Work Engagement in Professional Nursing Practice

by

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Abstract

Work engagement in nursing practice is critically important to consider in addressing key challenges of health systems, including the global nursing shortage, pressures to reduce health care spending, and increasing demands for quality care and positive outcomes for patients. There is a significant and growing body of research in other disciplines that demonstrates relationships between work engagement of employees and positive organizational outcomes. Recent interest in the work engagement of nurses has primarily been motivated by the desire to realize these documented positive organizational outcomes. However, research on work engagement in nursing practice has not yet been synthesized and therefore, there is not an accessible foundation of knowledge to guide practice and further research. Additionally, the ethical foundation of professional nursing demands attention to the ethical importance of work engagement, which has not previously been examined. The overall aim of this master's thesis was to examine the importance of work engagement in nursing practice from an ethical perspective and to determine what is currently known about the antecedents and outcomes of work engagement in nursing practice. This master's thesis is comprised of two papers, one theoretical, ethical paper, and one systematic review paper. In the first paper, I use a relational ethics perspective to examine the ethical importance of work engagement and I argue that work engagement is essential for ethical nursing practice and the subsequent provision of ethical nursing care. The second paper is a systematic review of studies in nursing that examine the relationship between work engagement and it's antecedents and outcomes. The findings of the systematic review indicate that a wide range of antecedents, at multiple levels, are related to nurses' work engagement and that the outcomes of work engagement also occur at multiple levels. Based on the results, I developed an adapted Job Demands-Resources (JD-R) model for work engagement in nursing practice, which

offers a valuable framework to understand the current evidence on work engagement in nursing practice and can be used to guide practice, policy, and further research on the topic. Key findings are highlighted in the adapted model, including the role of the organizational climate, addition of professional resources, and expansion of outcomes to include personal and professional outcomes. The combined findings of the two papers demonstrate the importance of work engagement in nursing practice, from both an ethical and organizational perspective. However, significant gaps in research on work engagement in nursing remain. Greater theorization is needed to further understand the mechanisms and manifestations of work engagement in nursing practice. A concept analysis that explores all concepts, constructs, and labels that could be the same as, similar to, or distinctly different from work engagement would offer immense value to this field of research. Future research should also test the adapted JD-R model using longitudinal designs and multivariate analysis across more diverse samples of nurses. I recommend that future research include objective measurement of antecedents and outcomes, further qualitative exploration, and intervention-based studies.

Preface

This thesis is an original work by Kacey Keyko. Paper #1, which is contained in chapter 2 of this thesis, has been published as Keyko, K. (2014), "Work engagement in nursing practice: A relational ethics perspective", *Nursing Ethics,* doi: 10.1177/0969733014523167. The paper is currently published online and will be published in print by the journal in the near future. I am the single author of this paper and completed the work independently. No other parts of this thesis has been previously published.

Dedication

I dedicate this thesis to the nurses I have worked alongside in practice- my peers, colleagues, and true friends. You do important work everyday, often in the face of significant challenges and constraints. You have inspired me to do this work and I hope that it offers something meaningful to the discipline of nursing.

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Work Engagement in Professional Nursing Practice

Introduction and Overview

Work engagement in nursing practice is critically important to consider in addressing key challenges of health care systems. A global nursing shortage (International Council of Nurses (ICN), 2005), pressures to reduce health care spending (National Expert Commission (NEC), 2012) increasing demands for quality care and positive outcomes, and the current context of ageing populations and rapidly advancing medical technology (Canadian Institute for Health Information (CIHI), 2011) are only some of the challenging realities faced by health care systems around the world. Nurses make up a significant portion of the health care workforce and are key players in meeting growing demands (Cummings, 2013; McHugh et al., 2012; NEC, 2012). Fasoli (2010) suggests that work engagement in nursing is becoming strategically important in responding to current challenges within health systems. Evidence that work engagement is related to positive organizational outcomes in other disciplines implies that promoting nurses' work engagement is a reasonable and necessary avenue to explore as health systems strive to cope with constrained resources and mounting challenges.

While the field of research on work engagement in nursing is relatively new, it is expanding. Within the last five to seven years, nursing scholars and researchers have started to write about and conduct research examining work engagement in nursing practice. However, as a new field of research, significant gaps in knowledge remain. Specifically, the existing research and knowledge in nursing has not been comprehensively synthesized, making it difficult to access and use existing knowledge to guide policy, practice, and ongoing research. The overall aim of this masters thesis was to examine the importance of work engagement in nursing practice

from an ethical perspective and to determine what is currently known about the antecedents and outcomes of work engagement in nursing practice.

Background

A Brief History of Work Engagement

The concept of work engagement emerged from positive psychology in the late 1990s (Schaufeli, Leiter, & Maslach, 2009). There is no single agreed upon definition of work engagement, various conceptualizations exist, and each is defined and measured differently (Bakker, Albrecht, & Leiter, 2011). Work engagement is most often defined as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" and has been operationalized as a concept that is distinct from burnout (Schaufeli & Bakker, 2010; Schaufeli et al., 2009; Schaufeli, Salanova, González-Romá, & Bakker, 2002, p. 74). The former desire of organizations to prevent burnout has largely been replaced by an interest in fostering work engagement to effectively manage "human capital" (Schaufeli et al., 2009, p. 215). Since the birth of the concept, a significant body of research has demonstrated significant relationships between work engagement and positive organizational outcomes, including improved performance (Bakker & Bal, 2010; Halbesleben & Wheeler, 2008), productivity (Harter, Schmidt, & Hayes, 2002), and financial benefit (Harter et al., 2002; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009). Work engagement research has also demonstrated that organizational factors and the work environment significantly impact employee's work engagement. These findings provide insight about how work engagement can be promoted and associated positive organizational outcomes realized (Hakanen & Roodt, 2010).

Work Engagement in the Context of Nursing Research

The concept of work engagement fits into important areas of existing nursing research. Key drivers of research on nurse performance include keen interests in retaining nurses to mitigate further nursing shortages, reducing health care spending, and improving health care quality (Germain & Cumming, 2010). While many factors have been identified as important in predicting nurse performance and subsequent patient outcomes (Germain & Cummings, 2010), there are gaps in knowledge about nurses' affective and motivational response at work (Simpson, 2009). Examining work engagement in nursing practice offers insight into these affective and motivational responses because work engagement pertains to a "persistent and pervasive affective-cognitive state" (Schaufeli & Bakker, 2004). Hence, the concept of work engagement is increasingly relevant to nursing practice, leadership, and the advancement of nursing knowledge (Bargagliotti, 2012).

Additionally, work engagement may help further explain relationships that are meaningful to nursing practice and leadership. A large body of nursing research has investigated the relationship between leadership practices and characteristics of the practice environment, and organizational and patient-related outcomes (Aiken et al., 2014; Cowden, Cummings, & Profetto-McGrath, 2011; Cummings et al., 2010; Germain & Cummings, 2010; Needleman et al., 2011; Wong, Cummings, & Ducharme, 2013). Markedly, Magnet-hospital research has provided clear evidence that specific leadership practices and provision of desirable practice environments for nurses are associated with improved recruitment and retention of nurses and positive patient-related outcomes (Fasoli, 2010; McHugh et al., 2012). However, we are only beginning to understand how leadership and practice environment variables influence these outcomes. Nursing researchers have recently started to examine the process, or mechanism, by which

leadership, environmental, and organizational factors influence positive outcomes for patients (Wong, Cummings, & Ducharme, 2013) and work engagement has been identified as a possible mediating factor (Giallonardo, Wong, & Iwasiw, 2010; Laschinger, Grau, Finegan, & Wilk, 2012; Laschinger, Wilk, Cho, & Greco, 2009; Sawatzky & Enns, 2012; Wong, Laschinger, Cummings, 2010).

Impetus for the Research

In my personal practice as a registered nurse, in Canada and Australia, I noticed that the majority of the nurses I worked with were solely interested in performing their defined duties according to union regulations and the specific practice setting. I grew frustrated because it seemed that these nurses did not necessarily care about quality of care provided, but rather just wanted to complete their assigned tasks and go home on time. Early in my masters' studies, I identified that, perhaps, these nurses were not engaged in their work. I also began to evaluate my own level of engagement and felt that it had declined over time while working in acute care practice settings. This lack of engagement concerned me because it seemed to be at odds with the ethical responsibility of the nursing profession. I questioned why it appeared that nurses were not engaged in their work, whether it mattered if nurses were engaged, and if it did matter, how engagement could be promoted in professional nursing practice. I grew interested about how nurses' engagement influenced the way they interacted with patients and level of care they provided. These concerns and questions stimulated my desire to further examine the concept of work engagement in nursing practice in my master's thesis.

