Relationship of Work Engagement with Nurse Work and Patient Outcomes among Nurses in Central Philippines

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ABSTRACT

Objective. This study determined the association between work engagement among hospital nurses and their work outcomes (i.e., job satisfaction, stress, burnout, and turnover intention) and patient outcomes (i.e., missed nursing care, adverse events, and quality of care).

Methods. A cross-sectional study was employed using secondary data derived from 549 registered nurses working in different hospitals in Central Philippines. Eight self-report questionnaires were adopted to gather data in this study. Multiple linear and logistic regression analyses were used to test the hypotheses.

Results. Nurses with lower levels of work engagement reported increased levels of job burnout and turnover intention. Those nurses with higher scores on the dedication subscale reported increased job satisfaction and perceived quality of patient care.

Conclusion. Work engagement influences nurse work and patient outcomes in the Philippines. Higher levels of work engagement prevent nursing staff from leaving their workplaces and may help them find their work fulfilling personally and professionally. Nursing management should highly consider promoting work engagement through enhancing job resources to meet the needs of nurses and, eventually, improve professional work outcomes and quality patient care.

Keywords: burnout, job satisfaction, nurses, nursing, nursing care, patient care, Philippines, work engagement

INTRODUCTION

Work engagement is described as a positive and rewarding sense of well-being while fulfilling one's duty in the practice environment. Work engagement has three significant dimensions: vigor, dedication, and absorption.[1] Vigor means mental vitality and being highly energetic at work. An employee exerts effort to complete work even amid difficulties. Dedication means to be highly involved and connected to the job to the point where one's attitude toward their work consists of a sense of enthusiasm, encouragement, and a perception of being meaningful challenged. Absorption refers to being totally connected and gladly focused at work to the point where it becomes difficult to detach from one's job.[2] Work engagement is relevant in the hospital as a workplace among nurses who render safe and quality patient care. It is an essential factor contributing to the improvement

of patient outcomes, nurses' empowerment, retention, and job satisfaction.[3] Good work engagement among nurses enhances the sustainability of a workforce and eventually results in a sustainable health system.[4]

Attempts to understand work engagement and study its importance on the nurse workforce and patient outcomes are emerging in foreign settings. A cross-sectional study by Kutney-Lee et al. revealed that engaged nurses are less likely to report job dissatisfaction, burnout, and the intention to leave the organization.[5] A study conducted by van Bogaert et al. showed that work engagement influences job outcomes and has significant effects on ensuring the steadiness of the nurse workforce.[6] Such findings are consistent with earlier studies indicating that work engagement is a precursor to job satisfaction and that engagement directly impacts job satisfaction in the nursing context.[7] Further, substantial evidence links engagement to turnover intentions,[8,9] suggesting its association with financial and potential patient outcome costs.[10] Moreover, increased work engagement among nurses and better nurse-to-patient ratios were associated with more acceptable patient safety.[11] Work engagement is a significant step toward entering a state of wellbeing and delight at work. It has been strongly correlated with patient safety and health care quality outcomes.[12]

Nursing in the Philippines

The shortage of nurses is a common phenomenon in many countries around the world, and yet, in the Philippines, thousands of nurses continue to migrate abroad. Data from the Philippines Overseas Employment Agency reflected that approximately 19,000 nurses leave every year, and, since 2012, 92,277 nurses have left to work overseas. A recent study revealed a more significant percentage of Filipino nurses intend to leave the country in one (46.1%) and five years (78.9%), supporting the potential for a possible shortage of nurses in the coming years.[13] Reports of unfavorable work environments have been implicated in undermining nurses' ability to deliver quality care to patients.[14-17] Given these findings, it is imperative to conduct this study as it describes Filipino nurses' work engagement in relatively demanding workplaces and how their engagement affects work outcomes. Moreover, while work engagement has been studied worldwide, very few investigations have been conducted in the Philippines.[18] Besides, these studies primarily focused on the relationship between work engagement and nurse work outcomes such as job satisfaction and turnover intention,[8,19,20] with only a few examining how work engagement among nurses influences patient outcomes, including regarding missed nursing care and adverse events.[21] Thus, the present report could be one of the preliminary studies covering the association between work engagement and patient outcomes. The results of this study may therefore guide nursing administrators to modify managerial styles, functions, and structures; enhance existing policies and procedures; or develop work engagement strategies that will foster nurses'

morale, well-being, and service as professional employees in the country.

