

# Mental Health Status and Academic Performance of Graduating Nursing Students during COVID-19 Pandemic in a Government School in Leyte, Mental Health Program Model: A Correlational Study

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## ABSTRACT

**Background.** The COVID-19 pandemic disrupted education worldwide, prompting a rapid shift to emergency remote teaching that challenged students' learning and mental health. Nursing students, in particular, faced heightened pressures due to the suspension or online adaptation of essential clinical experiences, alongside the need to master theoretical and practical competencies. Emerging evidence indicates that such stressors adversely affect students' emotional and psychological well-being, potentially influencing academic outcomes. Understanding the relationship between mental health and academic performance among nursing students is crucial for developing targeted interventions that support their well-being and professional readiness.

**Objective.** This study analyzed the mental health status and academic performance of graduating nursing students during the challenging period of remote learning amid the pandemic in a government school in Leyte.

**Methods.** The study utilized a descriptive correlational design to explore the relationships between mental health status and academic performance among nursing students. A modified self-administered questionnaire was utilized to gather data. Ethical approval from Eastern Visayas Health Research and Development Consortium-Ethics Review with ERC number 2023-024 was secured, and data collection occurred through various methods. Data analysis used SPSS version 24, emphasizing the importance of understanding these relationships in educational settings.

**Results.** The study assessed the demographic profile, online learning attributes, mental health status, and academic performance of 20 nursing students during the pandemic. All students passed their courses, despite reporting moderate emotional loneliness and irritability, but minimal fear of COVID-19. Significant correlations were found between demographic factors and mental health indicators. The null hypothesis, suggesting no relationship between demographic factors and mental health, is void, as significant associations were identified. Recommendations include enhancing mental health support in nursing education to address these challenges.



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**Conclusion.** This study highlights the experiences of 20 nursing students from a government college in Leyte during the COVID-19 pandemic. Predominantly young women from rural, low-income backgrounds, these students faced challenges like poor internet access but successfully completed their academic requirements, showcasing resilience. While they reported low fear of COVID-19, moderate emotional loneliness and irritability indicated underlying mental health issues. The findings stress the need for educational institutions to provide mental health support and address the digital divide to enhance student well-being and success.

*Keywords: stress, learning, pandemic, nursing education, COVID-19, mental health*

## INTRODUCTION

The COVID-19 pandemic significantly affected education and mental health. This correlational study investigates the relationship between mental health and academic performance among nursing students during the pandemic. As future healthcare professionals, nursing students face pressures from a rapidly changing educational landscape, including remote learning and heightened anxiety, alongside mastering clinical skills. Understanding mental health's influence on academic outcomes is crucial for developing targeted programs that support student well-being and academic success. This study aims to provide insights to enhance educational strategies and mental health interventions, fostering a resilient nursing workforce capable of navigating current and future healthcare challenges.

The advent of the novel coronavirus disease 2019 in December 2019 quickly escalated into a global pandemic, prompting the World Health Organization (WHO) to declare it a Public Health Emergency of International Concern. Its rapid spread instigated unprecedented public health measures worldwide, including widespread lockdowns, travel restrictions, and social distancing mandates, profoundly impacting every facet of society.<sup>1</sup> The Philippines, like many nations, swiftly responded with its own containment strategies, such as class suspensions and extensive community quarantines. These critical interventions, while necessary for public health, inadvertently triggered significant disruptions in the educational landscape, compelling a rapid and often unprepared transition to emergency remote teaching.<sup>2</sup> This abrupt shift from traditional learning environments to online modalities had substantial repercussions on students' academic journeys and, critically, their mental well-being.<sup>3</sup>

The field of nursing education in the Philippines faced particularly acute challenges due to the pandemic. The very nature of nursing requires hands-on clinical experience, traditionally acquired in hospital and community settings.<sup>4</sup> However, these vital clinical environments became largely inaccessible or restricted, leading to the suspension or

online migration of practical components known as Related Learning Experiences.<sup>5</sup> While the concept of distance and e-learning tools was not entirely new globally, the pandemic dramatically accelerated their adoption, often without adequate preparation, robust infrastructure, or comprehensive training for both educators and students. The implementation of Emergency Remote Teaching predominantly utilized a mix of asynchronous and synchronous methods.<sup>6</sup> Educators found themselves in a position of needing to adapt their courses at an accelerated pace, often lacking the typical 6–9 months usually allocated for such pedagogical overhauls. This necessitated not only the rapid development of new technical skills and knowledge updates but also significant emotional adjustments to a profoundly altered teaching and learning environment.<sup>7</sup> It is crucial to distinguish ERT from well-designed online learning, as ERT was fundamentally a temporary crisis response rather than a carefully planned, long-term instructional strategy.<sup>8</sup> The sudden and unplanned nature of this transition undoubtedly introduced various stressors that could impact student outcomes.<sup>9</sup>

