

RESILIENCE AND WORK ENGAGEMENT OF FILIPINO NURSES WORKING IN COVID-DESIGNATED UNITS IN A NATIONAL UNIVERSITY HOSPITAL

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Abstract

Background: The COVID-19 pandemic brought indelible negative impact to the wellbeing of healthcare workers. Nurses who are at the frontlines providing direct care to infected patients are confronted with immense physical and emotional stress arising from healthcare demands and unfavorable work environment. Resilience as a multidimensional concept is crucial in coping with adversities and maintaining engagement at the workplace.

Objectives: This study aimed to determine the level and relationship of resilience and work engagement among nurses deployed in COVID-designated units in a national tertiary hospital at the National Capital Region, Manila.

Methods: This is a descriptive correlational study. A total of 172 nurses who provide direct patient care and have been deployed in the COVID units for at least six months in a national COVID referral center participated in the study. A proportional stratified sampling technique was used. Respondents completed the online-based, Likert-type adapted tool on Measuring Resilience and Engagement. Cross-sectional data were collected from June to September 2021. Linear regression was used to ascertain the relationship between resilience and work engagement. Ethical clearance was provided by the University of the Philippines Manila Research Ethics Review Board.

Results: Resilience which was measured by decompression ($M= 5.54$, $SD= 1.20$) and activation ($M= 5.43$, $SD= 2.07$) and engagement ($M= 5.51$, $SD= 2.15$) were reported as average. Decompression means the ability of an individual to disconnect from work issues and enjoy personal time, while activation pertains to one's capacity to find meaning at work. Regression analysis revealed that resilience was a significant predictor of engagement ($p= 0.000$). Furthermore, it revealed that a unit increase in the level of decompression increases work engagement by 0.30, and with a unit increase in the level of activation, work engagement increases by 0.42.

Conclusion: This study provides evidence that resilience is a significant predictor of work engagement among nurses assigned in COVID units.

Impact: Investing on programs that support nurses' resilience increases the likelihood of their engagement at the workplace. This is pivotal for hospital administrators to prioritize during the pandemic when nurses are suffering from burn-out, stress and undue fatigue that compel them to disengage and leave the profession.

Keywords: resilience, work engagement, COVID-19, nurses,
pandemics

Introduction

The unexpected widespread of corona virus disease 2019 (COVID-19) made a surprisingly huge impact on public health and economies worldwide. The pandemic became an ultimate source of stress to many people, especially healthcare workers, the front-liners directly involved in patient care. The reality of the pandemic brought several long-standing issues such as high mortality of patients, competing healthcare demands, inadequate rationing of health care supplies, immense physical and emotional stress to the health care workers (Arrogante, 2015). Nurses' ability to cope and adapt to these adversities is equated with their level of resilience (Heath et al., 2020).

Resilience is the ability of an individual to adapt, recover and interact after experiencing a significant burden or hardship. It is a multidimensional concept often associated with endurance, goal orientation, personal hardiness, and the ability to recover and recharge (Jackson et al., 2007; Judkins et al., 2005; Morgan et al., 2019; Sonnentag & Krueger, 2006). A resilient individual has the likelihood of achieving favorable outcomes such as reduced burn-out and stress, shift work tolerance, healthier psychological profile, and greater job satisfaction (Judkins et al., 2005). In behavioral studies, resilience is a predominant concept in understanding health care professionals' survival in their workplaces (Jackson et al., 2007). In nursing literature, it was reported that resilience is a personal trait that nurses can develop and build through time that will, in turn, reverse the current trends of nurses leaving the health care system due to workplace problems (Jackson et al., 2007).

Resilience has been considered as the key to enhancing the quality of care and sustaining the health care workforce (Manomenidis et al., 2019). Because of its importance in human resource management, an attempt to measure resilience among healthcare workers has been done in contemporary research (Morgan et al., 2019). The rapid assessment tool for resilience found out that low resilience leads to increased workplace burnout and low work engagement among health care providers. Resilience has been

characterized in two dimensions namely decompression and activation. Decompression is the ability of the individual to disconnect from work issues and enjoy personal time and recharge while outside work. On the other hand, activation is the individual ability to find meaning in work and develop meaningful relationships with colleagues and clients.

Health care workers are known to be repetitively exposed to high-risk work areas and various life-threatening illnesses. This has been more pronounced during the pandemic due to psychological stresses such as fear of contagion, interpersonal isolation, and stigmatization. The context of COVID-19 pandemic challenges the resilience of nurses during uncertainty and unpredictability.

