

# 1 Manuscript.docx

*By* Mhs UNAI

---

WORD COUNT

5907

TIME SUBMITTED

09-MAY-2022 12:38PM

PAPER ID

85702925

# Stress and Coping Strategy of Nursing Students In Online Learning During Covid-19 Outbreak: A Mixed-Methods Study

## Abstract

**Background:** The abrupt transition of traditional learning to online learning during Covid-19 outbreak may experience a great deal of stress in nursing students. They often used coping strategies in different ways in responding to the stressors.

**Purpose:** This study aimed to explore the stress level and coping strategies of nursing students in online learning during Covid-19 outbreak using a mixed-methods approach.

**Methods:** We recruited 157 bachelor nursing students from both academic and internship stages in a private university located in Bandung, Indonesia, which was expeditiously running online learning due to Covid-19 outspread provision from March 2020. To gather data, we used the Depression Anxiety Scale-42 (DDAS-42) and The Ways Of Coping in the Indonesian version. An individual interview with 17 nursing students provided an in-depth understanding of students experiences of stress and coping strategy in online learning.

**Results:** The result showed that most students experienced normal stress levels (52.8%), although extremely severe levels were only reported by 7 respondents (4.5%). The top three coping strategies utilized by nursing students were emotion focused, problem focused and used together. The qualitative results revealed that the nursing students' sources of stress were new experiences and hindrances to online learning. Coping strategies included seeking support and positive acceptance.

**Conclusions:** This study indicates that although most of the respondents reported normal range levels of stress, there were nursing students in the extreme levels of stress. With the help of government, faculty, peer and family support gave students strength to survive while encountered with stressors. Personal adaptation was used as a positive coping strategy to deal with stress.

**Keywords:** Stress and coping strategy; nursing students; online learning

## Introduction

Online learning is defined as learning experiences in synchronous or asynchronous contexts employing a variety of devices with internet connection, such as cell phones, computers, and other devices (Singh, 2019). Students can learn and engage with professors and

other students from anywhere. While synchronous environment of learning needs a live and real time interactions between educators and learners, an asynchronous is more in another learning system and forums that promote learners independence learning management (Ivanovic, Milicevic, Aliksic, Bratic, Mandic, 2018; Whiteside, Dikkers and Swan, 2017). Likewise in nursing education, the importance of technology is well understood. Teaching has successfully incorporated technology into the learning process in order to prepare nursing students to function in a technology-driven health setting. Blended learning, distance learning, e-learning are an evolution in nursing education that incorporate technology in learning (Schwendimann, Fierz, Spichiger, 2019; Harerimana and Mtshali, 2019; Leidi, Ritchie, Moslemi, 2020).

The Coronavirus 2019 (Covid-19) pandemic globally had various impacts on the higher education climate. Social distancing initiatives were undertaken by education sectors. Online learning system was implemented in most higher education institutions (Crawford, et al, 2020). Data presented by UNESCO (2020), showed that around 1.5 billion students enrolled worldwide are forced to at-home distance learning. Several countries initiated to undertake this method include Indonesia (Adeoye, Adanikin, and Adanikin, 2020; American University in Cairo, 2020; Hongkong Baptist University, 2020; Jakarta Globe, 2020; University of Passau, 2020; University of Sydney, 2020). Since the first two positive cases reported in Indonesia on March second 2020, the fatality rate has continuously increased. Thus, the president of Indonesia Joko Widodo suggested “red zone” epicenters and national lock down. The educational system was corroborated with Indonesia Ministry of Education advisory No 262/E.E2/KM/2020 released on March 23,2020. The Ministry of Education advisory suggested the online learning alternatives during COVID-19 pandemic must ensure the learning activities (Kemdikbud, 2020).

Undoubtedly, this period of Covid-19 pandemic has been stressful for nursing students. Specifically, online learning is a learning system that is not commonly implemented in Indonesia. Nursing students may experience a great deal of stress as a result of abruptly switching from traditional to online learning (Hagedorn, Wattick, Olfert, 2022). Stress, according to Lazarus and Folkman (1984), occurs when a person thinks that the demands are greater than his or her personal and social resources. As a result, whether or not a situation is frightening is determined by the individual's perception of it. Nursing students experience challenges as classes go online, such as being unable to concentrate and having difficulty participating, writing projects, taking tests, and achieving academic deadlines (Raheim, 2020). In addition, Al-Rasheed (2021) concluded that challenges faced by students include lack of in-person interaction, distractions and time management, lack of a systematic schedule, stress and psychological pressure, missing the traditional university environment and lack of access to external learning resources.

