Quantitative Research Critique

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Abstract

This study reviewed nurses stress levels in comparison to burnout rates. The study consisted of a random sample of 1636 working nurses with an average age of 41 years. Each participant has had eighteen years of nursing experience. The method used for this study consisted of the job demands- resources model, which links nurse’s burnout rates to stress levels and intention to leave the profession. This approach gained a true insight into the nurse’s feelings regarding job demands and stress levels. The instrument used to receive data consisted of a questionnaire survey. The following paper will analyze the quantitative article by comparing it with Rose Nieswiadomy guidelines for analyzing quantitative designs.

Quantitative Research Critique

The quantitative article titled Job-Demands- Resources, Burnout and Intention to Leave the Profession: A Questionnaire Survey” written by Genevieve Jourdain and Denis Chenevert, was evaluated using specific critiquing guidelines. The critiquing guidelines determined whether the study has provided a clear report of the data collected and a thorough analysis of the materials obtained. This article focuses on nurses’ burnout rates in comparison to their stress levels related to work, social environment, and intention to leave the profession. Nurses were interviewed via a questionnaire survey. This allowed the study participants to share their thoughts and inner feelings regarding stress and its effect on their nursing practice. The majority of the responses indicated that excessive workloads created increased levels of stress, and when the workloads decreased, nurses felt their jobs to be more meaningful and reported higher job satisfaction.

The following paper will be critiqued by Group two. Group two will review the quantitative article using the criteria listed in *Foundations of Nursing Research* by Rose Nieswiadomy. The criteria found in the book will be compared to the actual content of the research article. Group two will then analyze the different areas and state if this paper meets the criteria and should be used in nursing practice.

**Purpose and Problem Statement**

“The first step and one of the most important steps, in the research process is to identify clearly the problem that will be studied” (Nieswiadomy, 2008, p.45). The purpose of this study is to determine the correlation between nurse’s burnout rates and stress related to their workload, social environment, and intention to leave the profession. The authors state that the objective and goal of the paper is to “examine the role of burnout in the relationship between stress factors related to nurses’ work and social environment and intention to leave the profession and to investigate the nature of the relationship between burnout and intention to leave the nursing profession” (Jourdain & Chenevert, 2010, p.709). Today there is little research investigating the reasoning between nursing shortages and nurse’s burnout rates. The authors suggest that this is of importance in clearly understanding factors that contribute to nurses shortages. The dependent variable in discussion throughout this study is the self-reported intention to leave the nursing profession (Jourdain & Chenevert, 2010). By pinpointing the stressors, this study has been able to analyze the burnout process regarding nurses.

**Review of Literature and Theoretical Framework**

A framework for a research study helps organize the study and provides a context for interpretation of the study findings (Nieswiadomy, 2008, p. 111). The various theoretical approaches in this particular study help to define reasons why nurses are exhibiting burnout. “Burnout is seen as a persistent dysfunctional state that results from prolonged exposure to chronic stress” (Jourdain & Chenevert, 2010, p.710).

Theories for burnout in the nursing profession are presented in the jobs-demands resources model. “This study uses the job-demands resources model to clarify the role of burnout among nursing staff in the relationship between stress factors and intention to leave the profession” (Jourdain & Chenevert, 2010, p.710). This model identifies burnout from a motivational and energetic process. Refer to appendix A for an illustration of the job-demands resource model.

The review of literature introduces the conceptual and the theoretical framework of the research. The authors said, because the study investigated stress factors associated with nurses burnout rates, “a review of the literature has enabled us to identify a number of important stress factors that nurses purportedly face on a regular basis (chronic stress factors)” (Jourdain & Chenevert, 2010, p.711).

**Hypotheses**

There are ten clearly stated directional hypotheses listed in the article. Directional research hypothesis allows the researcher to predict the type of relationship between variables and make clear expectations of the researcher while testing theoretical propositions (Nieswiadomy, 2008, p 131). The hypotheses were formulated by the correlations between nurses and the job-demands resource model. The model found that “job demands are positively related to exhaustion” (Jourdain & Chenevert, 2010, p 712), which began the process of forming the hypotheses. Refer to appendix B illustrating the ten directional hypotheses.

