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# Protective role of resilience on COVID-19 impact on the quality of life of nursing students in the Philippines

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## Abstract

**Background:** Studies have shown that resilience has a buffering effect on mental health problems. However, the influence of resilience on the impact on the Quality of Life (QoL) in the context of the COVID-19 pandemic has not been well documented.

**Objective:** This study examined the influence of resilience on the COVID-19 impact on QoL among nursing students.

**Methods:** A cross-sectional research design was utilized. Three hundred and forty-five students of a government-funded nursing school in the Philippines responded in the web-based survey. Data were gathered using two adopted instruments from 18 to 31 August 2020. Test for differences and correlational analyses were performed.

**Results:** The COVID-19 pandemic had a moderate impact on the QoL of nursing students. The COVID-19 impact on QoL significantly varied with sex and the nearby presence of COVID-19 cases. Bivariate analysis revealed a significant moderate inverse relationship between psychological resilience and the impact of COVID-19 on QoL.

**Conclusion:** Resilience has a protective influence on the impact on QoL concerning main areas of mental health in the context of the COVID-19 pandemic. Understanding the factors and developing interventions that build the resilience of students is a focal point of action for nursing schools.

## Keywords

COVID-19; mental health; nursing; quality of life; resilience; Philippines

As of 6 January 2021, the number of Coronavirus Disease 2019 (COVID-19) confirmed cases worldwide had reached 84,780,171, including 1,853,525 deaths ([World Health Organization, 2021](#)). In the Philippines, the number of infected with COVID-19 has reached 480,737, with 9,347 deaths ([Philippine Department of Health, 2021](#)). During these difficult times, every one of us finds ourselves in dire straits due to healthcare problems, physical and mental exhaustion, and academic burnout caused by the COVID-19. Health protocols were then implemented to take efficient actions to eradicate and slow down the spread of the disease, and with that, due to numerous cases of COVID-19 since December 2019, and taking into account the potential spread of COVID-19 in schools, respective

countries were suddenly forced to shift from face-to-face classes to online classes ([Guillasper et al., 2020](#); [Moralista & Oducado, 2020](#); [Silva, 2020](#)). From that standpoint, the pandemic has caused students, as well as staff and faculty, to experience psychological distress because of the sudden changes in their everyday living. The COVID-19 outbreak has significantly impacted nursing students ([Usher et al., 2020](#)), and nursing students' stress increased during the lockdown period ([Gallego-Gómez et al., 2020](#)). Mental health problems have become critical issues during the pandemic and in the new normal era ([Gunawan et al., 2020](#)). These pandemic-related changes, particularly in regards to online classes, social distancing - since social support plays a significant role in easing risks and is known

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as a coping strategy, and anxiety due to health and economic concerns are likely to remain as a long-term stressor (Liu et al., 2020). On the other hand, putting the pandemic aside, several studies show that nursing students face a great number of difficulties during clinical practices to improve their professional skills (Akhu-Zaheya et al., 2015). The stress experienced by nursing students in the clinical setting is mainly affiliated to care of the patient, death of a patient, nursing diagnosis, and the negative impact given by hospital staff and clinical instructors (Bhurtun et al., 2019) and that clinical setting stressors are much perceived in comparison to academic and external stressors (Jimenez et al., 2010).

On that note, with the countless problems encountered by nursing students, resilience is a key component to recuperate and recover from such distress and issues. Resilience is defined as the ability to overcome adversity and cope effectively in problems faced - which also includes how one learns to develop stronger flexibility from situations encountered (Rutter, 2008; Thomas & Revell, 2016). Since the nursing profession is stressful, this can impact students having a myriad of adverse outcomes on the quality of learning and the QoL (Goff, 2011). Thus, the ability of nursing students to bounce back or personal resilience is essential to acquire internal control, empathy, positive self-concept, organization, and optimism in their everyday challenges. Coherence with family, social environment, physical environment, wisdom, and supportive mindset can help boost one's values, resulting in healthier outcomes, and help those traumatized with distress effectively adapt instead of rooting through their vulnerability (McAllister & McKinnon, 2009).