Coping strategy refers to an individual's responses to stressors. Coping strategies are stabilizing techniques for assisting individuals in maintaining psychological adaptation during stressful situations (Mariani et al, 2020). In addition Folkman and Lazarus (1985) defined coping techniques as either problem-based or emotion-based. In the face of a stressful event, both coping mechanisms are applied, although their effectiveness varies. Problem-focused

coping seeks to alleviate distress by actively managing a stressor. Obtaining information about the stressful circumstance and its potential implications is required for this method. People that employ this method attempt to prioritize their activities based on their importance and to manage their activities on a timely basis (Carver, Scheier, Weintraub, 1989). On the other hand, emotion-focused coping is aimed at dealing with the stressor's emotions and feelings. Finding techniques to manage emotions and being hopeful when confronted with stressful events are two of these strategies. People who use this approach to manage their emotions may express emotions such as rage or disappointment (Lazarus, 1999)

Previous studies have indicated that while engaging in online learning, nursing students often used coping strategies in different ways. Nursing students have demonstrated remarkable resilience as one of their coping methods throughout Covid-19. The learners have used humor, which studies associate with lower to moderate anxiety levels (Savitsky et al, 2020). Additionally, diverse coping strategies adopted by nursing students included being married, use of emotional social support, acceptance positive reinterpretation and growth and behavioral disengagement (Faronbi et al, 2021). Prior studies have explored the experience of nursing students in online learning using a qualitative research design (Langegard et al, 2021) and the stress level and coping strategies of nursing students in response to the online learning using cross-sectional design (Sheroun et al, 2020). Therefore, this study used a mixed method design to explore the stress and coping strategy of nursing students in online learning during Covid-19 outbreak in a private nursing school.

## **Materials and Methods**

### **Design**

This study is a mixed-method study design. Separate quantitative and qualitative data were assessed, but they were combined and discussed. While the quantitative phase was based on surveys, the qualitative phase was based on in-depth interviews using semi-structure questions to explore the various stress sources and coping strategies adopted in the online learning environment.

### **Participants**

Nursing students were recruited from one nursing school of a private university in Bandung, Indonesia, which was expeditiously running online learning due to Covid-19 outbreak provision from March 2020. The inclusion criteria were as follows: (1) nursing students in this nursing school who experienced online learning in full semesters of 2020/2021 academic year, (2) nursing students enrolled in bachelor nursing program, both in academic and internship stage, (3) nursing students who understood the study purpose, (4) nursing students who agreed to participate in this study and signed the consent form. A total

of 260 nursing students from the bachelor nursing program, and 157 nursing students completed the questionnaire, whilst 17 bachelor students participated in face to face interviews.

### **Data Collection**

Questionnaires of quantitative measurement in this study included basic characteristics, the Depression Anxiety Stress Scale-42 (DASS-42) and The Ways of Coping. DASS-42 was adopted from Psychology Foundation of Australia (2014) and The Ways of Coping was adopted from Folkman and Lazarus (1985). Both questionnaires were translated to the Indonesian version and the scales have been shown to have good reliability in many populations. While the reliability of Chronbach's alpha stress dimension of DASS-42 was 0.89, The Ways of Coping was 0.81. Score indicator for DASS-42 was normal (0-14), mild (15-18), moderate (19-25), severe 26-33) and extremely severe (>34). While coping indicators are described by coping focused on problems, emotions and used together in a balanced way (Damanik, 2014; Kresna, 2016).

Using semi-structured questions, a qualitative data guide was created. The participants were encouraged to share freely about their experience of stress and coping behavior during the period of online learning amidst Covid-19 pandemic. The interview questions were: (1) What are the main stressors in online learning during the Covid-19 pandemic? (2) How do you manage stress while engaging in online learning during Covid-19 pandemic? (4) Could you describe how you expect the stress to be reduced?

### **Trustworthiness**

Credibility involves establishing the truth of the qualitative research study's findings. In this study, researchers used a peer debriefer strategy to ensure the trustworthiness of the qualitative data gathered. During and after the data gathering and analysis process, the peer debriefer was asked for some inputs for general methodology, transcripts and final report. Afterwards, researchers provided the feedback to enhance credibility and ensure validity of the investigation.

### **Data Analysis**

The quantitative data were analyzed using SPSS software version 25.00 for Windows. Variables were analyzed using descriptive statistics which included: percentage, frequencies, mean and standard deviation (SD). Whilst the qualitative data were analyzed using content analysis according to Creswell (2018). The qualitative data was read numerous times in order to fully comprehend the responses. Units that met the objectives were identified and grouped

together into shorter passages. To summarize the text further, they were coded together and grouped into categories and subcategories. After qualitative data analysis, a theme developed.