**Sample and Design**

This study was conducted using a stratified random sample of registered nurses. The study consisted of 1636 employed registered nurses with an average age of 41 years, eight years seniority in their practice, and eighteen years practicing as a professional nurse (Jourdain & Chenevert, 2010). Each of the participants filled out a self-administered questionnaire with questions correlating directly with the job-demands resource model. For each of the questionnaire questions, the participants were to answer on a scale ranging from strongly disagree to strongly agree. This type of sampling design proved appropriate for this study due to the fact that “health care institutions present different contexts depending on their mission, only nurses working in the hospitals and having direct contact with patients were retained for this study” (Jourdain & Chenevert, 2010, p.713). The authors also stated that this research data collection satisfied the ethical norms for research with human beings (Jourdain & Chenevert, 2010).

**Data Collection Methods and Instruments**

The study used the *quantitative overload scale*,the *interference with family scale* and the *hostility from physicians and patients* scales, and measured psychological empowerment, impact of their accomplishments, support from their colleagues, supervisors, and recognition from physicians and patients (Jourdain & Chenevert, 2010, p. 714). Emotional exhaustion and depersonalization were the endogenous variables with gender, age, marital status, number of dependents and children under 12, level of education, job status work schedule and seniority in the current position being the control variables.

**Data Analysis**

There were various descriptive statistical methods used in this article. Percentage was utilized to demonstrate the response rate of the questionnaire, the demographics of those participating in the questionnaire and exit rates among nurses. Correlation coefficients were a common theme throughout the article to express that demands are positively linked to emotional exhaustion. “Structural equation modeling (SEM) was used as a statistical methodology” (Jourdain and Chenevert, 2009). “Structural equation modeling (SEM) is a statistical technique for testing and estimating causal relations using a combination of statistical data and qualitative causal assumptions” (Wikipedia). Factor analysis was further used to assess the quality of fit of the measurement model and to verify the hypotheses. Classic chi-square statistics and p-values were also communicated. Additionally, Table 1 offers a vast amount of descriptive statistics employed in this quantitative research article. It portrays the mean, standard deviations and correlation coefficients for the validation samples.

Multiple hypotheses were presented throughout this article in connection to burnout in nursing. An 18-factor model was used to test the hypotheses. Hypotheses 1, 3, 4, 6, 7, 8, 9 and 10 were all supported by evidence. Hypothesis 2 was not supported. Hypothesis 5 was partially supported.

**Discussion of Findings**

This study, with the use of the job demands-resource model, was able to identify the factors associated with stress that lead to nurse burnout. “Further, this study has attempted to shed light on the nature of the relationship between burnout and intention to leave the profession by examining intermediate linkages, which had previously not been done, to our knowledge” (Jourdain & Chenevert, 2010, p. 718). Interpretation of the results reveal the findings of this study directly correlate with the literature of Eisenstat and Felner reviewed by the authors at the start of this study. The findings conclude, “demands indirectly favor depersonalization via emotional exhaustion, and resources are associated with a more humane treatment of clients, while evidence of direct links with emotional exhaustion is sparse” (Jourdain & Chenevert, 2010, p. 718). Not all of the results of this study directly correlate with the hypothesis. For example, under the job resources as determinants of depersonalization, “competence decision- making authority and support from colleagues are not linked to depersonalization” (Jourdain & Chenevert, 2010, p. 718). This result was found by comparing the hypothesis with the questionnaire survey results demonstrating that the results of this study were presented objectively and bound to the data.

**Implications and Recommendations**

The implications for this study were in the article under the “Further Consideration” heading. “The implications of the study contain the “shoulds” that results from the study” (Nieswiadomy, 2008, p.328). This study suggests “nurse’s tasks and role should be restructured to reduce work overload and increase the meaning of their work” (Jourdain & Chenevert, 2010, p. 720). With this said, it is clear to see that the implications in this study are a direct result of the study findings.

