the traditional teaching methods and materials would automatically provide the same learning outcomes in an online learning environment (Broadbent et al., 2015). To fully understand how to achieve effective online learning, it is important to understand what characteristics of online learning preparation college students should have (Hung et al., 2010). The finding shows that respondents are using Motivation for Learning as an achievement strategy, followed by Learner Control and the lowest is Online Communication Self-efficacy.

Learners' motivation has been consistently correlated to successful learning and influences academic outcomes (Clayton et al., 2010). It is necessary to identify the reason or source of a mistake after it has been recognized (Radosavljević et al., 2015). For that reason, students will improve their academic performance leading to achieving clear goals. The definition of Learner Control has changed over time to encompass aspects of

new learning paradigms and technology (Hung et al., 2010). Scheiter (2014) states that Learner Control improves learning by allowing students to build and increase their ability to self-regulate their learning. Nevertheless, it was also mentioned that there is little evidence that learner control would immediately improve motivation and engagement, which will help students learn more effectively. Traditional learning settings are quite different from web-based learning environments (Hung et al., 2010). For that reason, students are generally required to follow instructional material to ensure that everything is done correctly. Getting students to ask questions and participate in discussions is a daily struggle (Rocca, 2010). It is the reason why being 'confident in posting questions in online discussions' scored the lowest. Several factors can hinder participation in web-based conversations (Hurt et al., 2012). Based on the study by Yukselturk (2010), achievement, gender, and weekly hours of Internet use were found to have a significant relationship with students' level of participation in the online discussion. Future studies must conduct and focus on how will the students effectively utilize the achievement strategies in the virtual classroom setting.

**Table 7:** Correlation Analysis Between Participants' Demographic Profile and Academic Stress Level

Correlation		Academic Stressors	Significant Relationships
Age		-.001	No significance
	Sig. (2-tailed)	.992	
	N	177	
Sex		.105	No significance
	Sig. (2-tailed)	.164	
	N	177	
Religion		.142	No significance
	Sig. (2-tailed)	.060	
	N	177	

The study aimed to determine if the demographic profile has a significant relationship with academic stress among nursing students. The results showed that there was no correlation between the demographic profile and academic stress among nursing students.

Table 7 revealed that the two-tailed test showed that the significance of age with academic stress was .992, more significant than the accepted value of 0.05. The significance of sex with academic stress had a value of .164, also more significant than the accepted value of 0.05. The significance of religion with academic stress had a value of .060, which is also more significant than the accepted value of 0.05. This means that there is no significance between the variables and the null hypothesis is accepted.

**Table 8: Correlation Analysis Between Participants' Demographic Profile and Coping Strategies**

Correlation		Coping Mechanisms	Significant Relationships
Age		0.98	No significance
	Sig. (2-tailed)	.196	
	N	177	
Sex		.073	No significance
	Sig. (2-tailed)	.337	
	N	177	
Religion		.054	No significance
	Sig. (2-tailed)	.478	
	N	177	

The study aimed to determine if the demographic profile has a significant relationship with the coping strategies among nursing students. The results showed that there was no correlation between the profile and coping strategies among nursing students.

Table 8 revealed that the two-tailed test showed the significance of age with coping strategies was .196, more significant than the accepted value of 0.05. The significance of sex with coping strategies had a value of .337, also more significant than the accepted value of 0.05. The significance of religion with coping strategies had a value of .478, also more significant than the accepted value of 0.05. It means that there is no significance between the variables and the null hypothesis is accepted.

**Table 9: Correlation Analysis Between the Academic Stress Level and Coping Strategies Among Students**

Correlation		Coping Mechanisms	Significant Relationships
Kendall's tau b	Academic Stressor	0.083	No significance
		.125	
	N	177	

The study aimed to determine if academic stress has a significant relationship with the coping strategies among nursing students. The results showed that there was no correlation between academic stress and coping strategies among nursing students.

Table 9 revealed that the two-tailed test showed that the significance of academic stress with coping strategies was .125, more significant than the accepted value of 0.05. This means that there is no significance between the variables and the null hypothesis is accepted.