### **Ethical Consideration**

This study was approved by the Institutional Review Board (IRB) of Faculty of Nursing Science (KEPK No: 158/EKS-SU-VIII/20). Participants who engaged in online learning during Covid-19 pandemic era in the bachelor nursing program and who fulfilled the inclusion criteria were recruited. The researcher explained the objectives of this study and the study protocol in a home based private zoom meeting. After obtaining informed consent from each participant, researchers collected data, both quantitative and qualitative. The collected information was considered confidential. Participants spent 20-30 minute completing the questionnaires and were informed that they could withdraw from the study any time without giving any reason.

### **Results**

#### 3.1 Results of Quantitative Data

##### 3.1.1 Characteristics of Participants

Table 1. Characteristics of Respondent

Variables	Mean ± SD/n (%)
Age (years)	21.7 ± 5.3
Gender	
Male	51 (32.5)
Female	106 (67.5)
Academic year	
Sophomore	28 (17.8)
Junior	33 (21.0)
Senior	45 (28.7)
Internship	51 (32.5)

Based on table 1, the number of respondents was as many as 157 students, the mean age of bachelor nursing student was 21.7 years, and most of the respondents were female with as many as 106 participants (67.5%). Meanwhile, based on the academic year, internship level students are 51 participants (32.5%).

### 3.1.2 Stress and Coping Strategy

Table 2. Distribution of stress level

Variable	Frequency	Percentage	Min - Max	Mean	Median
Normal	83	52.8	0 - 14	12.42	12,67
Mild	28	17.8	15 - 18	16.21	17
Moderate	21	13.4	19 - 25	21.86	22.67
Severe	18	11.5	26 - 33	31.39	32.01
Extremely Severe	7	4.5	> 34	35.22	35.27

As shown in table 2, most nursing students were at the normal range of stress level (52.8%), small number of nursing students were at mild (17.8%), moderate (13.4%) and severe (11.5%) range of stress level, while very little number of nursing students were at extremely severe (4.5%) level of stress.

Table 3. Distribution of Coping Strategy

Variable	Frequency	Percentage	Min - Max	Mean	Median
Emotion Focused	72	45.9	11 - 28	20.48	20,65
Problem Focused	46	29.3	18 - 28	19.21	20
Used Together	39	24.8	14 - 28	26.76	26.5

Table 3 provides a descriptive analysis of coping strategy used by nursing students. Most nursing students used emotion focused coping strategies (45.9%) and almost half of nursing students used problem focused coping strategies (29.3%), while a small number of nursing students used both emotion and problem focused (24.8%) in a balanced way.

### 3.2 Result of Qualitative Data

The result of qualitative data was summarized in the table 3 below.

Table 4. The results of qualitative data analysis

Topic	Theme	Category	Subcategory	
Stress sources	New experience	Ineffective learning process	Virtual media replacing clinical practice	
			Less interactive learning	
			Lack of concentration	
	Hindrances to online learning	External impediments	Academic workload	
			Technology impediment	
			Remote area	
Coping strategy	Seeking support	Government support	Effective use of quota support	
			Faculty support	Trying to get closer with faculty
				Enjoying the learning process
	Positive acceptance	Personal adaptation	Peer support	Seeking cooperation and collaboration
				Joke with each other
			Family support	Receive support from family members
Positive acceptance	Personal adaptation		Respond positively	
			Behave positively	

From the results of the quantitative data, the researchers determined the stress level and coping strategy among nursing students. However, the researchers wanted to understand the details of the different sources of stress and the ways of coping in this population, in terms of learning online during the Covid-19 pandemic era. Therefore, the researchers used qualitative



questions to explore the information in detail. The results of the qualitative data were classified into themes emerged for stress sources and included: “new experience” and hindrances to online learning. The themes emerged from four categories: “ineffective learning process,” “ineffective interaction,” “external impediments,” and “internal factor declined.”

The themes for coping strategy were “seeking support” and “resilience.” The themes emerged from the four categories: “faculty support,” “peer support,” “family support,” and “student internal factor.”

### 3.2.1 Stress Sources

#### 3.2.1.1 New Experience Theme

The theme “new experience” contained experiences of bachelor nursing students’ stress while engaging in online learning during Covid-19 pandemic era. In the interviews, nursing students in the internship phase expressed that the learning process during online learning was not effective. The virtual media replacing clinical practice was expressed by nursing students at the internship phase. They revealed that clinical practice should be directly involved in those activities on behalf of clients, yet replaced by online learning. They also worried that they are disadvantaged if their practical skills are inadequate compared to those who practice more in hospitals. Students also feel that online learning is less able to fulfill competencies and demands of clinical learning.