Research Questions

Three research questions guided this research project:

1. Can Registered Nurses practice ethically if they are not engaged in their work?

2. What factors are known to influence or predict work engagement in nursing practice?

3. What outcomes are known to be associated with work engagement in nursing practice?

Assumptions

As a researcher, I have approached the topic and concept of work engagement from my experience in nursing practice. The idea of work engagement first occurred to me as a phenomenon that I observed and then began to question. To a certain extent, I have assumed that what I perceived to be a lack of engagement in practice is, in fact, the same concept of work engagement discussed in the literature. Further, I have assumed that work engagement exists in nursing practice and that it is possible for registered nurses to report on their own levels of work engagement. I have also assumed that work engagement is a distinct concept from other related concepts, such as job satisfaction, organizational commitment, or professional commitment.

I chose to focus on registered nurses only and excluded other types of nurses, including licensed practical nurses and health care aides, from my discussion on the topic of work engagement in nursing practice. In the systematic review, I set a strict inclusion criterion that only included studies where registered nurses were participants. This defined focus stems from the assumption that registered nurses may be different in important ways from other categories of nurses and that these differences may result in differences in their work engagement, the antecedents to work engagement, and the outcomes of work engagement. Registered nurses and licensed practical nurses are independently educated and regulated, which suggests that differences do exist. However, similarities between these groups of nurses include independent regulation and standards for ethical practice, which may indicate that some of the findings and conclusions can also be applied to licensed practical nurses. The continual evolution of nursing scopes of practice and changing realms of responsibility suggests that the differences and

similarities among categories of nurses must be continually re-examined to determine the fit and applicability of nursing research to each group. My defined focus on registered nurses does not necessarily mean that the findings of this thesis project are only applicable to registered nurses; however, caution must be exercised in applying the findings to other groups because generalizability cannot be clearly established.

The Papers

This thesis is comprised of two papers, each of which has been produced as a manuscript for publication and together constitutes a paper-based masters thesis. The first paper is a theoretical, ethical paper that examines the ethical importance of work engagement in nursing practice from a relational ethics perspective (Keyko, 2014). The second paper is a comprehensive systematic review of the research in nursing about work engagement (Keyko, Yonge, Wong, & Cummings, 2014). In the following sections, I discuss and summarize the purpose, methods, and findings of each paper.

Paper #1: Work Engagement in Nursing Practice: A Relational Ethics Perspective (Keyko, 2014)

During preliminary reading of existing nursing research related to work engagement, I identified a key area of concern. Emphasis on the potential organizational outcomes of work engagement in nursing practice appeared to be the most prominent rationale for interest in this area of research. Acknowledging the nature of the nursing profession, importantly the ethical grounding of the profession and the moral responsibility of registered nurses, the purpose of this paper was to expand the dialogue on work engagement in nursing practice to include an exploration of the ethical importance of work engagement. This paper addresses the first research

question; “can nurses practice ethically if they are not engaged in their work?” (Keyko, 2014, p. 4)

In the paper, I outline the existing conceptualizations of work engagement and critically examine work engagement in nursing practice from a relational ethics perspective. I do not dispute the importance of work engagement for promotion of organizational outcomes and effective, quality patient care; however, I argue that the ethical importance of work engagement is also a relevant and necessary consideration in discussion regarding nurses’ work engagement (Keyko, 2014).

The core elements of a relational ethic: relational engagement, mutual respect, embodiment, and environment (Bergum & Dossetor, 2005), provide insight into the ethical importance of work engagement in professional nursing practice. Through the lens of a relational ethic, I argue that work engagement is not only relevant, but also essential for ethical nursing practice (Keyko, 2014). Furthermore, the exploration of the core element of environment makes it clear that, from an ethical perspective, “the responsibility for nurses’ work engagement…does not reside within the individual nurse alone, but extends to the broader context of practice environments, the organization, and the healthcare system” (Keyko, 2014, p. 9). This conclusion aligns with the extensive work engagement research that demonstrates the significant influence of organizational factors and environment on work engagement (Halbesleben, 2010).

This single-author paper was accepted for publication in the *Nursing Ethics* journal and was published online, in advance of print, on April 8, 2014.

The conclusion that work engagement was relevant to and essential for ethical nursing practice supported the need for an improved understanding of work engagement in professional nursing practice. Furthermore, a relational ethics perspective revealed the complex nature of

work engagement in nursing practice, including the responsibility of individual nurse and the broader organization. Hence, a systematic review to determine the current state of knowledge about work engagement in nursing practice was warranted and necessary.

Paper #2: Work Engagement in Professional Nursing Practice: A Systematic Review (Keyko, Yonge, Wong & Cummings, 2014)

The second paper reports the methods and findings of the systematic review of studies that examined the relationship between work engagement and antecedent and outcome factors. The overall aim of the paper was to provide an accessible base of knowledge regarding work engagement in nursing practice to guide practice, policy, and further research. The purpose of the systematic review was to determine what factors are currently known to be related to work engagement in professional nursing practice and what outcomes are known to be associated with nurses' work engagement. The systematic review addresses the second and third research questions, what factors are known to influence or predict work engagement in nursing practice, and what outcomes are known to be associated with work engagement in nursing practice?

A protocol for the review was created to establish a clear process and this protocol was followed throughout the review. A comprehensive database search resulted in 3621 titles and abstracts (after removal of duplicates), which were screened to determine eligibility for inclusion in the review. Four additional articles total were identified through expert consultation and reference list review. Upon application of inclusion and exclusion criteria, 18 studies (reported in 19 manuscripts) were selected. Data from the 18 included studies were extracted and analyzed. A descriptive synthesis revealed common characteristics and gaps in research. Early content analysis of the findings revealed that the findings largely fit the Job Demands-Resources (JD-R) model of engagement (Bakker & Demerouti, 2007, 2008). Using further content analysis

alongside the JD-R model, factors influencing work engagement were categorized into six themes: (1) organizational climate, (2) job resources, (3) professional resources, (4) personal resources, (5) job demands, and (6) demographic factors. The outcomes of work engagement were categorized into three themes: (1) performance and care, (2) professional, and (3) personal. I developed an adapted JD-R model of engagement in nursing practice based on the identified themes and findings of this review. This model provides a framework to understand current research in nursing, and importantly, offers guidance for future research based on identified gaps in knowledge.

The review demonstrated evidence of significant associations between a wide range of factors at various levels and registered nurses' work engagement. The most prominent influencing factors determined to significantly related to work engagement were positive leadership styles, structural empowerment, interpersonal and social relationship factors, and professional factors, such as the professional practice environment and autonomy. To a lesser extent, significant associations were also found between work engagement and positive outcomes, including voice behavior, perceived care quality, work effectiveness, job satisfaction, career satisfaction, and compassion satisfaction. Accordingly, negative outcomes, including turnover intention and burnout, had significant inverse relationships with work engagement.

In the first paper, I argued that the responsibility for nurses' work engagement extends beyond the individual nurse to the broader organization (Keyko, 2014). I proposed that acknowledging the importance of work engagement for ethical nursing practice points to a critical question of what must be present in the nurses' work environment for work engagement to occur (Keyko, 2014). The systematic review has provided beginning empirical evidence to answer this question. The results from the systematic review also exemplified multiple levels of

influence on nurses' work engagement and hence, places responsibility for nurses' work engagement on individual nurses, work groups, and the broader organization.

Despite the wide range of factors and outcomes identified in the included studies, few studies examined the same variables, and therefore it is difficult to make definitive conclusions and offer meaningful recommendations. Additionally, the current research does not offer evidence about which influencing factors are most important. I proposed that further research is required to determine the strength of the evidence on specific antecedents. Specifically, longitudinal research with more diverse and settings is required. Statistical analysis must continue to advance beyond correlational analysis to develop further understanding of complex, multivariate influences on work engagement.