Work engagement, on the other hand, is a psychological state that entails job satisfaction, job involvement, psychological empowerment, organizational commitment, attachment, and mood (Gupta & Sharma, 2016). Rooted in folk theory, this pertains to more loyal employees who are consequently most likely to remain in the organization. It is described as a rewarding, positive state of mind regarding work climate that is characterized by vigor and commitment (Schaufeli & Bakker, 2004). Further, this has been defined as a loving resource expressed in warmth and caring atmosphere where employees outlay their whole being in their function at work (Cooper-Thomas et al., 2018).

Several studies attributed the link between resilience and work engagement (Morgan et al., 2019). Working conditions, length of service and personal expressions of hope are positively correlated with work engagement (Cao & Chen, 2019; Othman & Nasurdin, 2011). With the increasing numbers of healthcare workers leaving the health professions during the COVID-19 pandemic, understanding the dynamics of resilience and work engagement becomes crucial in charting policy directions to mitigate the devastating impact of dwindling human health resources particularly among nurses. This study aimed to describe the level and relationship of resilience and work engagement among nurses assigned in COVID-designated units in a national university

hospital in the Philippines during the onslaught of the pandemic.

Methods

Study design

The study employed a descriptive correlational design. Cross-sectional data was collected from June to September 2021.

Setting

The study was conducted in a tertiary state-owned national university hospital with a total bed capacity of 1,500. The hospital was designated as a COVID referral center and has allocated specific clinical nursing units such as general adult and pediatric wards, operating room, intensive care unit and emergency room for patients tested positive for COVID-19. Patients were admitted either in pay or service (charity) wards. Pay patients are those admitted under the care of a private physician; hence, they pay professional fees. On the other hand, service (charity) patients are those whose medical expenses are fully paid by the government health insurance system.

Population and Sampling technique

The study utilized a proportional stratified sampling design to ensure the representativeness of each COVID-designated clinical nursing unit. Inclusion criteria were nurses who directly care for adult and pediatric patients tested positive for COVID-19, on a permanent position, and must have been assigned in COVID-designated units for at least six (6) months. Participants were excluded if they work as contractual/ temporary because they are not fully accustomed to the work environment for a considerable time; on a clinical rotation program and those in supervisory positions. Using the G*Power 3.1, with a small effect size of 0.3, alpha of 0.05, and power of 95%, the computed sample size is 154. The total target sample size was 172 respondents providing a 10% margin for unreturned questionnaires.

Instruments

This research developed a participant demographic profile and adapted a questionnaire from Morgan et al. (2019) in a study

entitled "Development of an early warning resilience survey for a healthcare organization." The tool measures resilience and engagement among healthcare workers in a 5 point-Likert scale that determines their level of agreement. Resilience has two domains namely decompression and activation. Decompression pertains to the ability of the individual to enjoy personal time and recreation outside work life while activation is the capacity of an individual to find meaning and develop relationships at work (Morgan et al., 2019). Psychometric studies showed that the tool has acceptable reliability and validity indices. The tool underwent pilot testing, and the domains have the following reliability coefficients: decompression and activation have Cronbach's alpha of 0.917 and 0.829, respectively, and engagement has a reliability coefficient of 0.934. Responses were recorded as standard ten scores ranging from 1 to 10 with the following interpretations: 9-10- well above average, 8- above average, 7- slightly above average, 5-6- average, 4- slightly below average, 3- below average, and 1-2- well below average.

Data collection

Data were obtained from respondents using an online-based survey using Google form. The researchers distributed paper-based questionnaires for those who did not have access to online form. Data collection commenced after securing ethical clearance and permission to conduct research from the expanded hospital research office. Participant recruitment was facilitated in close coordination with the head nurses in the target clinical nursing units. The link to online questionnaire was shared individually to prospective respondents who were qualified to the eligibility criteria. Participants were given two weeks to accomplish the questionnaire.

Data analysis

Data were encoded in a Microsoft Excel version 2019 and were converted into raw score then to z score then STEN score. Descriptive statistics were employed to summarize the demographic data. IBM SPSS Statistics 23 was used in computing for linear regression.

Ethical Considerations

The research protocol underwent full

board review by the University of the Philippines Manila Research Ethics Board (REB). Ethical clearance was provided with the approval code 2021-227-01. The research adhered to the guidelines set by the National Ethical Guidelines for Health and Health-related Research (2017) and Data Privacy Act of 2012. Informed consent was secured from the participants. Permission from the authors of the questionnaire was sought through e-mail.