Without a doubt, nursing is one of the most challenging professions there is in the world; it requires a whole lot of passion, perseverance, and heart from nurses to face another tomorrow. This leads to show how resiliency holds so much vitality in the field of nursing (Chow et al., 2018). Resilience, or the ability to recover or bounce back from stress (Smith et al., 2008), is a process of progressive success in facing adversities (Chow et al., 2018) which anyone could learn through experiences.

Meanwhile, previous studies conducted before the pandemic have shown that resilience has a buffering effect or protective role on mental health problems, depression, and stress among nursing students (Mcdermott et al., 2020; Sam & Lee, 2020). However, the role of resilience on the impact on the QoL during or in the context of the COVID-19 pandemic among nursing students has not been explored or investigated. To our knowledge, this is one of the first papers that looked into the role of resilience among nursing students in the context of the COVID-19 pandemic. It was earlier proposed how resilience varies across cultures due to ecological and cultural indexes that may be found across different nations (Ungar, 2008).

Moreover, despite the availability of studies that looked into the mental health of students during the pandemic, these were conducted among the general population and students in higher education (Aristovnik et al., 2020; Tee et

al., 2020), but research specifically among nursing students in the Philippines is scarce. Studies conducted among nursing students, on the other hand, focused on levels of stress (Alateeq et al., 2020; Aslan & Pekince, 2020) and fear (Oducado, Tuppal, et al., 2021) and not particularly on the COVID-19 impact on QoL concerning mental health. Hence, the study was conducted to determine the influence of resilience on the impact of COVID-19 on the QoL concerning mental health among nursing students. In addition, since prior studies have shown that stress, fear, and other negative emotional responses related to the COVID-19 pandemic varied according to some personal characteristics (Alateeq et al., 2020; Aristovnik et al., 2020; Aslan & Pekince, 2020), it may also be necessary to examine whether COVID-19 impact among nursing students significantly differ according to demographic characteristics, the existence of a local case of COVID-19 near their residence, and the presence of any medical condition that might increase their risk for severe illness from COVID-19.

## Methods

### Study Design

A cross-sectional research design was employed in this study.

### Participants

Three hundred and forty-five (n=345) responded in the online survey. A response rate of 59.38% (345/581) was obtained in this study. This study was conducted in one government-funded nursing school in the Central Luzon part of the Philippines.

### Instruments

The Brief Resilience Scale (BRS) and COVID-19 Impact on Quality of Life (COV19-QoL) were adopted for this study. Permission to use the scales was granted by tool developers. The BRS by Smith et al. (2008) was utilized to measure nursing students' ability to recover or bounce back from stress. Participants answered on a five-point Likert scale (1 – “strongly disagree” to 5 – “strongly agree”). The BRS had a reported Cronbach's  $\alpha = .80-.91$  (Smith et al., 2008). The COV19-QoL by Repišti et al. (2020) was used to assess the impact of the pandemic on the QoL in relation to mental health for the last seven days. Participants responded on a five-point Likert scale (1 – “totally disagree” to 5 – “completely agree”). The COV19-QoL had a reported Cronbach's  $\alpha = .90$  among Filipino samples (Rabacal et al., 2020). The following scale of means was used to interpret that data: low = 1.00-2.33; moderate = 2.34-3.66; and high = 3.67-5.00. The survey was administered in the English language. Demographic information (sex, year level, place of residence, estimated monthly family income) were also collected. The participants were also asked about the presence of a local case of COVID-19 near their residence and if they have any

medical condition that might increase their risk for severe illness from COVID-19.

### Data Collection

The web-based survey was administered for two weeks or fourteen days from 18 to 31 August 2020. The online survey was the only practicable means of gathering data during the COVID-19 outbreak. The link to the online survey via Google forms was sent to the email address and Facebook groups of the students. Students were also encouraged to share the link of the survey with their classmates.

### Ethical Considerations

This study was approved by the San Beda University-Research Ethics Board (SBU-REB) with Protocol Number 2020-041. Administrative clearance was also granted to conduct the research. Full disclosure about the study was given at the start of the survey. Students were reminded that they have the freedom to participate in the study, which will not affect their grades. They were also informed that proceeding and completing the survey implies consent to participate in the study voluntarily. Identifiable information was coded to maintain anonymity and confidentiality. Data were stored in password-protected computers for access and retrieval. There were no missing data in our study since all questions were made mandatory before completing the survey.