On the other hand, nursing students in the academic phase described an ineffective learning process such as less interactive learning. This subcategory is exemplified by statements such as, “ Like before, we couldn't see the lecturer's expression directly, the lecturer couldn't observe whether we understood it or not, that's what I heard from lecturers like that.” Students in the academic phase also revealed that online learning tends to make students passive. One student explained, "Anyway, if a lecturer asks, sometimes if you want to answer, you have to switch on the microphone first, so we're kind of lazy, so we're more passive in my opinion."

In the subcategory “lack of concentration,” it was expressed that nursing students could not focus on learning. One nursing student at academic phase stated, “This online system is also difficult for us to adapt at the beginning, we couldn't meet friends, and maybe sometimes when the lecturer is teaching, I play on my cell phone and then chat with friends who are here, just like that so I can't focus. " One internship phase nursing student reflected, “for me, it's quite reduced, because the concentration is not fully there. Because we can do other things, so we don't focus as usual, which is normal."

In the theme “new experience,” the other category namely “ineffective interaction” was found. It was due to the lack of cooperation among students as told by one nursing student at the academic stage, “but for some people it's more difficult because I don't know them,

meaning we've never met and then being asked to say how it's like all out is a bit difficult, so I think it's like that, the collaboration isn't that good." While one nursing student at the internship stage expressed, "For students, in my opinion, collaboration is reduced online, we students are complicated to zoom in, spending quota, it's different from offline, we can get together to work together."

In the subcategory on student remarked "ineffective communication," students experienced barriers in communicating. "Because we don't meet face to face, there is sometimes a misunderstanding between what the lecturer wants and what the students get. If we want to ask, it's really complicated, we have to raise our hand first, Another student reflected, "communication between lecturers and students is a bit interrupted, that's because it might be difficult to read the gestures, for example in offline class, maybe the lecturers can directly see, if in online classes this is more limited." In addition the nursing student and lecturer interaction was constrained. One student at the academic stage stated, "So far, there has been less interaction in online classes, sometimes the lecturers call out like that, so it's like we are quiet and dry."

#### 3.2.1.2 Hindrances to online learning theme

The theme "hindrances to online learning" was due to challenges experienced by nursing students in online learning during Covid-19 pandemic era. The "external impediments," and "internal factor declined," were found as a category of theme. In the subcategory of "academic workload," it was shown that nursing students complained about difficulties in handling assignments. One nursing student at an academic stage expressed, "the assignments are so many, then the deadline for collecting assignments is not far or tight, and sometimes doesn't understand what the lecturer explained." Another nursing student also reflected, "It was at first so stressful, I was given a lot of assignments, sometimes also a lot of materials...."

The sub category of "technology impediment," explained how technology has limitations in facilitating online learning. Various technology challenges in the form of limitations of its technological tools and also the limitations of the technology users. One nursing student at an academic stage stated, "Gaining knowledge is difficult. Then sometimes on the internet, whether it's the lecturer or us, the internet has errors, so the lecturer's voice becomes very small, yes, if you go directly or face to face, it's different." Another nursing student also expressed, "There are lecturers who are not very good at using technology, for example we use Moodle right, sometimes their materials can't be opened because they are locked, they haven't opened the date."

Moreover, the sub category of "remote area" also became a stress source to the nursing student. The network is also burdensome for nursing students as stated by one nursing student, "Poor network often makes it difficult for us to catch the material or we can't go to class because the signal is not good, it makes our understanding go down, maybe because of my place in the village." Another nursing student stated, "sometimes maybe because of my location, which makes when I'm asking our signal broken, so the questions and answers don't

connect.”

The category of “Internal factor declined,” contained experiences of nursing student’s individual responses to the new online learning system. Nursing students’ motivation weakened during the online learning period, as it is reflected by one nursing student, “Learning feels very relaxed, don’t have to take a shower first, just wear a t-shirt, sometimes gets too lazy, motivation to study decreases.”