The Revised Job Demands–Resources (JD-R) Model of Work Engagement

To better capture the significant implications of this study, the revised JD-R model by Schaufeli and Bakker (2004) was applied.[22] This model was initially introduced by Demerouti et al. in 2001 to determine how job burnout arises.[23] The original JD-R model proposes two specific sets of job conditions—job demands and job resources—that may lead to negative or positive outcomes.

The revised JD-R model considered burnout with the addition of work engagement as intermediaries between job demands and health issues and between job resources and turnover intention, respectively. This explains the positioning of work engagement as the positive counterpart of burnout. The presence of ample job resources initiates a motivational process resulting in greater work engagement manifested by employees' inclinations to dedicated efforts and abilities toward accomplishing relevant tasks. This compensatory effort mitigates job demands and promotes positive work outcomes. Likewise, engagement satisfies the need for autonomy, relatedness, and competence.

This model is very flexible, reflecting that various job characteristics can be considered. Moreover, multiple studies have adopted this model to assess work engagement in hospital settings.[4,7,20] Hence, this model will be applied in this study especially given that this study was conducted in hospitals.

Aim

The study aimed to correlate work engagement among hospital nurses with their work outcomes (i.e., job satisfaction, stress, burnout, and turnover intention) and patient outcomes (i.e., missed nursing care, adverse events, and quality of care).

To achieve this, the researchers tested the following hypotheses:
1. There is a significant association between job engagement and nurse outcomes.
2. There is a significant association between job engagement and patient outcomes.

METHODS

Study Design

This study employed a descriptive, cross-sectional research design.

Participants and Settings

Registered nurses (RNs) working in government and private hospitals in the central Philippines were involved in this study. Five hundred forty-nine registered nurses who met the following criteria were selected: (1) having

a minimum of three months of work experience and (2) agreeing voluntarily to be part of the study. Participants with at least three months of work experience were assumed that they could adjust to their work environment and routines. Any factor in the adjustment period that could affect the results of this study might have been minimized. Moreover, the researchers selected the participants through a purposive sampling technique. Participants were staff nurses working from fourteen (14) hospitals in the Central Philippines. These hospitals include general, non-specialized, government, and private-owned regardless of bed capacity.

Instruments

Eight self-report questionnaires were used in this study. The Utrecht Work Engagement Scale (UWES) was used to assess the work engagement among nurses, a nine-item short version measure developed by Schaufeli and Bakker (2004), which generated three separate dimensions: vigor, dedication, and absorption.[22] Participants were asked how they felt about their job. If they never had this feeling, they chose the '0' (zero) in the space after the statement. If they have previously had this feeling, they answered the items on a six-point Likert scale (1–6 points) in a manner best describing how frequently they felt that way (1 = almost never/a few times a year or less to 6 = always/every day). Previous research revealed internal consistency using Cronbach's alpha varied between 0.85 and 0.92 (median = 0.92).[24]

Job stress is both a physical and mental excitation brought by any job-related psychological demand.[25,26] In this study, job stress was measured using the short form of the Perceived Stress Scale (PSS-4) developed by Cohen, Kamarck, and Mermelstein (1994).[27] Participants were asked to recall their feelings and thoughts about their job using a four-point Likert scale ranging from one (never) to four (very often) points. Previous research suggested the internal consistency of this tool using Cronbach's alpha was 0.74.[28]

Job burnout is a response to chronic job stress characterized by exhaustion, disengagement, and a sense of poor personal accomplishment.[29] In this study, job burnout was measured using the single item 'overall, based on your definition of burnout, how would you rate your level of burnout?' and responses ranged from one ('I enjoy my work. I have no symptoms of burnout'.) to five ('I feel completely burned out and often wonder if I can go on. I am at the point where I may need some changes or may need to seek some sort of help'.) points. The internal consistency reliability of the scale was reported by Dolan *et al.* (2015) with a Cronbach's alpha of 0.92.[30]

Job satisfaction means the workers' feelings about their job, nature, and expectations concerning what their job should provide.[31] The level of job satisfaction was measured by posing a single item: participants rated their answer on a six-point Likert scale ranging from one (disagree) to six (agree very much) points. Higher mean scores indicated greater job satisfaction.