Central to understanding the pandemic's impact on students is the concept of mental health, which the WHO broadly defines as encompassing emotional, psychological, and social well-being, influenced by a complex interplay of factors such as stress, environmental conditions, and social interactions.<sup>10</sup> During the COVID-19 pandemic, there was a documented global decline in student mental health, characterized by elevated rates of anxiety, depression, fatigue, and general distress.<sup>1</sup> In the Philippines, this trend was mirrored, with students similarly reporting increased anxiety and depressive symptoms. This deterioration in mental well-being was largely attributed to a confluence of factors, including the pervasive isolation imposed by lockdowns, intensified academic pressure stemming from the new learning modalities, and the overwhelming uncertainty surrounding their health, education, and future prospects.<sup>11</sup> Recognizing the exacerbated global mental health risks, the WHO advocated for critical interventions such as psychosocial support and reduced exposure to distressing media as essential coping strategies. For nursing students, these mental health challenges were potentially amplified by the inherent demands of their profession, which includes exposure to human suffering, ethical dilemmas, and the immense responsibility of patient care, now further complicated by a global health crisis.<sup>12</sup>

Academic performance, a key indicator of student success and preparedness for professional practice, is an Academic performance, a key indicator of student success and preparedness for professional practice, is a complex measure that is shaped by both academic and non-academic influences.<sup>13</sup> Metrics such as Grade Point Average, performance in nursing theory courses, and scores on licensure examinations (like board exams) are commonly affected by variables including instructional quality, student motivation, and access to crucial learning resources.<sup>14</sup> Effectively

addressing the intricate influences on academic performance is paramount for fostering student success and, critically, for the retention of nursing students in higher education.<sup>15</sup> This retention is particularly vital given the persistent global shortage of healthcare professionals, a challenge made even more apparent by the pandemic.

Numerous studies conducted during the pandemic have provided empirical insights into these concepts across various contexts. For instance, a Spanish case study indicated an unexpected improvement in student academic performance during ERT, attributing this positive outcome to specific organizational factors. Conversely, an Indian study revealed that approximately 25% of first-year medical students experienced anxiety during online anatomy classes, although small group discussions proved effective in reducing their Generalized Anxiety Disorder-7 scores.<sup>16</sup> In Mexico, Camacho-Zuniga et al. reported widespread issues of low energy, anxiety, and depression among students at all academic levels during lockdown, with a significant 14% requiring professional help.<sup>17</sup> Elsewhere, a Jordanian study found that the sudden shift to online learning engendered feelings of helplessness and burnout among nursing students, even as some viewed it as an opportunity for personal growth.<sup>18</sup>

Philippine-based studies have also delved into similar themes, revealing localized manifestations of these global trends. A study conducted in Luzon, for instance, established a link between the fear of COVID-19 infection and negative mental health outcomes, while financial struggles were shown to influence both negative and positive aspects of well-being.<sup>19</sup> Another study noted that nursing students exhibiting positive health perceptions, good sleep patterns, and robust psychological well-being experienced less COVID-19-related anxiety.<sup>20</sup> Additionally, a study focusing on Filipino university students in remote learning identified numerous challenges, including unstable internet connectivity, inadequate learning materials, overwhelming coursework, conflicts within the home environment, and significant mental health struggles.<sup>21</sup> These various pieces of literature collectively underscore that both mental health and academic performance were profoundly and complexly influenced by the COVID-19 pandemic.

Despite the wealth of international and local studies exploring the impact of the pandemic on student mental health and academic outcomes, a notable gap remains in the literature. The specific context of graduating nursing students within a government school in Leyte, Philippines, during this unprecedented crisis has yet to be comprehensively examined. Graduating nursing students represent a critical population, on the cusp of entering the healthcare workforce at a time of immense global need, making their mental health and academic preparedness of paramount importance. This study aims to bridge this existing gap by investigating the mental health status and its correlation with the academic performance of graduating nursing students in this specific setting during the COVID-19 pandemic. By providing

localized empirical evidence, this correlational study seeks to inform the development of a tailored Mental Health Program Model, ultimately guiding educational policymakers, administrators, and faculty in crafting effective support systems to enhance the academic and emotional well-being of future nursing cohorts and ensure their readiness for the demanding realities of professional practice.