This paper has not yet been submitted for publication. I plan to submit this paper, authored by Keyko, Yonge, Wong, and Cummings, to the *International Journal for Nursing Studies.* If the paper is not accepted there, I will submit it to the *Journal of Nursing Management.*

Limitations

A potential limitation of the first paper was the use of a single ethical theory to examine the ethical importance of work engagement in nursing practice. However, I argued that a relational ethics perspective was the most suitable ethical theory to answer the ethical question. I outline the strong reasons for this in the full paper.

The systematic review has a number of limitations, which must be considered when applying the findings to practice. The review only included studies that directly examined work engagement, which may have influenced inclusion of studies that primarily used the most common conceptualization of work engagement and most common measurement tool. A number of methodological limitations of the included studies were present, including cross-sectional

design, correlational analysis, and use of self-reported data. These limitations prohibited the ability to determine causation or identify the most important factors across all studies associated with work engagement. The wide variety of factors analyzed and measurement tools used also limited the ability to statistically summarize the results through meta-analysis. Finally, the narrow population of predominantly acute-care nurses that has been studied limits the generalizability of the findings to all professional registered nurses.

Conclusion

The combined findings of these two papers demonstrate the ethical importance of work engagement in professional nursing practice and the wide variety of antecedents and outcomes that are associated with nurses' work engagement. Application of a relational ethics perspective to the concept of work engagement in professional nursing practice revealed the ethical importance and essentiality of work engagement for ethical nursing practice. The ethical importance of work engagement is a new finding that has not been previously documented or argued. Additionally, the first paper revealed that the complex nature of work engagement in nursing practice extends responsibility beyond the individual nurse to the broader organization and environment. Key theoretical arguments from the first paper are supported by the findings from the systematic review.

A key finding from the systematic review is that there are a wide range of factors at various levels, from personal, individual factors, to work group factors, to broad organizational factors, which are related to nurses' work engagement. Accordingly, outcomes of work engagement occur at multiple levels and impact the individual nurse, the profession, the patient, and the organization. However, the outcomes of work engagement have been examined to a lesser extent than antecedents, and there is an evident need for further research in this area.

While the systematic review highlights some positive organizational outcomes of engagement, I reiterate the key argument from my first paper, beyond any benefit to productivity, work effectiveness, or financial gain, there is an ethical importance of work engagement in nursing practice, which enables provision of ethical nursing care. I believe this is reason enough to continue research investigation into nurses' work engagement. Our ethical duty and moral responsibility as registered nurses demands it.

Contribution

This master's thesis primarily contributes new knowledge to the field of work engagement in nursing. It also contributes new knowledge to health care ethics and psychology. In the first paper, I addressed the gap in knowledge pertaining to determining the ethical importance of work engagement in nursing practice. I have expanded the scholarly dialogue on work engagement to include consideration of the ethical importance and ethical implications. Establishing the ethical importance of work engagement contributes new knowledge to both the field of health care ethics, and the field of work engagement research.

The systematic review outlines the current state of knowledge in nursing about work engagement, and specifically, the antecedents and outcomes of work engagement in nursing practice. The results demonstrate that relationships exist between work engagement and multiple levels of influencing factors and multiple levels of outcomes. I have identified what is currently known about work engagement in nursing practice, and importantly, made recommendations for advancing research. My adapted JD-R model for work engagement in nursing practice based on the existing research findings contributes a substantial tool for use by nurse leaders and nurse researchers. This model is proposed specifically for professional nurses' work engagement. Nurse leaders and practicing nurses can use the model to increase awareness of antecedents to

nurses' work engagement and develop interventions to promote engagement based on these factors. Individual nurses can also use the model to reflect on their own level of engagement and consider how they can take action to modify specific factors within personal control to improve their own engagement, and perhaps, the engagement of their colleagues. Nurse researchers can design new studies to test this model in greater depth by examining multiple antecedents and outcomes with advanced statistical analyses. Additionally, researchers can identify gaps in knowledge and pursue research to fill these gaps and further develop and make changes to the model.

Finally, both papers offer a unique contribution to the field of work engagement research in psychology, where the concept originated. My papers provide findings that are specific to a single profession and have highlighted some distinctive antecedent and outcome factors. This is important because it provides a foundation for future comparative work between professions.

Potential Future Research Work

While the relationships among a number of antecedent and outcomes factors and work engagement have been examined, there has been little theorization about how work engagement operates in nursing practice or where it resides. Greater theorization about the mechanisms and manifestations of work engagement in nursing practice is needed. Additionally, because work engagement is a relatively new concept in nursing literature and research, future work that explores whether other concepts, such as burnout, or spirit at work, can be conceptualized or labeled as an aspect of work engagement would offer immense value to this field.

There is considerable consistency between the conceptualization of work engagement and instrument used to measure work engagement within existing nursing research. Therefore, a meta-analysis of these results is an important next step. Future research on work engagement in

nursing practice should also involve testing the adapted JD-R model for work engagement in nursing practice that includes a number of antecedent and outcomes factors to achieve a greater understanding of the most significant factors. Research must also examine presence of a reciprocal relationship between existing work engagement and resources that predict ongoing work engagement. Examination of work engagement in more diverse samples of registered nurses and other types of nurses is necessary. Objective measurement of antecedent factors and outcomes is also needed to strengthen evidence of significance. Qualitative exploration of how nurses perceive work engagement and antecedents and outcomes would be valuable because it may reveal additional antecedents and outcomes of work engagement that have not yet been identified. Finally, intervention-based studies based on the existing findings should be conducted to further test influencing factors.

References

Aiken, L. H., Sloan, D. M., Bruyneel, L., Van den Heede, K., Griffiths, P., Busse, R.,…Sermeus, W. (2014). Nurse staffing and education and hospital mortality in nine European countries. Lancet 383 (9931), 1824-1830. doi: 10.1016/S0140-6736(13)62631-8

Bakker, A. B., Albrecht, S. L., & Leiter, M. P. (2011). Key questions regarding work engagement. European Journal of Work and Organizational Psychology 20(1), 4-28. doi: 10.1080/1359432x.2010.485352

Bakker, A. B., & Bal, P. M. (2010). Weekly work engagement and performance: A study among starting teachers. Journal of Occupational and Organizational Psychology 83,189-206. doi: 10.1348/096317909X402596

Bakker, A. B. & Demerouti, E. (2007). The job demands-resources model: State of the art. Journal of Managerial Psychology 22(3), 309-328. doi: 10.1108/02683940710733115.

Bakker, A. B. & Demerouti, E. (2008). Towards a model of work engagement. Career Development International 13(3), 209-223. doi: 10.1108/13620430810870476

Bargagliotti, A. L. (2012). Work engagement in nursing: a concept analysis. Journal of Advanced Nursing, 68(6), 1414-1428. doi: http://dx.doi.org/10.1111/j.1365-2648.2011.05859.x

Bergum, V. & Dossetor, J. (2005). Relational ethics: The full meaning of respect. Hagerstown, Maryland: University Publishing Group.

Canadian Institute for Health Information (CIHI). Health care cost drivers: The facts. Retrieved from https://secure.cihi.ca/free_products/health_care_cost_drivers_the_facts_en.pdf

Cowden, T., Cummings, G., & Profetto-McGrath, J. (2011). Leadership practices and staff nurses' intent to stay: A systematic review. Journal of Nursing Management 19, 461-477. doi: 10.1111/j.1365-2834.2011.01209.x

Cummings, G. G. (2013). Nursing leadership and patient outcomes. Journal of Nursing Management 21, 707-708. doi: 10.1111/jonm.12152.

Cummings, G., MacGregor, T., Davey, M., Lee, H., Wong, C. A., Lo, E., Muise, M., & Stafford, E. (2010). Leadership styles and outcome patterns for the nursing workforce and work environment: A systematic review. International Journal of Nursing Studies 47, 363-385. doi: 10.1016/j.ijnurstu.2009.08.006

Fasoli, D. R. (2010). The culture of nursing engagement: a historical perspective. Nursing Administration Quarterly, 34(1), 18-29. doi: 10.1097/NAQ.0b013e3181c95e7a

Germain, P. B., & Cummings, G. (2010). The influence of nursing leadership on nurse performance: A systematic review. Journal of Nursing Management 18, 425-439. doi: 10.1111/j.1365-2834.2010.01100.x

Giallonardo, L. M., Wong, C. A., & Iwasiw, C. L. (2010). Authentic leadership of preceptors: predictor of new graduate nurses' work engagement and job satisfaction. Journal of Nursing Management, 18(8), 993-1003. doi: http://dx.doi.org/10.1111/j.1365-2834.2010.01126.x

Hakanen, J. J. & Roodt, G. (2010). Using the job demands-resources model to predict engagement: Analyzing a conceptual model. In A. B. Bakker & M. P. Leiter (Eds.), Work engagement: A handbook of essential theory and research (pp. 85-101). New York, NY: Psychology Press.

Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. Journal of Applied Psychology, 87(2), 268-279. doi: http://dx.doi.org/10.1037/0021-9010.87.2.268

Halbesleben, J. R. B. (2010). A meta-analysis of work engagement: Relationships with burnout, demands, resources, and consequences. In A. B. Bakker & M. P. Leiter (Eds.), Work engagement: A handbook of essential theory and research (pp. 102-117). New York, NY: Psychology Press.

Halbesleben, J. R. B., & Wheeler, A. R. (2008). The relative role of engagement and embeddedness in predicting job performance and turnover intention. Work and Stress 22, 242-256.

International Council of Nurses (ICN) (2005). Summary: The global shortage of registered nurses: An overview of issues and actions. Retrieved from http://www.icn.ch/images/stories/documents/publications/GNRI/Global_Shortage_of_Registered_Nurses_Executive_summary.pdf

Keyko, K. (2014). Work engagement in nursing practice: A relational ethics perspective. Nursing Ethics. doi: 10.1177/0969733014523167

Keyko, K., Yonge, O., Wong, C., & Cummings, G. (2014). *Work engagement in professional nursing practice: A systematic review*. Manuscript in preparation.

McHugh, M. D., Kelly, L. A., Smith, H. L., Wu, E. S., Vanak, J. M., & Aiken, L. H. (2012). Lower mortality in Magnet hospitals. Medical Care 51(5), 382-388.

Laschinger, H. K. S., Grau, A. L., Finegan, J., & Wilk, P. (2012). Predictors of new graduate nurses' workplace well-being: Testing the job demands-resources model. Health Care Management Review 37(2), 175-186. doi: 10.1097.HMR.0b013e31822aa456,

Laschinger, H. K. S., Wilk, P., Cho, J., & Greco, P. (2009). Empowerment, engagement and perceived effectiveness in nursing work environments: Does exerience matter? Journal of Nursing Management 17, 636-646. doi: 10.1111/j.1365-2834.2008.00907.x

National Expert Commission (2012). A nursing call to action: The health of our nation, the future of our health system. Retrieved from http://www2.cna-aiic.ca/CNA/documents/pdf/publications/nec/NEC_Report_e.pdf

Needleman, J., Buerhaus, P., Pankratz, V. S., Leibson, C. L., Stevens, S. R., & Harris, M. (2011). Nursing staffing and inpatient hospital mortality. New England Journal of Medicine 364, 1037-1045.

Sawatzky, J. V. & Enns, C. L. (2012). Exploring the key predictors of retention in emergency nurses. Journal of Nursing Management 20, 696-707. doi: 10.1111/j.1365-2834.2012.01355.x

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 Behaviour 25, 293-315. doi: 10.1002/job.248

Schaufeli, W. B. & Bakker, A. B. (2010). Defining and measuring work engagement: Bringing clarity to the concept. In A. B. Bakker & M. P. Leiter (Eds.), Work engagement: A handbook of essential theory and research (pp. 10-24). New York, NY: Psychology Press.

Schaufeli, W. B., Leiter, M. P., & Maslach, C. (2009). Burnout: 35 years of research and practice. The Career Development International, 14(3), 204-220. doi: http://dx.doi.org/10.1108/13620430910966406

Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. Journal of Happiness Studies, 3(1), 71-92.

Simpson, M. R. (2009). Engagement at work: A review of the literature. International Journal of Nursing Studies, 46(7), 1012-1024. doi: 10.1016/j.ijnurstu.2008.05.003

Wong, C. A., Cummings, G. G., & Ducharme, L. (2013). The relationship between nursing leadership and patient outcomes: A systematic review update. Journal of Nursing Management 21, 709-724.

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009). Work engagement and financial returns: A diary study on the role of job and personal resources. Journal of Occupational and Organizational Psychology 82, 183-200. doi:10.1348/096317908X285633

Chapter 2: Paper #1

Work Engagement in Nursing Practice: A Relational Ethics Perspective

Abstract

The concept of work engagement has existed in business and psychology literature for some time. There is a significant body of research that positively correlates work engagement with organizational outcomes. To date, the interest in the work engagement of nurses has primarily been related to these organizational outcomes. However, the value of work engagement in nursing practice is not only an issue of organizational interest, but of ethical interest. The dialogue on work engagement in nursing must expand to include the ethical importance of engagement. The relational nature of work engagement and the multiple levels of influence on nurses' work engagement make a relational ethics approach to work engagement in nursing appropriate and necessary. Within a relational ethics perspective, it is evident that work engagement enables nurses to have meaningful relationships in their work and subsequently deliver ethical care. In this article, I argue that work engagement is essential for ethical nursing practice. If engagement is essential for ethical nursing practice, the environmental and organizational factors that influence work engagement must be closely examined to pursue the creation of moral communities within health care environments.

Keywords

work engagement, relational ethics, nursing, health care environments

Introduction

The concept of work engagement has existed in business and psychology literature for over twenty years and there is a significant body of research in various disciplines that correlates work engagement with positive organizational outcomes. To date, interest in work engagement of nurses has primarily been related to interest in these documented organizational outcomes. However, the ethical foundation of professional nursing calls for attention to work engagement in nursing practice beyond organizational interests (Canadian Nurses Association (CNA), 2008). The dialogue on work engagement in nursing must expand to consider the ethical importance of engagement and the associated ethical implications. Nursing practice is significantly impacted by the constantly evolving societal, environmental, and organizational context in which nurses' work (CNA, 2008). Thus, the relational nature of nurses' work and the multiple levels of influence on nurses' work engagement make a relational ethics approach to the topic both appropriate and necessary. The purpose of this paper is to outline the existing conceptualizations of work engagement and to critically examine nurses' work engagement from a relational ethics perspective. In this article I argue that work engagement is essential for ethical nursing practice and that attention to the environmental impacts on nurses' work engagement is critical within the current health care context.

Background

Defining Work Engagement

The birth of the concept of work engagement or engagement at work, was rooted in the desire for improved organizational outcomes, such as productivity and efficiency. Varying conceptualizations of engagement at work exist; each of which is defined and measured differently (Simpson, 2009). However, attention to the impact of the work environment on

engagement is consistent throughout the various conceptualizations. Kahn (1990) initially proposed that people use varying degrees of their physical, emotional, and cognitive selves in their work roles. Kahn described engagement at work as "personal engagement" (p. 694), which he defined as the "harnessing of organization members' selves in their work roles" (p. 694). When engaged, Kahn suggested, an employee is physically involved, cognitively vigilant, and emotionally connected. Alternately, Kahn described "personal disengagement" (p. 694) as the "uncoupling of selves from work roles" (p. 694).

The focus of Kahn's (1990) work is primarily on the interaction between the person and the organization and the transactions that occur within this interaction. Kahn identified three psychological conditions for engagement at work: meaningfulness, safety, and availability. Psychological meaningfulness refers to the feeling that one is receiving "return on investments" (p. 703) for their performance. People experience meaningfulness when they feel worthwhile, useful, and valuable (Kahn, 1990). Psychological safety is experienced when one can employ one's true self without fear of negative consequences and can trust they will not suffer for being personally engaged (Kahn, 1990). Psychological availability refers to the existence of the necessary physical, emotional, and psychological resources required for personal engagement, which speaks directly to the influence of the work environment (Kahn, 1990).