### 3.2.2 Coping strategy

#### 3.2.2.1 Seeking support

The theme “seeking support” contained experiences of seeking support from government, faculty, peers and family. In the category of “government support,” the minister of education supported it as a form of quota support for education. Nursing students explained their coping strategy such as “Use the learning quota facility from the government effectively. We get quota assistance from the government and it goes on time every month to our cell phones.” In addition, in the category of “faculty support,” nursing students experience of coping strategies by seeking support from faculty. Their coping strategies included maintaining relationships with the faculty. Though using technology, nursing students are trying to get closer with the faculty, as stated by one nursing student, “trying to get closer, use effective communication via chat, if there is something I don’t understand, I chat with the lecturer and the lecturer immediately answers my chat.” Another nursing student in the internship stage expressed, “This is for me personally, so for example, zooming in was not clear, while the time is up, I’m going to chat again, chat again, chat again.” On the other hand, the sub category “enjoying learning,” nursing students were able to use some situations for leisure. Therefore some students reflected, “the relaxed situation in online learning such as lying back while off camera or eating is not a problem for some lecturers.” Another nursing student at the internship stage stated, “Although online learning is a source of stress, students can use some learning situations as a means of fun, take it easy and relaxed, want to start class, just open the laptop.”

In the category “peer support” nursing students were seeking support from classmates in seeking cooperation and collaboration with friends, as reflected by a nursing student at internship stage, “Inviting friends to discuss cases, it’s cooperation, right, sharing and discussing the exercises or questions given by the lecture.” Another nursing student expressed, “For example, the lecturer divides groups in doing assignments, or while zooming in with the lecturer, also chatting with friends to discuss what the lecturer means.” Moreover, the sub category “Joke with each other” was experienced by the nursing students to seek peer support while encountering stress on online learning. Nursing students state that they joke with each other before starting a zoom class or during a zoom class. Some lecturers give students the opportunity to throw jokes at each other in zoom.

In the category “family support” means that nursing students receive support from family such as parents or brothers and sisters in engaging in online learning. This is considered by nursing students as a means to reduce stress in online learning. One nursing student at academic stage shared, “When studying at home, there are mama and papa, so if I don't know, I can go to them, if you're offline, you can't.” Another nursing student reflected, “Closer to the family, more time to rest, even though there are many tasks, you can relax, right.”

#### 3.2.2.2 Positive acceptance

The theme “positive acceptance” is described by the experience of nursing students as an effort to cope with stress due to a drastic change from traditional learning to online learning. Students at the internship stage show more meaningful adaptation in dealing with the stress of online learning. Most of them gave a positive response and behavior in dealing with the online learning environment. In regard to positive responses, some reflected that though online learning, they still gain knowledge. One example statement, “I think there are more positives, because even in this situation, even though we are online, we can still gain knowledge online, right?” In regard to positive behavior, some revealed that they keep on learning with enthusiasm and gratitude, and take valuable experiences in online learning. One example statement, “For example, we take the positive things, we accept the situation we live in with God's help, everything can be done.”

### Discussion

The findings of this study showed that although most nursing students were at the normal range of stress levels, they were encountered with various forms of stressors. Nursing students in both the academic and internship stages were faced with changes in the learning system from traditional learning to online learning. This finding is inconsistent with the results of previous studies (Oducado, Estoque, 2021), but consistent with the prior study (Sukdee et al, 2021). Nursing students considered online learning very stressful during the Covid-19 outbreak. Several factors associated were found as devices used, stability of internet connection, income status, and geographic area (Williams et al, 2021). These all contribute to the stress level of nursing students in online learning.

The academic stage of the bachelor nursing program is not surprising that at this stage it is more towards academic completion. Students are expected to meet learning outcomes that refer to the National Higher Education Standards 2015, for level 6, bachelor degree. The learning outcomes encompasses aspects of general attitudes and skills as contained in the Nurses Education Curriculum (AIPNI, 2015). On the other hand, the internship stage of the bachelor nursing program is a professional nursing education in Indonesia. It is an advanced stage of education from academics in the undergraduate nursing program. The students will experience an adaptation process of professional nursing that is able to accept delegation of

authority to carry out nursing care. Based on the Nurses Education Curriculum (AIPNI, 2015), the internship program is a clinical practice based. Nursing students expected to be able to apply theories and concepts obtained during the academic stage in the form of practice. However, in the Covid-19 pandemic era, it was replaced with online learning. Undoubtedly, stress perceived by the nursing students (Deemah, Sumayah, Dalal, 2020; Maharani and Mustikasari, 2021).