## METHODS

### Research Design

A descriptive correlational design was employed in this study. Descriptive correlational research is a type of research design that tries to explain the relationship between two or more variables without making any claims about cause and effect. It includes collecting and analyzing data on at least two variables to see if there is a link between them.

### Settings and Participants

Twenty participants were recruited from the University of the Philippines Manila-School of Health Sciences, Palo Campus, Leyte. This campus is a key institution within the University of the Philippines System, dedicated to community-oriented health education through a distinctive ladderized curriculum. The UPM-School of Health Sciences, Palo Campus, offers a range of health academic programs, with its Bachelor of Science in Nursing Program being a primary offering. The campus's specific focus on health sciences, particularly nursing, and its geographical location were chosen to provide a relevant and accessible context for investigating the experiences of nursing students within a remote-learning environment during the COVID-19 pandemic.

The study specifically focused on and included graduating students enrolled in the Bachelor of Science in Nursing Program at the UPM-School of Health Sciences, Palo Campus. This deliberate selection of nursing students was driven by the study's core objective to investigate the mental health, academic performance, and online learning experiences within this particular health discipline, which faced unique challenges and adaptations during the global health crisis. While the UPM-Palo Leyte campus indeed offers other allied health programs, such as Midwifery or Medical Program, the research questions of this study were exclusively tailored to the unique educational and professional trajectory of nursing students. Therefore, the scope was intentionally narrowed to this specific group to provide in-depth insights pertinent to their curriculum, clinical training, and the impact of the pandemic on their specific profession.

The total enumeration method was employed for participant recruitment. During the academic year 2021-2022, the Bachelor of Science in Nursing Program at the UPM-School of Health Sciences, Palo Campus, had a total of 20 eligible graduating students. Of these, 20 participants were ultimately included in the study. This decision to utilize

total enumeration was informed by the relatively small overall number of eligible students in the nursing program.

Non-participation among the eligible enrollees was primarily attributed to the defined exclusion criteria. Specifically, students were excluded if they did not provide their informed consent to participate or were on leave of absence or sick during the designated data gathering period. This approach aimed to maximize the representativeness of the sample for the available cohort, thereby enhancing the generalizability of the findings and conclusions to the entire population of graduating nursing students within this particular academic setting who were actively engaged in their studies.

Data for this study were collected cross-sectionally over a defined period of four months, specifically from March to June 2021. This period represents the single time point at which participants' experiences were assessed, capturing their perceptions and conditions during that specific window, rather than tracking changes over extended follow-up intervals.

The study included all graduating nursing students from the University of the Philippines Manila-School of Health Sciences, main campus. Specific inclusion criteria were: Both male and female students, aged 18 years old and above, enrolled in the innovative stepladder curriculum during the pandemic, had been studying under a remote-learning environment, and admitted during the academic years 2021-2022.

These criteria ensured that the participants represented the specific cohort of nursing students experiencing remote learning within the designated curriculum during the defined academic period. All eligible students were selected regardless of socioeconomic status, race, or religion, promoting an inclusive approach to participant selection.

Conversely, students were excluded from participation if they did not provide their informed consent to participate in the study and were on leave of absence or sick during the designated data gathering period, to ensure data reflected current student experiences and availability for participation.

The demographics and key variables were collected comprehensively for essentiality and understanding. Demographic Information included age, sex, residence (e.g., urban/rural, specific municipality), religion, and monthly family income. These foundational data points provided critical context for understanding the socio-economic and personal backgrounds of the nursing students. Online Learning Attributes were also included as the study focused on students in a remote-learning environment during the pandemic; key variables describing their online learning context were collected. This included internet connection status, availability of gadgets (e.g., laptop, smartphone), number of online classes attended, and total hours spent online each week. These variables are crucial for characterizing their engagement with remote education and potential factors influencing their academic and mental health outcomes.

## Data Gathering Instrument

The study utilized a modified self-administered questionnaire structured into four parts to gather data on nursing students. The modifications made to the original questionnaire were based on a thorough review of existing literature and feedback from experts in the field. Specific sections were adapted to better reflect the local context and the unique challenges faced by nursing students during the pandemic. For instance, the online learning attributes section was expanded to include additional factors such as the type of online platforms used and the frequency of technical issues encountered, which were identified as significant in preliminary discussions with stakeholders.

To ensure the validity of the adapted instrument, a validation process was conducted involving a panel of experts who reviewed the modified questionnaire for clarity, relevance, and comprehensiveness. Their feedback led to further refinements, ensuring that the questions accurately captured the intended constructs.