The emergence of positive psychology in the late 1990s, and it's aim to change the focus of psychology from strictly repairing negative aspects of life within a disease model of human functioning, to building positive qualities, stimulated further thinking about work engagement (Schaufeli, Leiter, & Maslach, 2009; Seligman & Csikszentmihalyi, 2000). At this time, Maslach and Leiter (1997) added the concept of engagement to their previous conceptualization of burnout and the perspective on burnout evolved from the previous, exclusively negative

approach. Initially, burnout was strictly defined as a psychological syndrome characterized by exhaustion, cynicism, and inefficiency (Maslach & Leiter, 1997). However, Maslach and Leiter came to define burnout as the erosion of engagement, and placed burnout and engagement at opposite ends of a continuum. Accordingly, Maslach and Leiter characterized engagement by energy, involvement, and efficiency; direct opposites of their previously identified burnout dimensions. Maslach and Leiter also emphasized the importance of the work environment and proposed that environment was the primary cause of burnout. They outlined six areas of work life: workload, control, rewards, community, fairness, and values, which are proposed to influence engagement and burnout (Maslach & Leiter, 1997).

Schaufeli and his colleagues (Schaufeli et al., 2009; Schaufeli, Salanova, Gonzalez-roma, & Bakker, 2002) did not support the measurement of engagement as the direct opposite of burnout, as was suggested by Maslach and Leiter (1997). Schaufeli et al. (2002) operationalized work engagement as a concept independent from burnout (Schaufeli et al., 2009). Schaufeli et al. (2002) defined work engagement as "a positive, fulfilling, and work-related state of mind that is characterized by vigor, dedication, and absorption" (p. 465). Vigor is characterized by energy, mental resilience, willing to invest effort, and persistence despite difficulty (Schaufeli et al., 2002). Dedication is characterized by a sense of significance, enthusiasm, inspiration, pride, and challenge (Schaufeli et al., 2002). Absorption is characterized by full concentration and deep engrossment in one's work (Schaufeli et al., 2002). Further, Schaufeli et al. (2002) developed a tool to measure engagement independently. The distinction between engagement and burnout, and recognition of their unique defining characteristics, has been empirically supported by further research (Demerouti, Mostert, & Bakker, 2010; Schaufeli & Bakker, 2004; Schaufeli, Bakker, & Van Rhenen, 2009; Schaufeli et al., 2002)

Schaufeli et al.'s (2002) definition of work engagement has been widely used in work engagement research, including nursing research, since its conceptualization. The former focus on preventing the negative condition of burnout has largely been replaced by an interest in fostering work engagement to effectively manage "human capital" (Schaufeli et al., 2009, p. 215) within organizations. Use of Schaufeli et al.'s (2002) clear and developed conceptualization of work engagement continues to be utilized and supported in research in various disciplines, including nursing (Simpson, 2009).

Outcomes of Work Engagement

There is an evident economic incentive to fostering and improving work engagement of employees (Maslach & Leiter, 1997). Evidence suggesting that work engagement is important for optimal employee performance and positive organizational outcomes across disciplines is growing (Harter, Schmidt, & Hayes, 2002; Schaufeli & Bakker, 2004; Simpson, 2009). Simpson's (2009) review of literature revealed consistent findings supporting both the impact of organizational factors on engagement, and subsequent performance-based outcomes. Notably, a meta-analysis based on over 7500 business units indicated generalizable, positive relationships between employee engagement and business-unit outcomes including customer satisfaction, productivity, profit, employee turnover, and accident rates (Harter et al., 2002). Moreover, Schaufeli et al. (2009) argue that in order for organizations to thrive they need engaged employees who are motivated to perform beyond the level of doing their job.

Work Engagement in Nursing

Despite extensive work engagement research in the fields of psychology and business, work engagement is still a relatively new concept in nursing literature. Work engagement of nurses is poorly understood and research that examines engagement of nurses is limited

(Simpson, 2009). To date, the nursing discipline has largely utilized existing conceptualizations of work engagement; most prominent is Schaufeli et al.'s (2002) definition. Existing nursing research primarily explores the antecedents and environmental influences of nurses' work engagement.

Simpson (2009) specifically supports the use of Schaufeli et al.'s (2002) definition in nursing due to its conceptual clarity, and the ability to identify and measure the antecedents and consequences of work engagement independently. Also, in a recent concept analysis, Bargagliotti (2012) proposes a formal definition of work engagement specifically for nursing, which heavily incorporates Schaufeli et al.'s (2002) definition. Bargagliotti defines work engagement in nursing as "the dedicated, absorbing, vigorous nursing practice that emerges from settings of autonomy and trust and results in safer, cost effective patient outcomes" (p. 1424).

Despite prominent use of existing conceptualizations of work engagement within the nursing literature, Vinje and Mittlemark (2008) have recognized that unique aspects of professional nursing, namely the prevalence of morally distressing situations related to nurses' value systems, may demand alternate understandings of work engagement of nurses. Specifically, Vinje and Mittlemark suggest that meaningful work that enables one to live their values is key to nurses' work engagement.

Like other disciplines, attention to the work engagement of nurses' has primarily been stimulated by organization-driven concerns such as rising health care costs, the global nursing shortage, medical error rates, quality of care concerns, and the reality of overburdened health care systems (Bargagliotti, 2012; Fasoli, 2010; Salanova, Lorente, Chambel, & Martinez, 2011; Simpson, 2009). For example, a Gallup poll investigated the impact of nurse work engagement on mortality and complication rates across hospitals in the United States and found it to be a

significant predictor (Blizzard, 2005). Bargagliotti (2012) suggests work engagement knowledge in nursing is valuable because of its potential to reinforce nurse and manager behaviors that create practice environments for safe and effective care. Furthermore, Fasoli (2010) posits that a new wave of Magnet hospital research questions the role of work engagement in retention. Overall, there is a strong emphasis on the need for improved understanding of nurses' work engagement to improve retention, nurse performance, patient outcomes, safety, financial profitability, and other organizational outcomes (Bargagliotti, 2012; Laschinger, 2010; Simpson, 2009).

The Ethical Question

While the importance of work engagement for promoting patient safety, and providing effective care is not contested, what is concerning about the current dialogue about work engagement in nursing is that there is no clear consideration of the ethical importance of engagement or the relevant ethical implications. The nursing profession is firmly grounded in ethics and nurses have an ethical responsibility to enact the values of the profession (CNA, 2008, p. 3). The Canadian Nurses Association (CNA) (2008) states that nurses value the provision of "safe, compassionate, competent, and ethical care" (p. 8). Furthermore, nurses are expected to be moral agents and actively participate in creation of moral communities to enable the provision of ethical care (CNA, 2008). Therefore, I argue that it is not appropriate to allow organizational outcomes alone to dictate the importance and value of nurses' work engagement, as is currently demonstrated in nursing research. Due to the ethical foundation of professional nursing, it is also necessary to examine nurses' work engagement from an ethical perspective. Through review of the existing literature on work engagement in nursing and acknowledgement of nurses' moral

responsibility, the critical question emerges: can nurses practice ethically if they are not engaged in their work?

A Relational Ethics Perspective

Engagement at work is about everyday nursing practice, which encompasses nurses' attitudes towards their work and, fundamentally, how nurses are at work. To appropriately examine work engagement from an ethical perspective, an ethic that can address the ordinary aspects of practice within the complex health care environment is required. Within this complex context, not only do relationships between nurses and patients need to be considered, but relationships between nurses and organizations are also of critical importance. Peter and Liaschenko (2013) propose that moral distress occurs in response to constraints in nurses' various relationships within the health care context. In order for moral relationships to be sustained, one must have confidence that some shared standards and normative expectations exist within relationships (Peter & Liaschenko, 2013). When trust in these shared standards and expectations breaks down, such as when nurses believe they have little decision-making power, when nurses' expertise is devalued, or when nurses see the organization as primarily focused on cost-effectiveness and efficiency, moral distress occurs (Peter & Liaschenko, 2013).

Fittingly, a relational ethics perspective suggests that ethical action is embedded in the relational space (Bergum, 2013; Bergum & Dossetor, 2005). A relational ethic enables reflection upon the notion that nurses' relationships in their work and nurses' relationship with their work matters. The relationship nurses have with their work can be understood through the concept of work engagement.

A traditional ethical approach that strictly focuses on reasoning and decision-making surrounding specific situations cannot adequately address the everyday ethical issues that are

embedded in the seemingly simple, yet complex interactions of nursing practice (Austin, 2007). Work engagement itself is not focused on a specific event or interaction; rather, it refers to a "persistent and pervasive affective-cognitive state" (Schaufeli & Bakker, 2004, p. 295). The work engagement of professional nurses is not a single problem to be solved, in a traditional ethical sense, but broadly considers the nature of nursing practice. Bergum and Dossetor (2005) suggest that whether ethical care will occur cannot be known ahead of time, and therefore, we must continually attend to the context and situation, and ask ethical questions.