The intention to leave is the individual's deliberate intention to leave.[32] Intention to leave was measured by asking the following single binary (yes/no) question: 'if possible, would you leave your current job within the next year?' Previous research has supported the use of this question.[33]

Missed nursing care occurred when the staff nurse failed to fulfill nursing care tasks required for the patient's needs.[34] In this study, missed nursing care was measured using the tool developed by Lake et al. (2017).[35] This tool comprises 13 nursing care activities and has been applied to date in many nursing studies abroad.[36,37] Participants were asked to report which specific activities (listing all that applied) were necessary but left undone during their last shift due to a lack of time to complete them. A previous study revealed application of exploratory factor analysis to examine the dimensions of care left undone (comparative fit index = 0.98; Tucker-Lewis index = 0.95; root mean square error of approximation = 0.50; standardized root mean square residual = 0.035).[38]

The perceived quality of care was assessed using a single item question that asked nurses to respond to the following question: 'how would you describe the quality of nursing care delivered to patients in your unit?' Responses ranged from one for 'poor' to four points for 'excellent.' The mean score of the nurses' responses was aggregated at the unit level. The reliability of nurses' reports of quality care was examined in a previous study by calculating the intraclass correlation (ICC), and the results indicate satisfactory agreement among individual nurses to aggregate reports of quality to the hospital level (ICC= 0,73).[39] Finally, patients' adverse events (including falls, pressure ulcers, nosocomial infections, and medication errors) were assessed through participants' reports of their shifts over the past year.

Data Collection and Analysis

Approval letters to conduct the study were secured from the chiefs of hospitals. Upon approval, researchers coordinated the chief nurses, nurse supervisors, and head nurses in selecting potential participants. All participants furnished informed consent before the actual survey was given. This indicates that the study was thoroughly understood – its purposes, benefits, and possible risks. They were not given incentives or tokens to participate in the study. Participants were informed they had the right to withdraw from the study if they wanted to. Then, participants were given questionnaires and asked to return them within 24 hours. The researchers explained the contents of the questionnaire, and the participants were given the time for feedback for any ambiguous section. They have the freedom to accomplish the survey questionnaire at home, in the workplace or in any location with privacy and comfort. The data collection period was from June 2018 to December 2018. The researchers inspected all questionnaires collected to confirm the completeness and adequacy of the information needed. All items in the survey questionnaire must be answered and filled in by the participants for completeness and adequacy.

The researchers who conducted the data gathering coded, tallied, and categorized the accomplished instruments. All data were merged into one spreadsheet. Data were then entered into the Statistical Package for Social Sciences software program (IBM Corp., Armonk, NY, USA) for statistical analysis. Applied descriptive statistics included means, percentages, frequencies, and standard deviations. Multiple regression (linear and logistic) analyses were applied to determine the influence of job engagement on nurse outcomes and patient outcomes, adjusted for nurse characteristics such as sex, age, years in nursing, years on present unit, marital status, location of work, highest attained education, position, type of contract, last shift length, type of hospital, hospital capacity and unit of assignment to obtain unbiased causal effect estimates. The level of significance was set at less than 0.05.

This project was designed from a research program as approved by the research ethics board in the locality. There is no dredging of data obtained. Two recent studies have been published utilizing identical sample characteristics.[40,41] However, this study focused on analyzing the relationship of nurse work engagement with nurse work outcomes and patient outcomes.