The three coping strategies utilized by the nursing students in both academic and internship stages in this study were emotion focused, problem focused and used together in a balanced way. While most nursing students utilized emotion focused coping strategies, fewer nursing students utilized both the problem and combination of the two coping strategies. This finding is suitable to previous studies (Pun, Samson, Timalsina, 2018; Lloyd et al 2018) that validated emotion focused and problem focused coping strategies. While emotion focused coping encompasses the processes that serve to reduce emotional distress, problem focused strategies look to change the situation for the better. The emotion focused coping covers the acceptance, positive restructuring, and humor, whilst problem-focused coping covers generating alternative solutions, planning and taking action to resolve or circumvent the stressor (Folkman, 2007; Schoenmakers, 2012).

**1** In the qualitative results, the theme of stress source “new experience” emerged from the two categories “ineffective learning process,” and “ineffective interaction.” The other theme of stress sources, “hindrances to online learning,” emerged from the category “external impediments,” and “internal factor declined.” A prior study found that students’ experiences of the transition from face-to-face to e-learning in the context of Covid-19 pandemic (Mpungose, 2020). Another study showed that nursing students experienced technological challenges, academic relationship changes, role stress/ strain and student resilience (Wallace et al, 2021). Another study highlighted the students’ responses about online learning experienced by students in the Covid-19 pandemic era. Several aspects found including the positive and negative impact of online learning, economic conditions and anxiety during online learning (Simamora, 2020). These studies described earlier supported the recent qualitative findings.

The qualitative finding of coping strategies utilized by nursing students covers the theme “seeking support,” that emerged from several categories including government, faculty, peer and family support. The theme “positive acceptance,” emerged from the category “**1** personal adaptation.” These results are consistent with the findings of previous studies. **Seeking information and consultation** were found as **a possible coping strategy for nursing students while **1** encountering stress in online learning during Covid-19 pandemic era.** In addition, this study **noted that maintaining a positive attitude in seeking information and consultation was a positive coping strategy associated with better mental outcomes among nursing students** (Savitsky et al, 2020). Another study validated the viable strategy for positive coping is accepting attitudes towards online learning. Positive coping strategies including active coping, positive reframing, planning and acceptance (Rahmat et al, 2022; Harun and Aziz, 2021).

## **Conclusions**

The findings of this study showed that most nursing students were at the normal range of stress level, yet could not be denied they encountered the stressors while engaging in online learning in Covid-19 pandemic era. Nursing students both in the academic and internship stage preferred to utilize emotion focused coping strategies. The new experience and hindrances to online learning became the source of stress in online learning. While new experience stressor came from ineffective learning process and ineffective interaction during online learning, hindrances to online learning came from external impediments and internal factors declined. The coping strategies such as seeking support and positive acceptance were used to deal with stressors during online learning. The government, faculty, peer and family support gave students strength to survive while encountered with stressors. In addition, personal adaptation was used as a positive coping strategy to deal with stress. While there is a growing body of research on stress and coping mechanisms in online learning, a need to continue to study it through thoughtful, well-designed studies to serve as a guide to scholars and educators in online learning and beyond.

## **Declaration of Interest**

The authors declare that there are no potential conflicts of interest in this article's research, authorship or publishing.

## **Acknowledgment**

We would like to thank all of the students who participated in our survey. Special thanks to the 17 students who also participated in the in-depth interviews that followed. Your insights have given the overall survey results more clarity and relevance, and your thoughts have offered us suggestions for future research.

## **Funding**

The authors have no support or funding to report

## **Data Availability**

The data presented in this study are available on request form corresponding author. The data are not publicly available due to privacy

## References

Adeoye, I. A., Adanikin, A.F., Adanikin, A. (2020). Covid-19 and E-Learning: Nigeria tertiary Education System Experience. *International Journal of Research and Innovation Applied Science*, 5(5), 2454-6194.

<http://www.researchgate.net/publication/341574880>

American University in Cairo. (2020). AUC Vice President for Digital Transformation's Message on Online Instruction. <https://www.aucegypt.edu/news/auc-vice-president-digital-transformations-message-online-instruction>

Al-Rasheed, A. (2021). The challenges faced by undergraduate women during the Covid-19 pandemic in Saudi Arabia. *Hindawi Education Research International* volume 2021, 1-10. doi:10.1155/2021/8841997

Carver, C.S., Scheier, M.F., Weintraub, J.K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56(2), 267-283. doi:10.1037/0022-3514.56.2.267

Crowford, J., Butler-Henderson, K., Rudolph, J., Malkawi, B., Glowats, M., Burton, R., Magini, P., Lam, S. (2020). Covid19:20 countries' higher education intra-period digital pedagogy responses. *Journal of Applied Learning & Teaching*, 3(1), 1-20. doi: 10.37074/jalt.2020.3.1.7