Relational ethics evolved out of a research project at the John Dossetor Health Ethics Centre, University of Alberta, which sought to identify the ethical commitments required in everyday health care situations (Austin, Bergum, & Dossetor, 2003). While previous ethical theories and approaches have provided important structure that underpin a relational ethics approach, Austin et al. (2003) proposed that the foundation of ethics in health care required further grounding. The significant contribution of Carol Gilligan in the 1980s was foundational to acknowledging the essentiality of care, connection, and respect to ethical practice (Austin et al., 2003). A relational ethic builds upon justice and a care ethic to include, "a concept of personhood that values autonomy through connection, a recognition that sensitivity to ethical questions is as important as the ability to secure answers, and an awareness that our practice environments shape our moral responses" (Austin et al., 2003, p. 46).

Relational ethics is based on the premise that the relational space is a moral space and recognizes human connection as a vital aspect of morality (Bergum, 2013; Bergum & Dossetor, 2005). Bergum (2013) argues for the importance of attending to the quality of all relationships in professional practice. The moral responsibility of professional nurses extends beyond individual crises and specific experiences to all professional relationships (CNA, 2008). The relational

nature of nurses' work involves a complex web of relationships between interdisciplinary colleagues, patients, families, and the broader health care organization, which makes a relational ethics approach to work engagement both necessary and appropriate. When we examine these relationships, it becomes obvious that what happens at the bedside is not separate from the broader picture and implications beyond the individual level are indisputable (Bergum, 2013).

Relational ethics provides a language to dialogue about ethics of the entire health care system amidst the inherent complexities. A relational ethic is suitably capable of addressing the influence of the multiple levels of the health care system and the interdependent environment on nurses' work engagement. Relational ethics encompasses four core elements that are considered essential to the ethic: relational engagement, mutual respect, embodiment, and environment (Austin et al., 2003; Bergum & Dossetor, 2005). Here, I will use relational ethics, and the essential core elements, as a lens to examine work engagement in nursing practice and consequently argue that engagement is required for ethical practice. Further, attention to the environment in which nurses work will reveal how multiple levels of health care may influence work engagement, and subsequently, ethical nursing practice.

Relational Engagement

Relational engagement refers to the idea that ethical action must begin with an attempt to understand another person's situation, perspective, and vulnerability (Bergum, 2013). While it may be unreasonable to suggest that one could ever completely understand another person, the ability to act ethically is encompassed within the effort towards genuine engagement with another person. Being a responsible caregiver demands this engagement and extends to "suffering with another" (Bergum & Dossetor, 2005, p. 104). Through relational engagement,

the true needs of another person are revealed and consequently, one can more appropriately determine what ethical action entails (Bergum, 2013).

Recently, The Cleveland Clinic (2013) produced a short video, titled “Empathy: The human connection to patient care”, in which the inner thoughts and perspectives of patients, families, and health care professionals are revealed. The video concludes with the question, “If you could stand in someone else’s shoes, hear what they hear, see what they see, feel what they feel, would you treat them differently?” (Cleveland Clinic Media Production, 2013). A relational ethics reply to the question posed in the video is a resounding yes.

Work engagement is required for the essential element of relational engagement to be possible in nursing practice. Ethical engagement between individuals in the health care environment requires intentional action (Bergum & Dossetor, 2005). Work engagement, as conceptualized by Schaufeli and Bakker (2004) refers to a state of mind or attitude towards one’s work, where this intention for action in work may reside. Within a relational ethic, nurses who are distant and disengaged from their work can be interpreted as being unethical (Bergum, 2013). The willingness to invest the effort required to engage in relationship with others and take responsibility for these relationships can be described as an aspect of vigor, a key attribute of work engagement (Schaufeli & Bakker, 2004). To be ethical, nurses must be interested, open, and willing to engage in relationship and share the experience of those in their care despite personal difficulty and organizational constraints. Recognizing the significance of the relationship, rather than viewing relationships as an optional or unnecessary aspect of nursing practice, requires dedication to one’s practice and work. Building trustworthy relationships requires conscious effort, but is essential to understanding the needs of another person and subsequently, the ability to deliver ethical care (CNA, 2008). In order for nurses to respond to

the “moral commitment of the relationship” (Bergum, 2013, p. 196) they have with patients, families, and other health care professionals, they must commit full attention and be absorbed in their practice.

The modern model of health care often opposes connection in order to enhance objectiveness and prevent emotional harm. Meaningful engagement takes time and thus, can negatively impact the bottom-line, which is arguably more highly valued than connection with patients in the current health care context (Austin, 2011). However, Schultz and Carnevale (1996) propose that health care providers who fail to appropriately suffer with the patient may risk inflicting harm.

Mutual Respect

Mutual respect is acknowledging and valuing differences across all relationships within the health care context, which enables improved understandings of one another (Bergum & Dossetor, 2005). Mutual respect is the central challenge of a relational ethic and like relational engagement, requires significant effort. Because of the inherent mutuality of this concept, effort is required from everyone within the health care context, including nurses and the health care system as a whole. Kunyk and Austin (2012) state that mutual respect “requires authenticity, not merely appearance” (p. 384), exposing the need for engagement in one’s work in order for mutual respect to be a realistic notion. Authenticity demands the “harnessing of one’s self” (Kahn, 1990, p. 694) in the professional nursing role, which Kahn (1990) proposed to be the definition of work engagement. Conversely, appearance would represent the “uncoupling” (Kahn, 1990, p. 694) of the self or just showing up.

Mutual respect mitigates power because power is shared, rather than hierarchical, when differences are genuinely valued (Bergum & Dossetor, 2005). Involving patients and families

and working with them as valid members of the team, is an optimal opportunity to demonstrate mutual respect, share power, and promote ethical action (Bergum, 2013). Moreover, the essentiality of mutual respect within a relational ethic extends to all health care relations, including relations between various health care professionals and relations with the broader level of health care organizations and governments (Bergum, 2013). Mutual respect implies that different disciplines, different types of knowledge, different skills, and different access to and use of power are equally valuable (Bergum, 2013).

The sharing of power that mutual respect demands, makes simple, everyday decisions and interactions significant. Acknowledging this significance and the associated actions may be viewed as extra work that limits the productivity of the health care system. The increasing emphasis on corporate values within the health care context implies that health care can be offered via a customer-service model (Austin, 2011). Austin (2011) proposes that viewing patients as customers removes the significance of their identity and uniqueness; consequently, mutual respect is lost. Without value for the inherent and extensive differences between patients, care can be delivered in a standardized way and efficiency is optimized, benefiting the organization, rather than the patient.

When patients are treated as objects to be cared for in standardized ways to optimize efficiency, health care professionals are similarly treated as objects that deliver the standard care, eliminating respect for unique and valuable roles. Within a strictly objective mindset, mutual respect between different health care professionals and the broader organization dissipates. Laschinger (2010) found that opportunity for control in one's work, or professional autonomy, is directly related to work engagement. When employees are not able to exert control in their work, such as when policies and standardized protocols interfere with decision-making, individual

autonomy is reduced. Consequently, engagement in one's work becomes improbable and the ability to act ethically is prohibited (Maslach & Leiter, 1997).

Embodiment

Embodiment calls for "healing of the split between mind and body" (Austin et al., 2003, p. 47), enabling the equal integration of scientific or theoretical knowledge and human compassion (Bergum, 2013). Bergum and Dossetor (2005) argue that in the relational and moral space, both objective and subjective awareness are required in order to see what is ethical, which is prerequisite to ethical action. Embodiment assumes the reality that the lived body and the body as an object are inseparable, each with ethical importance (Bergum, 2013).

The element of embodiment recognizes that nursing care is more than physical tasks because emotion and feeling are recognized as equally important to physical signs and symptoms. The ability of emotions to inform nurses' cognition and reasoning is accepted as valid within a relational ethic. Further, nurses' connection with patients is considered inherently valuable and essential for ethical action.