Results

Table 1 presents the demographic profile of respondents who participated in the study (n=172). The average age of respondents is 35 years (SD= 7.80). Majority (80%) are female. Half of the respondents are working in the hospital for more than eight years followed by 5 – 7 years (21 %), 2 – 4 years (15 %) and less than a year (14 %). The respondents are mostly working in service wards (24 %) and intensive care units (24 %) followed by pay wards (22 %), emergency room (15 %) and operating room (14 %).

Table 1

Sample characteristics

Demographic Characteristics	Number (n)	Percentage (%)
Age	Mean= 35 (SD= 7.80)	
Sex		
Male	35	20 %
Female	137	80 %
Length of Service		
Less than 1 year	24	14 %
2- 4 years	26	15 %
5-7 years	36	21 %
More than 8 years	86	50 %
Clinical Nursing Unit		
Service wards	42	24 %
Pay wards	38	22 %
Operating Room	24	14 %
Critical Care Units	42	24 %
Emergency Room	26	15 %

Resilience and engagement

Resilience was measured according to decompression and activation. Decompression refers to the ability of the nurse to detach from work and enjoy recreation and relaxation activities not related to work. On the other hand, activation is the nurse's ability to find meaning in the workplace when someone values patients and colleagues. As shown in **Table 2**, the level of mean scores for decompression (M=5.54, SD= 1.20) and activation (M=5.43, SD= 2.07) are average. Respondents working in the operating room (M= 6.42, SD= 1.84) registered the highest level of decompression and the lowest mean score for activation (M=4.75, SD= 2.52).

On the other hand, those assigned in service wards reported highest mean score for activation (M= 5.88, SD= 1.97).

In general, the extent of work engagement (M= 5.51, SD= 2.15) is average. The highest mean score of work engagement was seen on those nurses working at the service wards (M= 5.98, SD= 1.89), followed by intensive care unit (M=5.76, SD= 2.27), operating room (M=5.37, SD= 2.28), pay wards (M=5.21, SD= 2.04) and emergency room (M=4.92, SD= 2.30).

Table 2

Levels of resilience and work engagement

COVID-designated clinical nursing units	Resilience		Work Engagement
	Decompression	Activation	
Service wards	5.81 (±) 2.20	5.88 (±) 1.97	5.98 (±) 1.89
Pay wards	5.05 (±) 1.84	5.37 (±) 1.92	5.21 (±) 2.04
Operating room	6.42 (±) 1.84	4.75 (±) 2.52	5.37 (±) 2.28
Intensive care unit	5.43 (±) 1.20	5.64 (±) 1.68	5.76 (±) 2.27
Emergency room	5.19 (±) 1.83	5.07 (±) 2.48	4.92 (±) 2.30
Mean score	5.54 (±) 1.20	5.43 (±) 2.07	5.51 (±) 2.15

Table 3 presents the summary statistics of linear regression. It was shown that 28.1% of the variability in work engagement among nurses in COVID-designated units can be explained by the level of their resilience. Furthermore, it was revealed that a unit increase in the level of decompression increases work engagement by 0.30 and with a unit increase in the level

of activation, work engagement increases by 0.42. Lastly, the level of resilience measured in decompression and activation is a significant predictor of work engagement ($p= 0.000$).

Table 3*Regression analysis of resilience and work engagement*

Level of Resilience	Unstandardized Coefficients		Interpretation
	B	p	
(Constant)	1.584	0.000	Statistically Significant
Decompression	0.300		
Activation	0.417		
R = 0.530 R ² = 0.281			

Discussion

In general, the resilience among nurses assigned in COVID-designated units is average. This is consistent with the findings in a similar study conducted in the Philippines where there was a moderate to normal resilience among front-line nurses during the pandemic (Labrague & De los Santos, 2020). However, the resilience was recorded to be moderately low among professional healthcare workers in another study (Sánchez-Zaballos & Mosteiro-Díaz, 2021). The findings appear inconsistent because the context differs during the onslaught of pandemic as compared to a year after the pandemic. In this study, it was pinpointed that operating room nurses and service ward nurses generally have the highest level of resilience. In a separate study, it was ascertained that intensive care unit nurses tend to have higher levels of resilience than ward nurses (Manomenidis et al., 2019). It might be inferred that the complexity and uncertainty of patient care acuity being admitted in the critical units during the pandemic may affect the resilience of ICU nurses in coping with the reported high patient mortality from the contagious virus. More so, the level of resilience

has been reported to be influenced by work-related condition such as shift and working hours and personal variables like age and clinical experience (Sánchez-Zaballos & Mosteiro-Díaz, 2021).