#### 4. Conclusions

1. The majorities of the respondents are females, 20 years of age and Roman Catholic.
2. The overall weighted mean of academic stress among Level II students amidst COVID-19 developed as a high level of stress, which was interpreted as the result of students' experiencing difficulty in taking an online examination.
3. Moreover, the coping strategies for the level of academic stress of the majority of respondents are through the use of positive optimism, which enables them to be more adaptive in their current state.
4. On the other hand, achievement strategies with the presence of academic stress lie through the use of self-motivation to learn and aid curiosity amidst difficulty in communication.
5. There is no significant relationship between profile and academic stress among nursing students.
6. There is also no significant relationship between demographics and coping strategies among nursing students.
7. There is no relationship between variables' academic stress and coping strategies.
8. Therefore, the null hypotheses are accepted.

#### Conflict of interest statement

The authors declare no conflicts of interest.

#### About the authors

**Dr. Johdel C. Cabaluna** is a Registered Nurse and a Licensed Professional Teacher. He is an Associate Professor at Wesleyan University-Philippines. He is also a reviewer and lecturer in various review centers in the Philippines.

**Maria Karmela Del Rosario RN, MAN** is a Doctor of Philosophy in Nursing student at St. Louis University-Baguio, Philippines. She is a former nurse manager at St. Luke's Medical Center and is currently the Academic Coordinator of Wesleyan University, Philippines.

**Kyla Christine Antipala** is a nursing student enrolled at Wesleyan University, Philippines.

**Mariden Claire Alvaran** is a nursing student enrolled at Wesleyan University, Philippines.

**Camille Faye Candelaria** is a nursing student enrolled at Wesleyan University, Philippines.

**Vennieve Jane Eder** is a nursing student enrolled at Wesleyan University, Philippines.

**Ashley Nickole Alexis Castelo** is a nursing student enrolled at Wesleyan University, Philippines.

## References

- Adnan, M., & Anwar, K. (2020). Online Learning amid the COVID-19 Pandemic: Students' Perspectives. OnKecojevic, A., Basch, C. H., Sullivan, M., & Davi, N. K. (2020). The impact of the COVID-19 epidemic on mental health of undergraduate students in New Jersey, cross-sectional study. *PloS one*, 15(9), e0239696. in Submission, 2(1), 45-51. Retrieved from <https://eric.ed.gov>
- Akhter, S. H. (2014). Privacy concern and online transactions: the impact of internet self-efficacy and internet involvement. *Journal of Consumer Marketing*. Retrieved from <https://doi.org/10.1108/JCM-06-2013-0606>
- Ala'a, B., Akour, A., & Alfalah, L. (2020). Is It Just About Physical Health? An Online Cross-Sectional Study Exploring the Psychological Distress Among University Students in Jordan in the Midst of COVID-19 Pandemic. *Frontiers in Psychology*, 11. Retrieved from <https://doi.org/10.3389/fpsyg.2020.562213>
- AlAteeq, D. A., Aljhani, S., & AlEesa, D. (2020). Perceived stress among students in virtual classrooms during the COVID-19 outbreak in KSA. *Journal of Taibah University Medical Sciences*, 15(5), 398-403. Retrieved from <https://doi.org/10.1016/j.jtumed.2020.07.004>
- Aleman-Arrebola, I., Rojas-Ruiz, G., Granda-Vera, J., & Mingorance-Estrada, Á. C. (2020). Influence of COVID-19 on the Perception of Academic Self-Efficacy, State Anxiety, and Trait Anxiety in College Students. *Frontiers in psychology*, 11. Retrieved from <https://doi.org/10.3389/fpsyg.2020.570017>
- Al-Hanawi, M. K., Mwale, M. L., Alshareef, N., Qattan, A. M., Angawi, K., Almubark, R., & Alsharqi, O. (2020). Psychological distress amongst health workers and the general public during the COVID-19 pandemic in Saudi Arabia. *Risk Management and Healthcare Policy*, 13, 733. Retrieved from <https://doi.org/10.2147/RMHP.S264037>
- Almarzooq, Z., Lopes, M., & Kochar, A. (2020). Virtual learning during the COVID-19 pandemic: a disruptive technology in graduate medical education. Retrieved from <https://doi.org/10.1016/j.jacc.2020.04.015>
- Broadbent, J., & Poon, W. L. (2015). Self-regulated learning strategies & academic achievement in online higher education learning environments: A systematic review. *The Internet and Higher Education*, 27, 1-13. Retrieved from <https://doi.org/10.1016/j.iheduc.2015.04.007>
- Cazan, Ana-Maria (2014). Self-Regulated Learning and Academic Achievement in The Context of Online Learning Environments. *The International Scientific Conference eLearning and Software for Education 3: 90-95*. Bucharest: "Carol I" National Defence University. Retrieved from <https://www.researchgate.net>
- Cazan, A. M. (2015). Learning motivation, engagement and burnout among university students. *Procedia-Social and Behavioral Sciences*, 187, 413-417. Retrieved from <https://doi.org/10.1016/j.sbspro.2015.03.077>