### Data Analysis

Statistical data analysis was carried out via the IBM SPSS version 23. Descriptive statistics for continuous variables were expressed as mean (*M*), standard deviation (*SD*), while categorical variables were expressed as frequency (*f*) and percentage (%). The Kolmogorov-Smirnov and Shapiro Wilk tests suggested that data do not significantly deviate from the normal distribution. The *t*-test for the Independent Samples and one-way ANOVA with Scheffe post hoc test were used to test for differences, while the Pearson's product-moment correlation coefficient was utilized to correlate selected variables. A *p*-value less than .05 was considered significant.

### Results

Presented in Table 1 are the demographics and descriptive data of the independent variables of the study. The mean age of participants was 19.92 (*SD* = 1.26). The majority were females (80.6%), in second-year level (47.8%), living in rural areas of the province (56.8%), reported the presence of a COVID-19 case near their residence (44.9%), and had no medical condition that might increase the risk for severe COVID-19 illness (89.6%). Most students had an estimated monthly family income of less than 400 USD: 200 USD to less than 400 USD (35.1%) and less than 200 USD (33%). The composite score in the BRS was 3.04 (*SD* = .51).

**Table 1** Demographics and descriptive data of independent variables (*N* = 345)

| Variables   | <i>M</i> | <i>SD</i> | <i>n</i> | %    |
|---|----------|-----------|----------|------|
| <b>Sex</b>  |          |           |          |      |
| Male  |          |           | 67       | 19.4 |
| Female  |          |           | 278      | 80.6 |
| <b>Year level</b>                                     |          |           |          |      |
| Third & Fourth  |          |           | 50       | 14.5 |
| Second  |          |           | 165      | 47.8 |
| First   |          |           | 130      | 37.7 |
| <b>Place of residence</b>                             |          |           |          |      |
| Urban/City  |          |           | 149      | 43.2 |
| Rural/Town  |          |           | 196      | 56.8 |
| <b>Estimated monthly family income</b>                |          |           |          |      |
| PHP 20,000 and above (400 USD and above)              |          |           | 110      | 31.9 |
| PHP 10,000 to 19,999 (200 to < 400 USD)               |          |           | 121      | 35.1 |
| PHP below 10,000 (< 200 USD)                          |          |           | 114      | 33.0 |
| <b>Presence of COVID-19 case near their residence</b> |          |           |          |      |
| Yes   |          |           | 155      | 44.9 |
| No  |          |           | 99       | 28.7 |
| Unsure  |          |           | 91       | 26.4 |
| <b>Presence of a medical condition</b>                |          |           |          |      |
| Yes   |          |           | 36       | 10.4 |
| No  |          |           | 309      | 89.6 |
| <b>Age (years)</b>                                    | 19.92    | 1.26      |          |      |
| <b>Resilience</b>                                     | 3.04     | .51       |          |      |

Note: 1 USD = 50 PHP

Table 2 shows that the composite score in the COV19-QoL was 3.35 (*SD* = .80). The COVID-19 pandemic had the highest impact on nursing students' personal safety (*M* =

3.91; *SD* = 1.04) and had the lowest impact on nursing students' feeling of depression (*M* = 2.99; *SD* = 1.30).

**Table 2** COVID-19 impact on QoL

| Items on COV19-QoL                              | <i>M</i> | <i>SD</i> |
|---|----------|-----------|
| I feel that my personal safety is at risk       | 3.91     | 1.04      |
| I feel more tense than before                   | 3.61     | 1.05      |
| I think my quality of life is lower than before | 3.39     | 1.00      |
| I think my mental health has deteriorated       | 3.13     | 1.18      |
| I think my physical health may deteriorate      | 3.05     | 1.06      |
| I feel more depressed than before               | 2.99     | 1.30      |
| Composite score                                 | 3.35     | .80       |

It is shown in Table 3 that there were significant differences in the COVID-19 impact on QoL of nursing according to sex ( $t = -2.713$ ;  $p = .008$ ) and the presence of a COVID-19 case near their residence ( $F = 5.622$ ;  $p = .004$ ). The bivariate

analysis also revealed a significant moderate inverse relationship ( $r = -.363$ ;  $p = .000$ ) between psychological resilience and the impact of COVID-19 on QoL concerning main areas of mental health.