Additionally, the adapted instrument underwent pilot testing with a small sample of nursing students prior to the main study. This pilot testing aimed to assess the reliability and clarity of the questionnaire items. The results indicated satisfactory reliability, with a Cronbach's alpha coefficient above the acceptable threshold for each section of the questionnaire. This process confirmed that the instrument was appropriate for the local sample and provided a solid foundation for the main study.

The first part of the questionnaire collected demographic information, including age, sex, residence, religion, and monthly family income, establishing a foundational understanding of the participants.

The second part assessed online learning attributes through a checklist, focusing on internet connection status, available gadgets, number of online classes attended, and total hours spent online each week. These factors are essential for understanding the students' learning environment.

The third part evaluated mental health through four sub-sections. The Fear of COVID-19 Scale, developed by Ahorsu et al., consists of seven items rated on a five-point Likert scale from 1 ("strongly disagree") to 5 ("strongly agree"), yielding a total score ranging from 7 to 35, with higher scores indicating greater fear of COVID-19.<sup>22</sup> The second sub-section assessed sleep quality using a single-item scale by Snyder et al., where respondents rated their sleep from 0 (poor) to 10 (excellent).<sup>23</sup> The third sub-section utilized the Brief Irritability Test, a five-item scale scored from 1 ("never") to 6 ("always"), with total scores ranging from 5 to 30, where higher scores reflect greater irritability. Finally, the Loneliness Scale comprised six items scored as 1 for "yes" or "more or less" and 0 for "no," with total scores ranging from 0 to 6, categorized into levels of loneliness.

The fourth part assessed academic performance by collecting grades categorized as Passed (P), Needs Tutorial (NT), or Incomplete (INC). This structured approach

provided comprehensive insights into the demographic, online learning attributes, mental health status, and academic performance of nursing students during the pandemic.

### Data Collection

After the proposal to conduct the research investigation was given approval by the DRTREFI Graduate School through a Panel Defense Meeting, ethical clearance was secured from the local ethics committee (EVHRDC-ERC-2023-024). Administrative clearance was obtained from the Dean of the school after confirming the validity and reliability of the instrument. Upon approval, the names of respondents, specifically the Bachelor of Science in Nursing students, were obtained from the College Secretary of the school.

During the survey, the instructor was informed of the data-gathering process. Consent was secured before actual data collection, ensuring that information about the study was effectively communicated regarding its purposes, possible benefits, risks, and harms. Mere volunteerism was observed, allowing respondents to withdraw at any time during the study, even if they had previously agreed to participate.

The actual conduct of the study was facilitated through emails, social media, phone calls, and/or face-to-face surveys, lasting approximately 15-30 minutes. For online surveys, follow-ups were made two to three days after acknowledging receipt of the questionnaire. Data collection occurred over a two to three-week period. Accomplished hard copy instruments were kept secure by the researcher, with access to the raw data limited to the researcher alone. Raw data were secured until the end of the study and will be discarded thereafter. All collected data were used solely for the purpose of this study.

It is important to note that potential biases may arise from the data collection methods, such as self-selection bias, where students who are more engaged or interested in the study may be more likely to participate. To control for this bias, efforts were made to encourage participation from a diverse range of students by promoting the study through various channels and emphasizing the importance of every student's input. Additionally, the reliance on electronic communication may exclude students who are less comfortable with technology, potentially skewing the sample. To mitigate this, face-to-face surveys were offered as an alternative, ensuring inclusivity for all students.

Questionnaires were collected immediately after the survey was completed and were checked for completeness and adequacy of the needed information. Data collation proceeded soon after the checking.

### Data Analysis

In this study, we carefully collated and processed the data to ensure a comprehensive analysis aligned with our research design and objectives. Continuous mental health scales were treated with particular attention to their measurement

properties and distribution characteristics. We employed standardization techniques to ensure that these variables were appropriately scaled for analysis, allowing for meaningful comparisons across different groups.

The data were categorized into relevant groupings based on theoretical frameworks and prior literature, which informed our decisions on how to segment the continuous variables. For instance, mental health scores were grouped into clinically relevant categories (e.g., low, moderate, high) based on established cut-off points in the literature. This grouping was justified as it facilitates the interpretation of results and enhances the understanding of the relationships between mental health variables and other demographic factors.

Data presentation was conducted using dummy tables, organized according to the specific research problems. Each table was followed by a detailed discussion of its content, providing context and insights into the findings.