The recommendations for this study were clearly stated under the “Study Limitations” heading. The authors state that “in a future- study, it would be worth examining the causes of work- related stress factors and considering macro variables linked to the external environment of the organization (i.e. economy, technology, labor, values, social attitudes, and laws) that have an impact on the human resources management” (Jourdain & Chenevert, 2010, p. 719). This recommendation incorporates suggestions for a future research study while incorporating this studies limitation’s. The limitations presented in this study include using: a longitudinal study versus a cross sectional study, using the job demands – resource model only viewed from a personal, interpersonal, and organizational viewpoint, and lastly, the participants may have had little inference using the self-reported measures questionnaire due to the fact that they only expressed opinions based on solid attitudes, behaviors, and facts (Jourdain & Chenevert, 2010).

**Study Conclusions**

The conclusion of the study is for the researcher to explain what information has been gained from the study researched. Jourdain & Chenevert, (2010) state “a dual strategy is recommended: a decrease in demands related to work and to the context in which the work takes place, coupled with an increase in available resources” (p. 720). The conclusion of the study was found at the end of the article under the “Future Consideration” heading. The researchers should have devoted an entire section for the conclusion of the study.

“Nurses’ level of burnout and how it may lead to withdrawal manifestations is especially important in the current context of nurse’s shortage” (Jourdain and Chenevert, p.710, 2009), consequently indicating the quantitative research article presented has great significance to the field of nursing. The majority of the hypotheses presented were supported, demonstrating a direct correlation between emotional exhaustion and depersonalization with intent to leave the nursing profession. Multiple limitations were presented in this article. Jourdain and Chenevert (p.719,2009) convey the response rates were low, cross-sectional data versus a longitudinal study was used, hence decreasing the magnitude of the impact burnout has on the nursing field and self-reported measures labeled as a common method variance left little room for inference. Findings further suggest, “Nurses’ tasks and role should be restructured to reduce work overload and increase the meaning of their work (Jourdain and Chenevert, p.720).

**Group Two’s Conclusion**

The study’s purpose statement, review of the literature, conceptual framework, study design, population, and sample were examined for relevance and usability. The evidence provided in this study was found to be reliable and applicable to clinical practice in understanding burnout in bedside nurses. A bedside nursing shortage is impending in the next ten years. It is consensus that nurses need to care for each other to prevent burnout. The results of this study empower Nursing professionals to develop methods to reduce stress, increase work satisfaction and provide emotional support.

References

Jourdain, G., & Chenevert, D. (2010). Job demands-resources, burnout and intention to leave the nursing profession: A questionnaire survey. *International Journal of Nursing Studies,* 47(6), 709-722. doi:10.1016/j.ijnurstu.2009.11.007

Nieswiadomy, R.M. (2008). *Foundations of nursing research* (5th Ed.). Upper Saddle River, New Jersey: Prentice Hall.

Structural equation modeling. (2010). In *Wikipedia*. Retrieved July 25, 2010, from http://en.wikipedia.org/wiki/Structural\_equation\_modeling

**Appendix A**

Job-Demands Resource Model Applied to Burnout and Intention to Leave the Profession



**Appendix B**

**H1.** Demands are positively associated with emotional exhaustion.

**H2.** Resources are negatively and less strongly associated with emotional exhaustion than demands.

**H3.** Emotional exhaustion is positively linked to psychosomatic complaints.

**H4.** Emotional exhaustion is positively associated with depersonalization.

**H5.** Resources are negatively associated with depersonalization.

**H6.** Depersonalization is positively associated with psychosomatic complaints.

**H7.** Depersonalization is negatively associated with professional commitment.

**H8.** Emotional exhaustion is negatively associated with professional commitment.

**H9.** Professional commitment is negatively associated with intention to leave the profession.

**H10.**  Psychosomatic complaints are positively associated with intention to leave the profession.