It is reasonable to suggest that work engagement enables nurses to be connected to both the physical and emotional aspects of the patient and reach a level of embodiment (Bergum, 2013, p. 133). Absorption in practice, a component of work engagement, has been described as mind and body union, which is congruent with the theme of embodiment within a relational ethic (Schaufeli & Bakker, 2004). Similarly, Kahn (1990) described an engaged employee as physically involved, cognitively vigilant, and emotionally connected, with disengagement characterized as withdrawing one or more aspects of the self from the work role.

When the corporate structure is applied to health care and nursing care becomes a commodity, embodiment is impossible. If nurses are not able to be fully present in the moment

due to other pressures, and when the focus is only on outcomes and the need to accomplish more, embodiment cannot realistically occur (Bergum, 2013). Austin quotes Gordon in her work and suggests that instead, the nurse "becomes a mechanical robot fulfilling a certain number of predetermined tasks" (Austin, 2011, p. 281). This routine nature of nursing care leaves no room for nurses to value the subjective experience, feelings, and emotions of both themselves and the patient. Consequently, disembodiment constrains the nurse's ability to see what is ethical (Austin, 2007).

Environment

The element of environment within a relational ethics framework considers how the environment impacts the relational space where ethical action occurs (Bargagliotti, 2012; Bergum & Dossetor, 2005). The Canadian Nurses Association (2008) recognizes that the quality of nurses' work environment is fundamental to their ability to practice ethically. Environment as a core element of a relational ethic stimulates attention to the environmental impacts on nurses' work engagement and their ability to act ethically.

Tim Brown (2013), the president of IDEO, a design consultant firm, has suggested use of the Cleveland Clinic's (2013) video, "Empathy: The human connection to patient care", as a "design brief" (Brown, 2013), a call for imaginative ideas about how to improve patient care. This poignant suggestion acknowledges that the ability to engage with patients, seek to understand their situation, and address their needs is not possible without an environment that supports such actions. Upon acknowledging the importance of work engagement for ethical nursing practice, a critical question that follows is: what must be present in the nurses' work environment for work engagement to occur?

Consideration of nurses' work environment within the current health care context can provide important insight into how to promote nurses' work engagement and ethical practice. Research in nursing and other disciplines provides evidence that organizational factors influence work engagement (Simpson, 2009). Specifically, recent research on work engagement in nursing supports the impact of environmental and organizational factors on nurses' engagement (Bamford, Wong, & Laschinger, 2013; Greco, Laschinger, & Wong, 2006; Laschinger, 2010). Multiple contextual factors, such as workload and staffing ratios, frequently make engaging in genuine relationships with patients difficult and even impossible for nurses (Doane & Varcoe, 2013).

The six areas of work life: workload, control, rewards, community, fairness, and values, proposed by Maslach and Leiter (1997) as antecedents to burnout and engagement have received attention in nursing work engagement research, further supporting the far-reaching organizational implications for supporting nurses' work engagement (Laschinger, 2010). Moreover, it is becoming increasing clear that the antecedents of work engagement of nurses are relational ways of being, rather than resources to be transacted (Bargagliotti, 2012). Hence, it is reasonable to suggest that the relationships, rather than transactions, between nurses and their colleagues, managers, leaders, and administrators should be thoroughly examined.

Numerous studies have examined the relationship between leadership style and behavior and nurses' level of engagement in the workplace. Authentic leadership, in particular, has received significant attention. Authentic leaders act in accordance with personal values and convictions, to build credibility, and win the respect and trust of followers (Avolio, Gardner, Walumbwa, Luthans, & May, 2004, p. 806). There is a well-documented correlation between authentic leadership and nurses' work engagement (Bamforde et al., 2013; Giallonardo, Wong,

& Iwasiw, 2010; Wong, Laschinger, & Cummings, 2010). Furthermore, Greco et al. (2006) found that the impact of leaders' empowering behavior on engagement was fully mediated by structural empowerment and person-job fit in the six areas of work life (Maslach & Leiter, 1997). Greco et al.'s early research has been supported in more recent findings, which have indicated that the six areas of work life mediate the positive relationship between authentic leadership and nurses' work engagement (Bamford et al., 2013).

Additionally, trust is a fundamental expectation that nurses hold of their practice setting and is documented as an important antecedent to professional nurses' work engagement (Bargagliotti, 2012). Nurses value a climate of trust within the profession, which encourages openness, allows for questioning, and supports those who speak out (CNA, 2008). Wong et al. (2010) found that nurses' trust in their manager directly affected work engagement. Social identification at work, through trusting collegial relationships, was also positively correlated with nurses' work engagement (Wong et al., 2010). Further, Laschinger (2010) found that the value congruence in work life had a direct effect on nurses' work engagement. Value congruence refers to when an employee's personal values match those of the organization and could be considered as a dimension of trust in the organization.

It is critical to consider whether the environment within practice settings and the current health care system support nurses' work engagement to allow for ethical nursing practice. The current structure of the health care system, with an increasing emphasis on routines and standard protocols, does not necessarily demand the same type of effort that is required for relational engagement. In many settings, it may be possible for nurses to complete their job requirements without investing effort in understanding the experience of the patient. In some instances this effort may actually be discouraged in the interest of time and efficiency. Ethical action in nursing

practice requires intentional action on the part of the nurses that cannot be achieved through a task-based focus in patient interaction (Bergum & Dossetor, 2005). However, increasing bureaucratization and a focus on efficiency and cost-effectiveness threatens the autonomy of nurses, resulting in the profession being reduced to a job or task (Fasoli, 2010). Finally, the values of health care organizations reside in the "scientific, the efficient, the economical, the impartial, and the procedural" (Austin, 2007, p. 84). These organizational values conflict with the personal and professional values of nurses, presenting great concern for nurses' work engagement and ethical practice.

There are significant ethical implications for the organizational and leadership levels of health care. Further investigation of relational and authentic leadership is warranted and nursing education and professional development must foster and support ethical leadership. The value of engagement demands that the autonomy of nurses be protected and advocated for. Professional organizations have a crucial role to play in this domain. However, despite the significant impact of the broader environment on nurses' work engagement and ethical nursing practice, implications for individual nurses cannot be ignored. We, as individuals, are the health care system; we are the environment (Bergum, 2013, p. 129).

In addition to questioning leadership, organizational structures, policies, and decisions, it is critical to question how each professional acts in the environment that they affect and are affected by (Bergum, 2013). Professional nurses are called to be moral agents and hold responsibility for creating moral communities (CNA, 2008). Bergum (2013) eloquently states, "the moral community includes each of us as responsible for our action in relation to the people we care for, educate, supervise, or work with in partnership. In each interaction, a relational ethical can flourish" (p. 128-129).

Conclusion

Through recognition of the ethical importance of work engagement in nursing, it is clear that promoting work engagement is not a simple and straightforward solution to organizational issues. Firstly, there is a limited understanding of professional nurses' work engagement that highlights the need for further research and attention. The nursing discipline has adopted existing conceptualizations of work engagement without critical consideration of what work engagement may uniquely mean to nurses. Examination of the work engagement of nurses' based on the current discourse reveals the complex nature of work engagement and also presents a more critical question surrounding work engagement, that of its ethical importance and consequent ethical implications.

Through exploration of the core elements of relational ethics, I argue that work engagement is relevant and essential for ethical nursing practice. Furthermore, it is clear that the responsibility for nurses' work engagement and ethical practice does not reside within individual nurses alone, but extends to the broader context of practice environments, the organization, and the health care system. Despite the limitations, the existing nursing research offers valuable insights into the predictors and influencing factors that can assist in fostering work engagement and developing moral communities within health care environments. Importantly, research points to areas within the current health care context that must be further explored if genuine dialogue about how nurses can be more ethical is desired.

References

Austin, W. J. (2011). The incommensurability of nursing as a practice and the customer service model: an evolutionary threat to the discipline. *Nursing Philosophy, 12*(3), 158-166. doi: http://dx.doi.org/10.1111/j.1466-769X.2011.00492.x

Austin, W. (2007). The Ethics of Everyday Practice: Healthcare Environments as Moral Communities. Advances in Nursing Science State of the Science January/March, 30(1), 81-88.