Despite the differences, extant literature supports that resilience substantially neutralizes the negative impact of workplace stressors and is often linked to enhanced patient satisfaction and more favourable patient outcomes. Increased personal resilience organizational and social support in nurses are associated with decreased levels of anxiety and increased mental wellbeing related to COVID-19 (Labrague & De los Santos, 2020).

Similar with the level of resilience, work engagement among nurses taking care of patients diagnosed with COVID-19 is average. The highest level of engagement of nurses is reported from those assigned in service wards followed by intensive care units, operating room, pay wards, and emergency room. This is consistent with the finding from a study conducted before the pandemic (Bamford et al., 2013). Personal factors such as gender, age and clinical experience affect the extent of work engagement (Cao & Chen, 2019).

More importantly, work environment significantly influences the involvement of nurses. Nurses working in acute care settings are more engaged with their job but more likely to leave their unit within six months or leave the organization in the next three years (Sellers et al., 2019).

More importantly, the study demonstrated that 28.1% of the variability in work engagement among COVID-assigned nurses can be significantly explained by the level of resilience. Both aspects of resilience namely decompression or simply the work-life balance and activation or the ability to build meaningful perspectives at work contribute to work engagement. In this study, activation (0.42) increases per unit of work engagement than decompression (0.30) by 0.12 difference. An earlier study supported this finding which asserts that increasing resilience would similarly increase engagement and eventually decrease the incidence of burn-out (Morgan et al., 2019). Likewise, the relationship between resilience and engagement has been demonstrated in prior research (Cao & Chen, 2019; Othman & Nasurdin, 2011). Among emergency room nurses, resilience was identified to have a strong positive relationship with work engagement (Clark et al., 2021). It was further reported that increasing nurses' resilience would lessen their moral distress and consequently, increase their engagement in their organization and job satisfaction. Individuals that employ strategies that promote resilience have more confidence in their abilities to cope with adversities, which will strengthen wellbeing and lead to higher levels of engagement, involvement, and job satisfaction (Navarro-Abalet al., 2018).

Limitations of the Study

The study findings reflect the level of resilience and work engagement among nurses during the peak of COVID-19 cases in the Philippines where the study setting was designated as the national COVID-19 referral center. It must be noted that during this period, the institution is restructuring the hospital set-up to accommodate the rising number of patients being admitted who tested for COVID-19. The self-reports of respondents were collected

cross-sectionally which may not fully capture the range of resilience and work-engagement of nurses over time as influenced by different circumstances such as changes in hospital policies and fluctuating COVID-19 cases. Moreover, the sample size and single study site may affect the generalizability of findings.

Conclusion

The study provides preliminary evidence that the level of resilience and work engagement among nurses deployed in COVID-designated clinical nursing units is average. With a unit increase in the level of work-life balance (deactivation), increases work engagement by 0.30; and with a unit increase in the level of meaningful and purposeful relationships (activation), work engagement increases by 0.42. Investing programs that support nurses' resilience increases the likelihood of their work engagement and possible retention. This is pivotal for hospital administrators to prioritize during the new normal when nurses are suffering from burn-out, stress and undue fatigue that compel them to disengage and leave the profession.

Implications

The pandemic intolerably takes a toll on the psychological health and over-all wellbeing of healthcare workers, particularly nurses. Administrators need to identify and understand the level of psychological health and intention to stay of nurses to proactively implement strategies that will prevent critical shortage of workforce. Examining the extent of resilience and work engagement of nurses during the pandemic is crucial in crafting policies and programs that address their needs and motivations to stay in the healthcare industry.

Programs like debriefing, coaching/mentoring, spiritual and mental hygiene, meditation, and mindfulness activities should be designed that are culturally appropriate, multifaceted, and tailored fit to the individualized needs of healthcare workers.

More importantly, organizational leaders need to empower nurses and improve work engagement by providing support and control to develop resilient reactions to stress. Improving

working conditions, giving better supervisory communication and corporate culture, and providing employee support aid in developing healthy behavioral practices in the workplace. Continuous education and training on developing nurses' psychological resilience and empathic capacity is imperative to foster better work engagement.

Conflict of Interest

We declare no conflict of interest to disclose.