Damanik, E.D. (20...). The measurement of reliability, validity, item analysis and normative data of Depression Anxiety Stress Scale-42 (DASS-42). Faculty of Psychology, Universitas of Indonesia

Deemah, A., Sumayah A., Dalal A. (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. doi:10.1016/j.jtum.2020.07.004

Faronbi, J.O., Adebisi, A.T., Idowu, A.O., Faronbi, G.), Iriniye, O.O. (2021). Predictors of depressive symptoms and effective coping strategies among open and distance learning nursing students. *International Journal of Africa Nursing Sciences*, 14, doi:10.1016/j.ijans.2021.100295

Folkman, S. (2007). The case for positive emotions in the stress process. *Anxiety Stress Coping*, 21, 3-14. doi:10.1080/10615800701740457

Hagedorn, R.L., Wattick, R.A., Olfert, M.D. (2022). "My entire world stopped": College students' psychosocial and academic frustrations during the Covid-19 pandemic. *Applied Research in Quality of Life*, 17:1069-1090. doi:10.1007/s11482-021-09948-0

Harerimana, A., Mtshali, N.G. (2019). Conceptualisation of e-learning in nursing education in the context of Rwanda. *Journal of Nursing Education and Practice*, 10(6), 26-35. doi: 10.5430/jnep.v10n6p26

Harun, S., Aziz, N.A. (2021). Covid-19 pandemic: Impact on students' acceptance towards online learning. *International Journal of Business, Economics, and Law*, 24(5), 50-55

Hong Kong Baptist University. (2020). Suspension of on-campus face-to-face classes- update. [http://ehsu.hkbu.edu.hk/2019-nCOV/20200318\\_PVC%20announcement.pdf](http://ehsu.hkbu.edu.hk/2019-nCOV/20200318_PVC%20announcement.pdf)

Ivanovic, M., Milicevic, A.K., Aliksic, V., Bratic, B., Mandic, M. (2018). Experiences and perspectives of Technology-enhanced learning and teaching in higher education-Serbian case. *ScienceDirect Procedia Computer Science* 126,1351-1359. doi:10.1016/j.procs.2018.08.086

Jakarta Globe. (2020, March 25). Indonesia and COVID-19. Indonesia Expat. Jaskova, J. (2021). Digital testing during the pandemic crisis: University students opinion on computer-based tests. *International Journal for Innovation Education and Research*, 9(1), 36-53



Kementerian Pendidikan dan Kebudayaan (Kemendikbud) Nomor 15 Tahun 2020  
tentang Pedoman Penyelenggaraan Belajar Dari Rumah Dalam Masa Darurat  
Penyebaran

Covid-19. <https://www.kemdikbud.go.id/main/blog/2020/05/kemdikbud-terbitkan-pedoman-penyelenggaraan-belajar-dari-rumah>

Langegard, U., Kiai, K., Nielsen, S.J., Svensson, P.A. (2021). Nursing students' experiences of a pedagogical transition from campus learning to distance learning using digital tools. *BMC Nursing*, 20-23, 1-10. doi:10.1186/s12912-021-00542-1

Lazarus, R.S. (1999). *Stress and Emotion: A New Synthesis*. Springer: New York

Lazarus, R.S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer

Leidi, D.M., Ritchie, L., Moslemi, N. (2020). Blended learning in undergraduate nursing education-A scoping review. *Nurse Education Today*, 86. doi:10.1016/j.nedt.2019.104318

Lloyd, J., Muers, J., Patterson, T.G., Marczack, M. (2018). Self-compassion, coping strategies, and caregiver burden in caregivers of people with dementia. *Clinical Gerontologist*. Doi:10.1080/07317115.2018.1461162

Maharani, M.S., Mustikasari, M. (2021). Stress levels and high school adolescents coping mechanism during the Covid-19 pandemic. *Jurnal Keperawatan Padjadjaran (JKP)*, 9(3), 240-246. doi:10.24198/jkp.v9i3.1678

Mariani, R., Renzi, A., Di Tirani, M., Trabuchi, G., Danskin, K., Tambelli, R. (2020). The impact of coping strategies and perceived family support on depressive and anxious symptomatology during the Coronavirus pandemic (Covid-19) lockdown. *Frontiers in Psychiatry*, 11, 1-9. doi:10.3389/fpsy.2020.587724

Mpungose, C.B. (2020). Emergent transition from face-to-face to online learning in a South African University in the context of the Coronavirus pandemic. *Humanities and Social*

Sciences Communications, 7(113),1-9. doi: 10.1057/s41599-020-00603-x

Oducado, R.M., Estoque, H. (2021). Online learning in nursing education during the Covid-19 pandemic: Stress, satisfaction, and academic performance. *Journal of Nursing Practice*, 4(1), 143-153. doi:10.30994/jnp.v4i2.128

Pun, K.M., Samson, P., Timalisina, R. (2018). Stress, stress responses and coping strategies among bachelor nursing students. *Journal of Patan Academy of Health Sciences*, 5(2), 74-84.