- Centers for Disease Control and Prevention. (2020). Considerations for events and gatherings. Retrieved from <https://scholarworks.wmich.edu/Coronavirus>, N. (2019). Situation Report-1 21 January 2020. World Health, 251.
- Cullen, W., Gulati, G., & Kelly, B. D. (2020). Mental health in the Covid-19 pandemic. *QJM: An International Journal of Medicine*, 113(5), 311-312. Retrieved from <https://doi.org/10.1093/qjmed/hcaa110>
- Fawaz, M., & Samaha, A. (2020, January). E-learning: Depression, anxiety, and stress symptomatology among Lebanese university students during COVID-19 quarantine. In *Nursing Forum*. Retrieved from <https://doi.org/10.1111/nuf.12521>
- Garcia, R. S. (2021). Influence of Self-Directed Learning Skills on the Academic Adjustment in an Online Learning Platform Among Level I And II Student Nurse. Retrieved from <https://www.researchgate.net>
- Green, J. K., Burrow, M. S., & Carvalho, L. (2020). Designing for transition: supporting teachers and students cope with emergency remote education. *Postdigital Science and Education*, 2(3), 906-922. Retrieved from <https://link.springer.com/>
- Gupta, S., & Sahoo, S. (2020). Pandemic and mental health of the front-line healthcare workers: a review and implications in the Indian context amidst COVID- 19. *General Psychiatry*, 33(5). Retrieved from <https://doi.org/10.1136/gpsych-2020-100284>
- Hasan, N., & Bao, Y. (2020). Impact of “e-Learning crack-up” perception on psychological distress among college students during COVID-19 pandemic: A mediating role of “fear of academic year loss”. *Children and Youth Services Review*, 118,105355. Retrieved from <https://doi.org/10.1016/j.childyouth.2020.105355>
- Hung, M. L., Chou, C., Chen, C. H., & Own, Z. Y. (2010). Learner readiness for online learning: Scale development and student perceptions. *Computers & Education*, 55(3),1080-1090.Retrievedfromdoi: <https://doi.org/10.1016/j.compedu.2010.05.004>
- John Hopkins University and Medicine (2020). Coronavirus ressource centre. <https://coronavirus.jhu.edu/map.html>
- Kamaludin, K., Chinna, K., Sundarasan, S., Khoshaim, H. B., Nurunnabi, M., Baloch, G. M., ... & Hossain, S. F. A. (2020). Coping with COVID-19 and movement control order (MCO): experiences of university students in Malaysia. *Heliyon*, 6(11), e05339. Retrieved from <https://doi.org/10.1016/j.heliyon.2020.e05339>
- Kasi, P. M., Naqvi, H. A., Afghan, A. K., Khawar, T., Khan, F. H., Khan, U. Z., ... & Khan, H. M. (2012). Coping styles in patients with anxiety and depression. *ISRN psychiatry*, 2012. Retrieved from <https://doi.org/10.5402/2012/128672>
- Krishnamoorthy, Y., Nagarajan, R., Saya, G. K., & Menon, V. (2020). Prevalence of psychological morbidities among general population, healthcare workers and COVID-19 patients amidst the COVID-19 pandemic: A systematic review and meta-analysis. *Psychiatry research*, 293, 113382. Retrieved from <https://doi.org/10.1016/j.psychres.2020.113382>