Ethical Considerations

Ethical approval from the local university ethics review board was secured before data collection (SSU-91018-09). Administrative clearance was also obtained from the hospital chiefs of the various hospitals where this study was conducted. Written informed consent was secured from each participant before the questionnaire was provided. Voluntary participation was observed, and enough information about the study was provided to the participants. The confidentiality, privacy, and anonymity of the participants were ensured. Each participant was made aware that they would not be paid for their participation. The researchers had no authority over the participants; hence, there was no conflict of interest involved in this regard. All communications in the study were conducted with pure honesty and transparency. No manipulation of raw data was made, and enough time was given for the participants to complete the questionnaire. Accomplished hard copy instruments were kept in one place and secured.

RESULTS

A total of five hundred forty-nine nurses participated in this study. The majority of the respondents were females (78.7%), married (68.7%), within the age group of 20 to 29 years old (66.8%), held baccalaureate degrees in nursing (91.1%), and had been practicing the nursing profession for less than ten years (81.2%). Table 1 summarizes the descriptive statistics of nurse characteristics.

Table 2 suggests the influence of job engagement on nurse outcomes. The independent variables included charac-

Table 1. Nurse Characteristics (n=549)

Characteristics	n	%	Mean ± SD
Sex			
Male	117	21.3	
Female	432	78.7	
Age (years)			29.80 ± 7.80
20 – 29	367	66.8	
30 – 39	119	21.7	
40 – 49	42	7.7	
≥ 50	21	3.8	
Years in Nursing			6.75 ± 6.37
< 10	446	81.2	
10 – 19	69	12.6	
≥ 20	34	6.2	
Years on Present Unit			3.55 ± 4.51
< 5	431	78.5	
5 – 9	79	14.4	
≥ 10	39	7.1	
Marital Status			
Unmarried	172	31.3	
Married	377	68.7	
Location of Work			
Urban	431	78.5	
Rural	118	21.5	
Highest Attained Education			
BSN	500	91.1	
MA / MS / PhD	49	8.9	
Position			
Staff Nurse	477	86.9	
Manager Nurse	72	13.1	
Type of Contract			
Permanent	397	72.3	
Casual / Part-time	152	27.7	
Last Shift Length (hours)			
< 10	295	53.7	
≥ 10	254	46.3	
Type of Hospital			
Private	325	59.2	
Public	224	40.8	
Hospital Capacity			
≤ 100	235	42.8	
101 – 250	213	38.8	
> 250	101	18.4	
Unit of Assignment			
Surgical Ward	90	16.4	
Medical Ward	178	32.4	
Gynecology / Obstetric Ward	63	11.5	
Emergency Unit	58	10.6	
Intensive / Critical Care Unit	66	12.0	
Dialysis	12	2.2	
Out-Patient Department	13	2.4	
Operating Room	12	2.2	
Pediatrics Unit	57	10.4	

Table 2. Multiple Regression (Linear and Logistic) Results for the Influence of Work Engagement on Nurse Outcomes

Nurse Outcomes	Vigor		Dedication		Absorption		Overall Job Engagement	
	β (SE)	P-value	β (SE)	P-value	β (SE)	P-value	β (SE)	P-value
Job Satisfaction	0.028 (0.023)	0.218	0.048 (0.020)	0.017*	0.035 (0.022)	0.119	0.042 (0.023)	0.065
Job Stress	-0.003 (0.018)	0.883	-0.023 (0.016)	0.144	-0.001 (0.018)	0.955	-0.011 (0.018)	0.558
Job Burnout	-0.132 (0.035)	<0.001***	-0.122 (0.031)	<0.001***	-0.085 (0.034)	0.013*	-0.127 (0.035)	<0.001***
Turnover Intention	-0.185[a] (0.092)	0.045*	-0.196[b] (0.083)	0.018*	-0.141[c] (0.090)	0.116	-0.198[d] (0.094)	0.036*

*p<0.05, **p<0.01, ***p<0.001

Note: The controlled variables were gender, age, years in nursing, years on present unit, marital status, location of work, highest attained education, position, type of contract, last shift length, type of hospital, hospital capacity, and unit of assignment.