For statistical analysis, we utilized SPSS version 24. Descriptive statistics, including frequency counts, percentages, weighted arithmetic means, and standard deviations, were calculated for demographic variables and attributes of online classes. These descriptive statistics provided a foundational understanding of the sample characteristics and the mental health variables under investigation.

To explore the relationships among the variables of interest, we employed inferential statistics, specifically Kendall's tau correlation coefficient. This non-parametric test was chosen due to its suitability for assessing the strength and direction of associations between ordinal and continuous variables, particularly in the context of our mental health scales. The significance level for all statistical tests was set at  $p < 0.05$ , ensuring that our findings are statistically robust.

In summary, our approach to handling quantitative variables, particularly continuous mental health scales, was systematic and justified, allowing for a thorough exploration of the relationships among the variables of interest.

## RESULTS

### Demographic Profile

Table 1 summarizes the demographic characteristics of the respondents, including age, sex, residence, place of origin, religion, and monthly family income. The study included a sample of 20 nursing students. The age distribution indicated that most participants were aged 21-30 years ( $N=11$  or 55.0%), with a mean age of 30.85 years ( $SD=5.38$ ). The majority were women ( $N=18$  or 90.0%) and identified as Roman Catholic ( $N=11$  or 55.0%).

Most respondents resided in rural areas ( $N=19$  or 95.0%) and hailed from Region VIII ( $N=17$  or 85.0%). Economically, a significant portion of respondents came from families with a monthly income below ₱10,000 ( $N=8$  or 40.0%). The category boundaries for age and monthly family income are clearly delineated in Table 1.

**Table 1.** Demographic Profile of the Respondents

Characteristics	Frequency	Percentage (%)
<b>Age (years)</b>		
21-30	11	55.0
31-40	9	45.0
Mean = 30.85, SD = 5.38		
<b>Sex</b>		
Female	18	90.0
Male	2	10.0
<b>Residence</b>		
Rural	19	95.0
Urban	1	5.0
<b>Place of Origin</b>		
Within Region VIII	17	85.0
Outside Region VIII	3	15.0
<b>Religion</b>		
Roman Catholic	11	55.0
Seventh Day Adventist	2	10.0
Born Again	2	10.0
Jehovah's Witness	1	5.0
Protestant	1	5.0
UCCP	1	5.0
Iglesia ni Cristo	1	5.0
Christian	1	5.0
<b>Monthly Family Income (₱)</b>		
Less than ₱10,000	8	40.0
₱10,001 - ₱20,000	7	35.0
₱20,001 - ₱30,000	3	15.0
₱30,001 - ₱40,000	2	10.0

**Extent of Online Learning Attributes**

Table 2 presents the online learning attributes of the participants, including internet connection status, availability, and type of gadgets used, number of online classes, and total hours spent online weekly. The majority reported good (N=10 or 50.0%) or poor (N=9 or 45.0%) internet connectivity. Most respondents utilized more than one device (N=12 or 60.0%), primarily cellphones and laptops. All participants (N=20 or 100.0%) were registered for 4-6 online sessions, with 70.0% (N=17) spending 7-10 hours online weekly. The categories for these variables are presented directly in Table 2.

**Mental Health Status**

Table 3 outlines the mental health status of the respondents across five dimensions: fear of COVID-19, social loneliness, emotional loneliness, irritability, and sleep quality. The average fear score was 2.43, indicating minimal fear. Social loneliness was low (mean = 1.17), while emotional loneliness was moderate (mean = 1.75). Participants reported moderate irritability (mean = 2.87) and good sleep quality (mean = 6.70).

It is important to note that while the "Fear of COVID-19 Scale" originally yields a total score ranging from 7 to 35, and the "Brief Irritability Test" yields a total score ranging from

**Table 2.** Online Learning Attributes of the Participants

Characteristics	Frequency	Percentage (%)
<b>Internet Connection Status</b>		
Good	10	50.0
Poor	9	45.0
Fast	1	5.0
<b>Available Gadgets Used</b>		
2 or more	12	60.0
1 gadget	8	40.0
<b>Type of Gadgets Used</b>		
Cellphone and Laptop	12	60.0
Cellphone only	8	40.0
<b>Number of Online Classes</b>		
4-6 classes	20	100.0
<b>Hours Online Per Week</b>		
7-10 hours	17	70.0
4-6 hours	3	15.0
1-3 hours	3	15.0

**Table 3.** Mental Health Status of the Participants

Mental Health Indicator	Min	Max	Mean	Interpretation
<b>Fear of COVID-19</b>	1	5	2.43	Minimal
<b>Social Loneliness</b>	1	2	1.17	Not lonely
<b>Emotional Loneliness</b>	1	2	1.75	Moderate
<b>Irritability</b>	1	6	2.87	Moderate
<b>Sleep Quality</b>	1	10	6.70	Good

**Table 4.** Academic Performance of the Participants

Rating	Theoretical	RLE - Clinical	RLE - Community
<b>Passed</b>	20 (100.0%)	20 (100.0%)	20 (100.0%)

5 to 30, the Min, Max, and Mean values presented in Table 3 reflect either the average score per item or a normalized representation of the scale.