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Authors' Contribution

Marisel Rosete M. Delos Santos: conceptualization, data curation, formal analysis, investigation, methodology, resources, supervision, validation, visualization, writing – original draft, writing – review & editing; Andrew B. Sumpay: conceptualization, data curation, formal analysis, validation, writing – review & editing; Ma. Stefanie P. Reyes: conceptualization, data curation, formal analysis, investigation, writing – original draft, writing – review & editing; validation, visualization, writing – original draft, writing – review & editing; Andrew B. Sumpay: conceptualization, data curation, formal analysis, validation, writing – review & editing; Ma. Stefanie P. Reyes: conceptualization, data curation, formal analysis, investigation, writing – original draft, writing – review & editing; Ma. Carmela M. Gatchalian: conceptualization, data curation, formal analysis, investigation, writing – original draft, writing – review & editing; Mickaela Louise D. Gamboa: conceptualization, data curation, formal analysis, investigation, writing – original draft, writing – review & editing and Paul Froilan Garma: conceptualization, data curation, formal analysis, investigation, supervision, visualization, writing – original draft, writing – review

& editing.

Data Availability Statement

The data from this study can be requested from the corresponding author if request will be approved by institution due to privacy and ethical restrictions.

References

- Arrogante, O. (2015). Resilience in nursing: Definition, empirical evidence and interventions. *Nursing Index*, 24 (4), 232-235. <https://dx.doi.org/10.4321/S1132-12962015000300009>.
- Bamford, M., Wong, C. A., & Laschinger, H. (2013). The influence of authentic leadership and areas of worklife on work engagement of registered nurses. *Journal of nursing management*, 21(3), 529-540.
- Cao, X., & Chen, L. (2019). Relationships among social support, empathy, resilience and work engagement in haemodialysis nurses. *International Nursing Review*, 66(3), 366-373.
- Clark, P., Crawford, T. N., Hulse, B., & Polivka, B. J. (2021). Resilience, moral distress, and workplace engagement in emergency department nurses. *Western Journal of Nursing Research*, 43(5), 442-451.
- Cooper-Thomas, H. D., Xu, J., & Saks, A. M. (2018). The differential value of resources in predicting employee engagement. *Journal of Managerial Psychology*.
- Gupta, N., & Sharma, V. (2016). Exploring employee engagement—A way to better business performance. *Global Business Review*, 17(3_suppl), 45S-63S.
- Heath, C., Sommerfield, A., & von Ungern-Sternberg, B.S. (2020). Resilience strategies to manage psychological distress among healthcare workers during the COVID-19 pandemic: a narrative review. *Anaesthesia*, 75(10), 1364-1371. doi: 10.1111/anae.15180.
- Jackson, D., Firtko, A., & Edenborough, M. (2007). Personal resilience as a strategy for surviving and thriving in the face of workplace adversity: a literature review. *J Adv Nurs.*, 60(1):1-9. doi: 10.1111/j.1365-2648.2007.04412.x.

- Judkins S., Arris L., & Keener E. (2005). Program evaluation in graduate nursing education: hardiness as a predictor of success among nursing administration students. *Journal of Professional Nursing, 21*, 314–321.
- Labrague, L. J., & De los Santos, J. A. A. (2020). COVID-19 anxiety among front-line nurses: Predictive role of organisational support, personal resilience and social support. *Journal of nursing management, 28*(7), 1653-1661.
- Manomenidis, G., Panagopoulou, E., & Montgomery, A. (2019). Resilience in nursing: The role of internal and external factors. *J Nurs Manag, 27*(1), 172-178. doi: 10.1111/jonm.12662.
- Morgan, K.H., Libby, N.E., Weaver, A.K., & Cai, C. (2019). Development of an early warning resilience survey for healthcare organizations. *Heliyon, 5*(10)- e02670. doi: 10.1016/j.heliyon.2019.e02670.
- Navarro-Abal, Y., López-López, M. J., & Climent-Rodríguez, J. A. (2018). Engagement, resilience and empathy in nursing assistants. *Enfermería Clínica (English Edition), 28*(2), 103-110.
- Othman, N., & Nasurdin, A. M. (2011). Work engagement of Malaysian nurses: Exploring the impact of hope and resilience. *World Academy of Science, Engineering and Technology, 60*, 1702-1706.
- Sánchez-Zaballos, M., & Mosteiro-Díaz, M. P. (2021). Resilience among professional health workers in emergency services. *Journal of emergency nursing, 47*(6), 925-932.
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior, 25*(3), 293-315.
- Sellers, K., Riley, M., Denny, D., Rogers, D., Havener, J. M., Rathbone, T., & Gomez-Di Cesare, C. (2019). Retention of nurses in a rural environment: The impact of job satisfaction, resilience, grit, engagement, and rural fit. *Online journal of Rural nursing and Health care, 4*-42.
- Sonnentag, S., & Krueger, U. (2006). Psychological detachment from work during off-job time: The role of job stressors, job involvement, and recovery-related self-efficacy. *European Journal of Work and Organizational Psychology, 15*(2), 197–217. <https://doi.org/10.1080/13594320500513939>.