Table 3. Multiple Regression (Linear) Results for the Influence of Work Engagement on Patient Outcomes

Patient Outcomes	Vigor		Dedication		Absorption		Overall Job Engagement	
	β (SE)	P-value	β (SE)	P-value	β (SE)	P-value	β (SE)	P-value
Missed Nursing Care	0.002 (0.007)	0.740	0.005 (0.006)	0.452	0.003 (0.007)	0.676	0.004 (0.007)	0.606
Patient Adverse Events	-0.042 (0.045)	0.352	-0.015 (0.040)	0.708	-0.004 (0.044)	0.936	-0.023 (0.045)	0.605
Perceived Quality of Care	0.033 (0.026)	0.199	0.058 (0.023)	0.012*	0.017 (0.025)	0.509	0.040 (0.026)	0.122

*p<0.05

Note: The controlled variables were gender, age, years in nursing, years on present unit, marital status, location of work, highest attained education, position, type of contract, last shift length, type of hospital, hospital capacity and unit of assignment.

teristics of work engagement such as vigor, dedication, absorption, and overall work engagement. In contrast, the dependent variables were the dimensions of nurse outcomes, including job satisfaction, job stress, job burnout, and turnover intention. The controlled variables were sex, age, years in nursing, years in the present unit, marital status, location of work, highest attained education level, position, type of contract, length of the last shift, type of hospital, hospital capacity, and unit of assignment. A level of significance (p = 0.017) was observed between the dedication subscale and job satisfaction (β = 0.048), indicating that an increased score on the dedication subscale was associated with higher scores in job satisfaction. On the other hand, there was a significant negative association between vigor (β = –0.132; $p \leq$ 0.001), dedication (β = –0.122; $p \leq$ 0.001), absorption (β = –0.085; p = 0.013), and overall job engagement (β = –0.127; $p \leq$ 0.001) and job burnout, indicating that increased scores on work engagement subscales are likely to be associated with lower job burnout. Further, there was a significant negative association between vigor (β = –0.185; p = 0.045), dedication (β = –0.196; p = 0.018), and overall job engagement (β = –0.198; p = 0.036) and turnover intention. Hence, hypothesis 1 was partially supported.

Table 3 presents the influence of job engagement on patient outcomes. Again, the independent variables included characteristics of job engagement (i.e., vigor, dedication, absorption, and overall job engagement), while the dependent variables were the dimensions of patient outcomes: missed nursing care, patient adverse events, and perceived quality of care. Likewise, the controlled variables were sex, age, years in nursing, years on present unit, marital status, location of work, highest attained education level, position, type of

contract, length of the last shift, type of hospital, hospital capacity, and unit of assignment. The subscale dedication correlated significantly with the perceived quality of care (β = 0.058; p = 0.012). This indicates that an increased score on the dedication subscale is likely associated with higher perceived quality of care. Hence, hypothesis 2 was partially supported.

DISCUSSION

This study aimed to determine the relationship between work engagement and nurse and patient outcomes. Overall, the hypotheses of this study were partially supported. The first hypothesis was confirmed when it considered vigor, dedication, and overall job engagement variables with the most significant influence on job burnout and hospital turnover intention. Further, absorption predicted job burnout, while dedication predicted job satisfaction. These findings are worth mentioning as these showed the specific and significant relationships between dimensions of work engagement and certain nurse work outcomes: job burnout, turnover intention, and job satisfaction. Previous studies showed the negative associations between overall work engagement and job burnout, turnover intentions, and its positive relationship with job satisfaction.[20,42-45] However, an earlier study showed the relationships between the specific dimensions of work engagement: vigor, dedication, and absorption, and job outcomes with three variables: job satisfaction, intention to leave the hospital, and intention to leave nursing.[46]