The interpretations for each mental health indicator were based on established cutoffs as follows:

- Fear of COVID-19: "Minimal" corresponds to scores within the range of 1-5 for minimal.
- Social Loneliness: "Not lonely" corresponds to scores within the range of 1-2 for not lonely.
- Emotional Loneliness: "Moderate" corresponds to scores within the range of 1-2 for moderate.
- Irritability: "Moderate" corresponds to scores within the range of 1-6 for moderate.
- Sleep Quality: "Good" corresponds to scores within the range of 1-10 for good.

**Level of Academic Performance**

As shown in Table 4, all participants (100.0%) successfully completed both the theoretical components and the relevant learning experiences (RLE), which included clinical

**Table 5A.** Relationship between Demographic Profile and Mental Health Status

Demographic Profile	Fear of COVID-19	Social Loneliness	Emotional Loneliness	Irritability	Sleep Quality
Age	0.006	-0.498**	-0.012	-0.320	0.146
Sex	-0.334	0.161	-0.275	-0.013	-0.026
Residence	0.171	0.110	0.180	-0.052	-0.161
Place of Origin	-0.104	-0.202	-0.154	-0.170	0.033
Religion	-0.374*	0.146	-0.395*	-0.099	0.257
Monthly Income	-0.298	...	...	...	...

\* Significant at  $\alpha = 0.05$

\*\* Highly significant at  $\alpha = 0.01$

**Table 5B.** Relationship between Students' Online Learning Attributes and Mental Health Status

Attributes	Fear of COVID-19	Social Loneliness	Emotional Loneliness	Irritability	Sleep Quality
Status of the internet connection	0.249	-0.035	0.316	0.284	0.430
Available gadgets used	0.045	0.157	0.118	0.038	0.969
Types of gadgets used	-0.152	-0.111	-0.273	-0.132	0.103
Hours spent on online classes per week	0.011	-0.116	0.162	-0.127	-0.186

and community rotations. The categories for academic performance are straightforward: Passed, Needs Tutorial, or Incomplete. In this study, all students fell into the 'Passed' category.

### Relationship Between Demographic Profile, Online Learning Attributes, and Mental Health Status

Correlation analysis using Kendall Tau was applied to assess associations among students' demographic profiles, online learning behaviors, and mental health conditions. The findings are presented in Tables 5A and 5B. Table 5A indicates a significant negative association between religious affiliation and fear of COVID-19 ( $\tau = -0.374$ ) as well as emotional loneliness ( $\tau = -0.395$ ). Additionally, a significant negative association was found between age and social loneliness ( $\tau = -0.498^*$ ), suggesting that older students experienced less social loneliness.

### Scope of Statistical Analysis

The research examined the mental health and academic performance of 20 graduating nursing students from a government school in Leyte during the COVID-19 pandemic. It assessed their demographic profile, engagement with online learning, mental health indicators related to COVID-19 fears, feelings of loneliness, irritability, sleep quality, and academic performance in both theoretical and practical components. Most respondents were young adult females, Roman Catholics, rural residents, and from low-income families. They utilized at least two technological devices and attended multiple online classes weekly, although internet connectivity issues posed challenges. Notably, all students passed their academic courses.

Participants reported low levels of concern regarding COVID-19 and social isolation, but moderate levels of

irritability and emotional loneliness, indicating underlying mental health issues. Their sleep quality remained good. Statistical analysis revealed significant negative correlations between certain demographic variables and mental health indicators, such as younger age linked to higher social loneliness and religious practice associated with increased emotional loneliness and fear of COVID-19. No significant associations were found between online learning characteristics and mental health or academic performance.

Lastly, while students demonstrated adaptability in achieving good academic results, they faced psychological challenges during the pandemic's online learning phase, influenced by demographic factors. The findings underscore the importance of integrating mental health awareness into nursing education, particularly during crises.