**Table 3** Differences in and correlation with COVID-19 impact on QoL

| Variables   | <i>M</i> | <i>SD</i> | <i>t statistics</i> | <i>p-value</i> |
|---|----------|-----------|---------------------|----------------|
| <b>Sex<sup>†</sup></b>  |          |           | -2.713*             | .008           |
| Male  | 3.10     | .856      |                     |                |
| Female  | 3.41     | .764      |                     |                |
| <b>Year level<sup>‡</sup></b>                                     |          |           | .054                | .605           |
| Third & Fourth  | 3.30     | .736      |                     |                |
| Second  | 3.39     | .784      |                     |                |
| First   | 3.31     | .822      |                     |                |
| <b>Place of residence<sup>‡</sup></b>                             |          |           | .464                | .643           |
| Urban/City  | 3.37     | .814      |                     |                |
| Rural/Town  | 3.33     | .774      |                     |                |
| <b>Estimated monthly family income<sup>‡</sup></b>                |          |           | .917                | .401           |
| PHP 20,000 and above (400 USD and above)                          | 3.27     | .870      |                     |                |
| PHP 10,000 to 19,999 (200 to < 400 USD)                           | 3.41     | .758      |                     |                |
| PHP below 10,000 (< 200 USD)                                      | 3.35     | .743      |                     |                |
| <b>Presence of COVID-19 case near their residence<sup>‡</sup></b> |          |           | 5.622*              | .004           |
| Yes   | 3.44     | .788      |                     |                |
| No  | 3.12     | .783      |                     |                |
| Unsure  | 3.42     | .763      |                     |                |
| <b>Presence of medical condition<sup>‡</sup></b>                  |          |           | .452                | .653           |
| Yes   | 3.39     | .095      |                     |                |
| No  | 3.34     | .046      |                     |                |
| <b>Age<sup>§</sup></b>  |          |           | -.060               | .263           |
| <b>Resilience<sup>§</sup></b>                                     |          |           | -.363*              | .000           |

<sup>†</sup>T-test for the independent group, <sup>‡</sup>ANOVA with Scheffe post hoc test, <sup>§</sup>Pearson's  $r$ , \* $p < .05$

## Discussion

This study looked into the association of resilience on the COVID-19 impact on the QoL of nursing students. This study indicated that resilience was inversely or negatively related to the impact of COVID-19 on QoL among nursing students. The result suggests that the higher the resilience, the lesser is the impact of COVID-19 on the QoL of nursing students. This finding is consistent with other studies disclosing the inverse or negative association between resilience with patterns of COVID-19 stress, fear, anxiety, and depression (Barzilay et al., 2020; Ferreira et al., 2020; Oducado, Parreño-Lachica, et al., 2021; Zhang et al., 2020). The finding of the study further indicates that resilience has a protective role or buffering effect on the negative impact of the COVID-19 pandemic. Nursing schools may need to craft interventions that build the resilience of nursing students. Because resilience can be

seen as a dynamic adaptation process (Chmitorz et al., 2018), students can be potentially trained to harness their resilient traits. A resilience-training program (Helmreich et al., 2017; Joyce et al., 2018) may be conducted to improve students' ability to respond to stressful events and other negative psychological and emotional distress like during the COVID-19 pandemic.

Moreover, we also found that the COVID-19 impacted the QoL of nursing students to a moderate extent. Similarly, a moderate level of stress was noted among nursing students in Turkey during the COVID-19 pandemic (Aslan & Pekince, 2020), and students in the Philippines reported moderate to severe psychological impact of the COVID-19 pandemic (Tee et al., 2020). Meanwhile, the mean composite score in the COV19-QoL scale was 3.04 in this study was slightly higher compared to the QoL of people with no mental health-related diagnoses in Croatia ( $M = 2.91$ ) (Repišti et al., 2020) and Filipino teachers in the

Philippines ( $M = 2.75$ ) (Rabacal et al., 2020). Nevertheless, the finding of this study proposes that the COVID-19 pandemic has undoubtedly affected the lives of nursing students. This necessitates the development of preventive strategies to address the impact of COVID-19 on the QoL of nursing students.