In the present research, work engagement was negatively associated with job burnout. This finding is similar

to other studies, indicating that work engagement is the antithesis of burnout.[47,48] People who report low levels of energy, enthusiastic involvement, efficacy, and dedication—which are characteristics of poor engagement—are more likely to experience burnout characterized by emotional exhaustion, depersonalization, and low levels of personal accomplishment. Job demands are positively associated with burnout. The workload is related to the experience of burnout, which invites physical and emotional exhaustion and eventually affects work outcomes.[49] Prolonged work overload may significantly reduce nurses' adequacy and efficacy, provoke physical symptoms of fatigue, headache, or vulnerability to certain diseases, and trigger feelings of frustration, negativity, and sadness.[49] Meanwhile, other factors that may lead to burnout include suffering and insufficient preparation, lack of social support, and inter-personal conflicts.[19] Having adequate job resources facilitates workers' engagement in their work and reduces burnout. In particular, job resources characterized by task autonomy, social support, and learning opportunities stimulate work engagement and buffer against the costs of job demands.[2,20] Engaged workers portray having an energetic and effective relationship with their job and often perceive their work as a challenge to be overcome rather than as a source of stress or demand on their energy or time.[2]

In addition, this paper provides information on the negative association between work engagement and turnover intention. An analysis of our study suggested that work engagement among hospital staff nurses is related to whether they have thought about leaving their workplace in the next year. This result is congruent with those other studies supporting that a higher level of work engagement significantly reduces nurses' intention to leave.[5,8,9,20] This result may be explained by the fact that when nurses are highly engaged in their work, they tend to move thoughts into actions, leading to better performance; they are apt to portray behaviors that enhance the organization's social context and are satisfied with their job.[2] Hence, they more often stay in their organizations.

The second hypothesis was partially confirmed in that dedication as one of the characteristics of work engagement significantly influences the perceived quality of care. This result is consistent with previous studies suggesting that work engagement enhances the nurse-assessed quality of care and patient outcomes.[5,6,11,44,48] Specifically, dedication and absorption engagement factors predicted quality of care.[6] Care of clients is central to nursing work. Nurses who reported that they had more significant impacts on their clients attributed to their nature of work have also reported increased levels of job-related general wellbeing.[21]

This paper provides evidence that work engagement negatively correlates to job burnout and turnover intentions and positively correlates with job satisfaction and perceived quality of care. This study is limited to determining the relationships between the variables of interest, but the findings suggest that work engagement and nurse work-and-patient outcomes interact. Furthermore, the results permit a step further to present more studies to test the JD-R model and its job conditions that unfold among Filipino nurses in the Philippine settings.

Limitations of the Study

This study recognizes some limitations that might be surmounted with future research. Primarily, purposive sampling was used in selecting participants from hospitals in the central Philippines, and their voluntary participation may limit the degree to which the results can be generalized. This study can be replicated by expanding the samples utilizing randomization. Second, this study employed a survey to generate self-reported data. This may hide the actual work engagement and work or patient outcomes. Third, the study's cross-sectional design prevented us from determining the causal relationships of the variables. Nevertheless, the findings from this study add significantly to the results of previous research.

CONCLUSION

Work engagement influences nurse work and patient outcomes in the Philippines. Nursing management should highly consider promoting work engagement through enhancing job resources to meet the needs of nurses and, eventually, improve professional work outcomes and quality patient care. Higher levels of work engagement prevent nursing staff from leaving their workplaces and may help them find their work fulfilling personally and professionally.

Implications to Nursing Management

The results set out in this study implied an association between nurse engagement to work and patient outcomes. The need for hospital nurses to be engaged continuously in their workplaces does not reside independently within themselves. Instead, it requires a greater context and involvement of the work environment, institution, organization, and entire health system. Managers and administrators must adopt programs and interventions that increase staff engagement like Magnet recognition, the Pathways to Excellence Program,[50] or other similar programs available in the locality. In addition, strategies that boost work engagement, such as professional development training and practice, must be promoted (i.e., critical reflective practices and core self-evaluation).[10] Moreover, broadening the opportunities to receive collegial and supervisor social support may serve as avenues to promote engagement.[51] Henceforth, the significance of a highly engaged nursing workforce must be considered – its inherent advantages and benefits for the organization, counteracting nurses' intention to work abroad, and most importantly, its significant influence in providing quality patient care.

Statement of Authorship

All authors contributed in the conceptualization of work, acquisition and analysis of data, drafting and revising and approved the final version submitted.

Author Disclosure

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