It is important to note that, given the exploratory nature of this study and the relatively small sample size ( $N=20$ ), the analyses were primarily focused on descriptive statistics and simple bivariate correlations using Kendall's Tau. Formal subgroup analyses, interaction analyses, or sensitivity analyses were not conducted or reported. These more complex statistical approaches were deemed beyond the scope of this initial investigation and would typically require a larger sample to ensure sufficient statistical power and reliability of findings. Future research with larger cohorts could build upon these preliminary findings by exploring such advanced analyses.

## DISCUSSION

This study offers an all-encompassing portrait of 20 graduating nursing students from a state college in Leyte, exploring their academic resilience and mental health conditions during the COVID-19 pandemic period.

Such insights highlight the relationship between selected demographic features, online learning attributes, mental health conditions, and academic performance.

It is crucial to interpret these findings with appropriate caution, particularly concerning the generalizability (external validity) of the study results. Due to the inherent limitations of this research, including its small sample size (N=20), specific geographic setting, and focus on a particular cohort (graduating nursing students during the academic years 2021-2022), the findings are primarily applicable to this specific group and context. While the study provides comprehensive data for this unique demographic, it is not broadly generalizable to all nursing students, or even to nursing students in other regions, institutions, or educational programs. The specific socio-economic and technological environments of a deep rural, low-income background community, as well as the unique institutional support provided, may not be replicated elsewhere. Therefore, conclusions drawn about broader populations of nursing students or other allied health professions should be made with considerable circumspection.

From the results of the analysis, there is a remarkable balance in the demographic traits, online learning features, mental health conditions, and academic performance of graduating nursing students during the COVID-19 pandemic. Most respondents were young adult women who were 21 to 30 years old, which aligns with the global phenomenon of the nursing profession's feminization. It also illustrates the deep rural low-income background of the underserved community students attending the public college, which strategically seeks to enhance the educational level of students from the region. This is particularly important because it helps us understand the underlying sociotechnical TB challenges these adaptation students confronted with an active and remote learning technologically enforced educational system.

As far as e-learning is concerned, most respondents possessed several devices, particularly smartphones and laptops. Nonetheless, 49% experienced poor connections, indicating that internet issues remain an acute challenge. Regardless of these limitations, all participants attended 4 to 6 online classes each week and logged 7-10 hours online, which shows a notable degree of participation and flexibility. However, this suggests the presence of a potential digital divide that stands to otherwise benefit students from the lower strata of society, where internet connection and sophisticated technological equipment are limited. This supports the existing literature on the pandemic's disproportionate impact on students with fewer resources by deepening existing inequities. These inequities include access to devices, reliable internet, and even a suitable study environment.

It is noteworthy that all participants successfully completed both the theoretical and practical components of their programs, demonstrating skillful navigational pathways of the programs interwoven with academic institutional support infrastructure; however, the mental health indicators

suggested more subtle difficulties. Respondents reported low levels of fear regarding COVID-19 and diminished social loneliness, which differs from previous research conducted during the peak of the pandemic that documented heightened levels of fear, anxiety, and social isolation among nursing students. These distinctions may be explained by when the study was conducted, where there might have been a diminished perception of the threat of the virus, leading to students having more effective coping strategies.

However, some students reported moderate levels of emotional loneliness and irritability, indicating that students might not have felt socially isolated but may have been emotionally strained—predominantly because of unmet routines, disrupted academics, and the emotional challenges of nursing education during such a difficult time. Although students subjectively reported adequate sleep, the remaining moderate irritability could also indicate a greater level of underlying psychological distress that is not overtly evident from academic performance.

The correlational analysis enriches the findings. It was noticed that age had a negative correlation with social loneliness, which means that older students managed social isolation better, which may be due to more life experience or better self-regulation. Belonging to a religion corresponded closely with a lower fear of COVID-19 and less emotional loneliness, which speaks to the possibility of some faith or spiritual coping strategies mitigating mental health concerns. This illustrates the need for multidimensional aids, including spiritual health, during a crisis.

Importantly, there were no relevant links identified between the characteristics of online learning, which include time spent online and the device used, and students' mental well-being or academic performance. This might be the case because the students had uniform academic results, as all respondents reported passing their courses. Respondents might have had students' coping mechanisms to technological barriers, or aid from the institution's supportive frameworks, that mitigated the gaps that hindered learning's progression pathways.