Raheim, M.D.H. (2020). The emergency remote learning experience of university students in Indonesia amidst the Covid-19 crisis. *International Journal of Learning, Teaching and Educational Research*, 19(6), 1-26. doi:10.26803/ijlter.19.6.1

Rahmat, H., Aris, A., Miskam, H.M., Rajendran, K., Mashudi, R. (2022). Students' attitudes and coping strategies relating to online learning during the Covid-19 pandemic: A cross-sectional study. *F1000Research* 11(320), 320. doi:10.12688/f1000research.73610.1

Savitsky, B., Findling, Y., Ereli, A., Hendel, T. (2020). Anxiety and coping strategies among nursing students during the Covid-19 pandemic. *Nurse Education in Practice*, 46. doi: 10.1016/j.nepr.2020.102809

Schoenmakers, E.C., Van tilburg, T.G., Fokkema, T. (2012). Coping with loneliness: what do older adults suggest? *Aging Mental Health*, 16, 353-360. doi:10.1080/13607863.2011.630373

Sheroun, D., Wankhar, D.D., Devrani, A., Lissamma, P.V., Gita, S., Chatterjee, K. (2020). A study to assess the perceived stress and coping strategies among B.Sc. Nursing students of selected colleges in Pure during Covid-19 pandemic lockdown. *International Journal of Science and Healthcare Research*, 5(2), 280-288. doi:10.4444/ijshr.1003/458

Simamora, R.M. (2020). The challenges of online learning during the Covid-19 pandemic:

An essay analysis of performing arts education students. *Studies in Learning and Teaching*, 1(2), 86-103. doi:10.46627/silet

Singh, B. (2019). Character education in the 21<sup>st</sup> century. *Journal of Social Studies (JSS)*, 15(1), 1-12. doi: 10.21831/jss.v15i1.25226

Sukdee, T., Khajornsilp, J., Netrthanon, S., Pechsri, K., Ayudhaya, W.S.N. (2021). Factors affecting stress of online learning due to the Covid-19 situation at Faculty of Education, Thailand National Sports University Chonburi Campus. *Journal of Curriculum and Teaching*, 10(4), 25-33. doi:10.5430/jct.v10n4p25

Schwendimann, R., fiers, K., Spichiger, E. (2019). A master nursing science curriculum revision for the 21st century-progress report. *BMC Medical Education*, 19(1), 13. doi:10.1186/s12909-019-1588-9

Taha, S., Matheson, K., Cronin, T., & Anisman, H. (2014). Intolerance of uncertainty, appraisals, coping, and anxiety: the case of the 2009 H1N1 pandemic: *British Journal of Health Psychology*, 19(3), 592-605. doi:10.1111/bjhp.12058

University of Passau. (2020). Coronavirus (COVID-19) - important information. <https://www.uni-passau.de/en/coronavirus>

University of Sydney. (2020). Confirmed case of COVID-19. University of Sydney. <https://www.sydney.edu.au/news-opinion/news/2020/03/15/confirmed-case-of-COVID-19-at-sydney-university.html>

Wallace, S., Schuler, M.S., Kaulback, M., Hunt, K., Baker, M. (2021). Nursing student experiences of remote learning during the Covid-19 pandemic. *Nurs Forum*, 17. doi:10.1111/nuf.12568

Whiteside, A., Dikkers, A.G., Swan, K. (2017). *Social Presence in Online Learning Multiple Perspectives on Practice and Research*. Sterling, VA: Stylus

Williams, B., King, C., Shannon, B., Gosling, C. (2021). Impact of Covid-19 on

paramedicine students: A mixed method study. *International Emergency Nursing*,  
56(2021). doi: 10.1016/j.ienj.2021.100996

# 1 Manuscript.docx

---

## ORIGINALITY REPORT

---

4%

SIMILARITY INDEX

---

## PRIMARY SOURCES

---

**1** [www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov)  
Internet

208 words — 4%

---

EXCLUDE QUOTES ON

EXCLUDE SOURCES < 2%

EXCLUDE BIBLIOGRAPHY ON

EXCLUDE MATCHES OFF