- Kutlu, M. O., Yapıcı, A. & Yılmaz, C. (2019). The Use of "Learner Control Strategy" in Courses of Law Faculties in State and Private Universities. *Maarif Mektepleri Uluslararası Eğitim Bilimleri Dergisi*, 3 (2), 89-102. Retrieved from <https://doi.org/10.46762/mamulebd.637573>
- Lan, H. T. Q., Long, N. T., & Van Hanh, N. (2020). Validation of depression, anxiety and stress scales (DASS-21): Immediate psychological responses of students in the e-learning environment. *International Journal of Higher Education*, 9(5). Retrieved from <https://doi.org/10.5430/ijhe.v9n5p125>
- Li, L., Liu, X., & Steckelberg, A. L. (2010). Assessor or assessee: How student learning improves by giving and receiving peer feedback. *British journal of educational technology*, 41(3), 525-536. Retrieved from <https://doi.org/10.1111/j.1467-8535.2009.00968.x>
- Lyons, Z., Wilcox, H., Leung, L., & Dearsley, O. (2020). COVID-19 and the mental well-being of Australian medical students: impact, concerns and coping strategies used. *Australasian Psychiatry*, 1039856220947945. Retrieved from <https://doi.org/10.1177/1039856220947945>
- Maddux, J. E., & Volkmann, J. (n.d.). Self-Efficacy. *Handbook of Personality and Self-Regulation*, 315–331. Retrieved from <https://doi.org/10.1002/9781444318111.ch14>
- Mishra, A., Rani, S., & Bhardwaj, U. D. (2017). Effectiveness of e-learning module on first aid: a study on student nurses. *International Journal of Nursing Education*, 9(3), 6-10. Retrieved from <http://www.indianjournals.com>
- Nicol, D. (2010). From monologue to dialogue: improving written feedback processes in mass higher education. *Assessment & Evaluation in Higher Education*, 35(5)501-517. Retrieved from <https://doi.org/10.1080/02602931003786559>
- Nurunnabi, M., Hossain, S. F. A. H., Chinna, K., Sundarasan, S., Khoshaim, H. B., Kamaludin, K., ... & Shan, X. (2020). Coping strategies of students for anxiety during the COVID-19 pandemic in China: a cross-sectional study. *F1000Research*, 9. Retrieved from <https://doi.org/10.12688/f1000research.25557.1>
- Oducado, R. M. F., & Soriano, G. P. (2021). Shifting the Education Paradigm amid the COVID-19 Pandemic: Nursing Students' Attitude to E-learning. *Africa Journal of Nursing and Midwifery*, 23(1). Retrieved from <https://doi.org/10.25159/2520-5293/8090>
- Radovan, M. (2011). The Relation between Distance Students' Motivation, Their Use of Learning Strategies, and Academic Success. *Turkish Online Journal of Educational Technology-TOJET*, 10(1), 216-222. Retrieved from [www.eric.ed.gov](http://www.eric.ed.gov)
- Rakes, G. C., & Dunn, K. E. (2010). The Impact of Online Graduate Students' Motivation and Self-Regulation on Academic Procrastination. *Journal of Interactive Online Learning*, 9(1). Retrieved from <http://citeseerx.ist.psu.edu>
- Remtulla, R. (2020). The present and future applications of technology in adapting medical education amidst the COVID-19 Pandemic. *JMIR medical education*, 6(2), e20190. Retrieved from <https://doi.org/10.2196/20190>