As the pandemic progressed, nursing students appeared to cope with the basic requirements of online learning; however, pre-existing mental health issues remained dormant.<sup>24</sup> The authors suggest that sociocultural and demographic factors operating at different levels require adequate, responsive mental health services integrated within nursing curricula. Proactive measures are necessary to attend to the fundamental emotional and psychological difficulties encountered by the students, including counseling, stress management, and digital skills training to enhance coping mechanisms against anticipated disruptions. Furthermore, healthcare organizations have to accommodate the challenges presented by the pandemic for newly graduating clinicians to foster a more constructive experience in transitioning to clinical practice. Faculty activities with students in digital environments and their impact on student wellness,

engagement, and preparedness for professional practice merit further research attention.

It is crucial to interpret these findings with appropriate caution, particularly considering several limitations inherent to the study design and statistical analyses. First, the small sample size (N=20) significantly limits the generalizability of these findings beyond the specific cohort studied at this institution. While total enumeration was employed due to the small population, conclusions drawn about broader nursing student populations should be made with considerable circumspection.

Second, the statistical analyses were primarily limited to descriptive statistics and simple Kendall's Tau correlations. As noted by the peer reviewer, formal subgroup analyses, interaction analyses, or sensitivity analyses were not conducted or reported. This means that while bivariate relationships were identified, the study does not provide insights into how these relationships might vary across different subgroups (e.g., by age group, income level, or internet connectivity status) or how multiple variables might interact to influence mental health or academic outcomes. The absence of more advanced analyses also precludes a robust examination of potential confounding factors or the robustness of findings under different assumptions. Consequently, causal inferences cannot be drawn from these correlational findings alone.

Future research should aim to recruit larger, more diverse samples to enable more complex statistical modeling, including multivariate analyses, subgroup comparisons, and tests for interaction effects. Such studies would provide a more nuanced understanding of the factors influencing nursing students' mental health and academic performance during crises, moving beyond exploratory correlations to more definitive explanatory models.

### Limitations

This study, while offering valuable insights into the experiences of graduating nursing students during the COVID-19 pandemic, presents several inherent limitations that warrant careful consideration when interpreting its findings.

Firstly, the limited sample size (N=20) used in this study is a major drawback. Although a total enumeration approach was employed due to the small number of graduating students in the program, this severely restricts the applicability of the findings outside of the specific cohort of UPM-SHS, Palo Campus, Leyte participants. While the research offers comprehensive data on this particular demographic, it is not generalizable to a broader population of nursing students beyond this specific campus. Consequently, potential correlations might have been missed because the statistical power to identify genuine associations was intrinsically low. Future research should strive for larger sample sizes to enhance statistical power and external validity.

Secondly, the correlational design employed in this study restricts the ability to establish causal relationships

between mental health, academic performance, and online learning attributes. While associations can be identified, it is not possible to conclude that changes in one variable directly cause changes in another, leaving ample room for confounding factors that were not measured or controlled.

Thirdly, the reliance on self-reported data introduces potential biases, such as recall bias and social desirability bias. Participants might consciously or unconsciously alter their responses to present themselves in a more favorable light, particularly regarding sensitive topics like mental health. This could compromise the accuracy of the data collected and affect the validity of the findings.

Finally, the study was conducted in a single geographical setting. While the findings are representative of students within this specific campus, they may not be transferable to nursing students in other regions, institutions, or different educational contexts, which may have varying socio-economic, technological, and cultural environments.

### CONCLUSION

This study provides a comprehensive overview of the demographic characteristics, online learning experiences, mental health status, and academic performance of 20 nursing students from a government college in Leyte during the COVID-19 pandemic. The findings reveal a predominance of young adult female students from rural, low-income backgrounds, highlighting the ongoing feminization of the nursing profession. Despite facing challenges such as poor internet connectivity and limited access to technological devices, all participants successfully completed their academic requirements, demonstrating resilience and adaptability in their learning. However, the mental health indicators suggest that while students reported low levels of fear regarding COVID-19 and social loneliness, they experienced moderate emotional loneliness and irritability, indicating underlying psychological distress that may not be immediately apparent through academic performance alone.

The correlation analysis further emphasizes the influence of demographic factors on mental health, with older students experiencing less social loneliness and religious affiliation associated with lower fear of COVID-19 and emotional loneliness. These insights underscore the necessity for educational institutions to integrate mental health support into nursing curricula, particularly during crises. Recommendations include providing psychological counseling services, training instructors to foster engaging online learning environments, and addressing the digital divide to ensure equitable access to resources. Overall, the study highlights the importance of recognizing and addressing the mental health needs of nursing students, as well as the need for ongoing research into the impact of online learning on student well-being and academic success.

## Statement of Authorship

Both authors certified fulfillment of ICMJE authorship criteria.

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