This study also demonstrated that the impact of the COVID-19 on QoL was significantly higher among female nursing students. Consistent with the literature, females had higher stress levels than their male counterparts in a sample of nursing students in Turkey (Aslan & Pekince, 2020), students in Saudi Arabia (Alateeq et al., 2020), residents in Australia (Rahman et al., 2020) and teachers and students in the Philippines (Oducado, Rabacal, et al., 2021; Tee et al., 2020). Even the result of a global survey in higher education also noted that females are more affected by the pandemic in their personal and emotional lives (Aristovnik et al., 2020). Along with hormonal changes and their thoughts about their social situation, women tend to be more emotional; thus, they may perceive a more significant impact of stressful life events like the COVID-19 pandemic (Alateeq et al., 2020; Aristovnik et al., 2020; Aslan & Pekince, 2020).

In this study, the impact of COVID-19 on QoL was significantly higher among nursing students who were unsure or who knew of a nearby presence of a COVID-19 case near their residence. It is also noteworthy that nursing students posted the greatest impact of COVID-19 on their personal safety in our study. Similarly, studies noted that higher levels of anxiety, anger, and fear were associated with closer spatial distance from active COVID-19 cases (Huang et al., 2020; Oducado, Tuppal, et al., 2021). Perhaps, students may perceive that the presence of COVID-19 case near their residence may increase their risk of getting infected by the coronavirus thus may have reported a greater impact on their QoL. Personal experience with coronavirus was a significant predictor of risk perception (Dryhurst et al., 2020); at the same time, perceived risk was significantly related to COVID-19 stress (Oducado, Rabacal, et al., 2021). Correspondingly, providing care to known or suspected cases and direct contact with a confirmed case of COVID-19 were associated with a higher level of fear (Rahman et al., 2020) and depression (Tee et al., 2020).

This study is not without shortcomings that could be addressed in future research. This study only involved nursing students in one school in the Philippines. The findings of this study cannot be generalized to all nursing students locally and internationally. The research design (cross-sectional) cannot conclude the causal effect among the study variables; likewise, it cannot track temporal changes over time. Hence, our study only examined the correlation and not the causal effect between resilience and COVID-19 impact. Also, the use of online survey questionnaires lends itself to social desirability and self-reported bias. Nonetheless, the present study contributes to a better understanding of the impact of the COVID-19 pandemic among nursing students.

## Conclusion

The COVID-19 outbreak has eventually affected the QoL of nursing students. It is casting concern not only on their physical health and safety but also on their psychological health and mental well-being related to QoL. Additionally, female nursing students and those in nearby presence of COVID-19 case or unsure of a COVID-19 case near their residence are more vulnerable to the impact of COVID-19 on their QoL. Failure to recognize the negative effect of the COVID-19 pandemic and other major life events on the QoL of nursing students may result in detrimental consequences. Furthermore, our study concludes by highlighting the protective and cushioning role of psychological resilience on the QoL in the context of the COVID-19 pandemic. Resilience is a vital psychological factor and personal resource that makes nursing students less susceptible to the negative impact of the COVID-19 outbreak and helps reduce the adverse impact of the pandemic on the QoL of nursing students. Understanding the factors and developing strategies that build the resilience of students is a focal point of action for nursing schools.

## Declaration of Conflicting Interest

The authors have no conflict of interest to declare.

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## Author Contribution

All authors have made a substantial contribution from conception to the finalization of this study. JNG was in charge of the acquisition of data and revising the article for important intellectual content. RMFO was involved in the conception and design of the study, analysis, and interpretation of data, and drafting the article. GPS was part of the conception and design of the study and revising the article for important intellectual content. All authors approved the final version of the article.

## Data Availability Statement

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

## Author Biographies

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