- Restubog, S. L. D., Ocampo, A. C. G., & Wang, L. (2020). Taking control amidst the chaos: Emotion regulation during the COVID-19 pandemic. Retrieved from <https://doi.org/10.1016/j.jvb.2020.103440>
- Romero-Blanco, C., Rodríguez-Almagro, J., Onieva-Zafra, M. D., Parra-Fernández, M. L., Prado-Laguna, M. D. C., & Hernández-Martínez, A. (2020). Sleep pattern changes in nursing students during the COVID-19 lockdown. *International Journal of Environmental Research and Public Health*, 17(14), 5222. Retrieved from <https://doi.org/10.3390/ijerph17145222>
- Samat, M. F., Awang, N. A., Hussin, S. N. A., & Nawi, F. A. M. (2020). Online Distance Learning Amidst Covid-19 Pandemic Among University Students. *Asian Journal of University Education*, 16(3), 220-233. Retrieved from <https://doi.org/10.24191/ajue.v16i3.9787>.
- Shahzad, A., Hassan, R., Aremu, A. Y., Hussain, A., & Lodhi, R. N. (2020). Effects of COVID-19 in E-learning on higher education institution students: the group comparison between male and female. *Quality & quantity*, 1-22. Retrieved from <https://doi.org/10.1007/s11135-020-01028-z>
- Sharififard, F., Asayesh, H., Hosseini, M. H. M., & Sepahvandi, M. (2020). Motivation, self-efficacy, stress, and academic performance correlation with academic burnout among nursing students. *Journal of Nursing and Midwifery Sciences*, 7(2), 88. Retrieved from [https://doi.org/10.4103/JNMS.JNMS\\_30\\_19](https://doi.org/10.4103/JNMS.JNMS_30_19)
- Sheroun, D., Wankhar, D., Devrani, A., Lissamma, P. V., & Chatterjee, K. (2020). A Study to Assess the Perceived Stress and Coping Strategies among B. Sc. Nursing Students of Selected Colleges in Pune during COVID-19 Pandemic Lockdown'. *International Journal of Science and Healthcare Research*, 5(2), 280-288. Retrieved from [www.cloudfront.net](http://www.cloudfront.net)
- Sims, R. (2003). Promises of interactivity: Aligning learner perceptions and expectations with strategies for flexible and online learning. *Distance Education*, 24(1), 87-103. Retrieved from <https://doi.org/10.1080/0158791030303050>
- Song, L., & Hill, J. R. (2007). A conceptual model for understanding self-directed learning in online environments. *Journal of Interactive Online Learning*, 6(1), 27-42. Retrieved from [www.researchgate.net](http://www.researchgate.net)
- Surkhali, B., & Garbuja, C. K. (2020). Virtual Learning during COVID-19 Pandemic: Pros and Cons. *Journal of Lumbini Medical College*, 8(1), 2-pages. Retrieved from <https://doi.org/10.22502/jlmc.v8i1.363>
- Tahir, M., Butt, M. W. U., Sheikh, G. M., Yasmeen, R., & Raza, T. (2020). Factors contributing to stress and anxiety in undergraduate medical students. *The Professional Medical Journal*, 27(12), 2769-2774. Retrieved from <https://doi.org/10.29309/TPMJ/2020.27.12.4598>
- Yang, H., Bin, P., & He, A. J. (2020). Opinions from the epicenter: An online survey of university students in Wuhan amidst the COVID-19 outbreak. *Journal of Chinese*



- Governance, 5(2), 234-248. Retrieved from <https://doi.org/10.1080/23812346.2020.1745411>
- Ye, Z., Yang, X., Zeng, C., Wang, Y., Shen, Z., Li, X., & Lin, D. (2020). Resilience, social support, and coping as mediators between COVID-19-related stressful experiences and acute stress disorder among college students in China. *Applied Psychology: Health and Well-Being*, 12(4), 1074-1094. Retrieved from <https://doi.org/10.1111/aphw.12211>

Creative Commons licensing terms

Author(s) will retain the copyright of their published articles agreeing that a Creative Commons Attribution 4.0 International License (CC BY 4.0) terms will be applied to their work. Under the terms of this license, no permission is required from the author(s) or publisher for members of the community to copy, distribute, transmit or adapt the article content, providing a proper, prominent and unambiguous attribution to the authors in a manner that makes clear that the materials are being reused under permission of a Creative Commons License. Views, opinions and conclusions expressed in this research article are views, opinions and conclusions of the author(s). Open Access Publishing Group and European Journal of Public Health Studies shall not be responsible or answerable for any loss, damage or liability caused in relation to/arising out of conflicts of interest, copyright violations and inappropriate or inaccurate use of any kind content related or integrated into the research work. All the published works are meeting the Open Access Publishing requirements and can be freely accessed, shared, modified, distributed and used in educational, commercial and non-commercial purposes under a [Creative Commons Attribution 4.0 International License \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/).