Austin, W., Bergum, V., & Dossetor, J. (2003). Relational ethics: An action ethic as a foundation for health care. In Tschudin, V. (Ed.), Approaches to ethics: Nursing beyond boundaries (pp. 45-52). London: Butterworth Heinemann

Avolio, B. J., Gardner, W. L., Walumbwa, F. O., Luthans, F., & May, D. R. (2004). Unlocking the mask: A look at the process by which authentic leaders impact follower attitudes and behaviors. Leadership Quarterly, 15(6), 801-823. doi: 10.1016/j.leaqua.2004.09.003

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. doi: 10.1111/j.1365-2834.2012.01399.x

Bargagliotti, A. L. (2012). Work engagement in nursing: a concept analysis. Journal of Advanced Nursing, 68(6), 1414-1428. doi: http://dx.doi.org/10.1111/j.1365-2648.2011.05859.x

Bergum, V. (2013). Relational ethics for health care. In Storch, J. L., Rodney, P., & Starzomski, R. (Eds.), Towards a moral horizon: Nursing ethics for leadership and practice (pp. 127-142). Toronto, Canada: Pearson.

Bergum, V. & Dossetor, J. (2005). Relational ethics: The full meaning of respect. Hagerstown, Maryland: University Publishing Group.

Blizzard, R. (2005). Nursing engagement key to reducing medical errors: People more important than technology. Retrieved from http://www.gallup.com/poll/20629/Nurse-Engagement-Key-Reducing-Medical-Errors.aspx

Brown, T. (2013, March 13). A lesson in empathy [Web log post]. Retrieved from http://designthinking.ideo.com/?p=1008

Canadian Nurses Association (2008). Code of ethics for Registered Nurses. Retrieved from http://www2.cna-aiic.ca/cna/documents/pdf/publications/Code_of_Ethics_2008_e.pdf

Cleveland Clinic Media Production (Producer) (2013). Empathy: Exploring human connection [Video]. Available from http://health.clevelandclinic.org/2013/03/empathy-exploring-human-connection-video/

Demerouti, E., Mostert, K., & Bakker, A. B. (2010). Burnout and work engagement: A thorough investigation of the independency of both constructs. Journal of Occupational Health Psychology, 15(3), 209-222. doi: 10.1037/a0019408

Doane, G. H. & Varcoe, C. (2013). Relational practice and nursing obligations. In Stroch, J. L., Rodney, P., & Starzomski, R. (Eds.), Toward a moral horizon: Nursing ethics for leadership and practice (2nd edition) (pp. 143-159). Toronto: Pearson.

Fasoli, D. R. (2010). The culture of nursing engagement: a historical perspective. Nursing Administration Quarterly, 34(1), 18-29. doi: 10.1097/NAQ.0b013e3181c95e7a

Giallonardo, L. M., Wong, C. A., & Iwasiw, C. L. (2010). Authentic leadership of preceptors: predictor of new graduate nurses' work engagement and job satisfaction. Journal of

Nursing Management, 18(8), 993-1003. doi: http://dx.doi.org/10.1111/j.1365-2834.2010.01126.x

Greco, P., Spence Laschinger, H. K., & Wong, C. (2006). Leader empowering behaviours, staff nurse empowerment and work engagement/burnout. Nursing Leadership, 19(4), 41-56.

Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. Journal of Applied Psychology, 87(2), 268-279. doi: http://dx.doi.org/10.1037/0021-9010.87.2.268

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. Academy of Management Journal, 33(4), 692-724. doi: 10.2307/256287

Kunyk, D. & Austin, W. (2012). Nursing under the influence: A relational ethics perspective. Nursing Ethics, 19(3), 380-389. doi: 10.1177/0969733011406767

Laschinger, H. K. S. (2010). Staff nurse work engagement in Canadian hospital settings: The influence of workplace empowerment and six areas of worklife. In Albrecht, S. L. (Ed.), Handbook of employee engagement: Perspectives, issues, research, and practice, (pp. 309-322).

Maslach, C. & Leiter, M. P. (1997). The truth about burnout. San Franscisco: Jossey-Bass Publishers.

Peter, E. & Liaschenko J. (2013). Moral distress reexamined: A feminist interpretation of nurses' identities, relationships, and responsibilities. Bioethical Inquiry 10, 337-345.

Salanova, M., Lorente, L., Chambel, M. J., & Martinez, I. M. (2011). Linking transformational leadership to nurses' extra-role performance: the mediating role of self-efficacy and work

engagement. Journal of Advanced Nursing, 67(10), 2256-2266. doi: http://dx.doi.org/10.1111/j.1365-2648.2011.05652.x

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, 25(3), 293-315. doi: 10.1002/job.248

Schaufeli, W. B., Bakker, A. B., & Van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. Journal of Organizational Behavior, 30(7), 893-917.

Schaufeli, W. B., Leiter, M. P., & Maslach, C. (2009). Burnout: 35 years of research and practice. The Career Development International, 14(3), 204-220. doi: http://dx.doi.org/10.1108/13620430910966406

Schaufeli, W. B., Salanova, M., González-romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. Journal of Happiness Studies, 3(1), 71-92.

Schultz, D. S., & Carnevale, F. A. (1996). Engagement and suffering in responsible caregiving: On overcoming maleficience in health care. Theoretical Medicine, 17(3), 189-207. doi: 10.1007/BF00489445

Seligman, M. E. P. & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. American Psychologist 55, 5-14.

Simpson, M. R. (2009). Engagement at work: A review of the literature. International Journal of Nursing Studies, 46(7), 1012-1024. doi: http://dx.doi.org/10.1016/j.ijnurstu.2008.05.003

Vinje, H. F., & Mittelmark, M. B. (2008). Community nurses who thrive: the critical role of job engagement in the face of adversity. Journal for Nurses in Staff Development, 24(5), 195-202.

Wong, C. A., Laschinger, H. K. S., & Cummings, G. G. (2010). Authentic leadership and nurses' voice behaviour and perceptions of care quality. Journal of Nursing Management, 18(8), 889-900. doi: 10.1111/j.1365-2834.2010.01113.x

Chapter 3: Paper #2

Work engagement in professional nursing practice: A systematic review

Introduction

Contemporary service organizations have recognized the need to have employees who are psychologically connected to their work, or engaged in their work (Bakker, Albrecht & Leiter 2011). There is a significant and growing body of research in various disciplines, namely business and psychology that correlates work engagement of employees with positive organizational outcomes (Bakker et al., 2011), such as job performance (Bakker & Bal, 2010; Halbesleben & Wheeler, 2008), productivity (Harter, Schmidt, & Hayes, 2002), and financial benefits (Harter et al., 2002; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009). Significant associations between work engagement and both commitment and turnover intention have also been documented in an extensive meta-analysis that included studies from a wide range of disciplines (Halbesleben, 2010). Accordingly, organizations have become increasingly interested in how to develop engagement of employees (Halbesleben, 2010; Bakker et al., 2011). A strong theoretical case indicates that interventions can influence work engagement and therefore, presents a critical opportunity for organizational action to promote employee work engagement (Bakker et al., 2011).

The reality of rising health care costs, overburdened health care systems, a global shortage of nurses, and continual pressure to reduce errors, improve patient outcomes, and improve quality of care, pose significant challenges to health systems and governments around the world (Bargagliotti, 2012). It is not surprising that the documented organizational outcomes of work engagement have stimulated recent interest in work engagement of nurses as health systems strive to cope with increasing demands and limited resources (Bargagliotti, 2012; Fasoli,

2010; Salanova, Lorente, Chambel, & Martinez, 2011; Simpson, 2009a). Nurses make up a significant portion of the health care workforce and directly interact with patients on a daily basis, which inherently makes them important players in achieving quality care and positive patient outcomes (Cummings, 2013). There is an evident need to further understand nurses' work engagement in an effort to improve retention, performance, safety, financial positions, and most importantly, patient care and outcomes (Bargagliotti, 2012; Laschinger, 2010; Simpson, 2009a).

Determining the factors that potentially influence nurses' work engagement, or are associated with nurses' work engagement, will enable development of initiatives to improve work engagement in nursing practice, which may have significant and valuable outcomes within the current health care context. Bargagliotti (2012) argues that increased knowledge about work engagement in nursing is inherently valuable because of its potential to reinforce nurse and manager behaviors that create practice environments for safe and effective patient care. Furthermore, work engagement in nursing practice is also argued to be essential for ethical nursing practice (Keyko, 2014).

Research related to work engagement in nursing practice is an expanding field; work on the topic has been published continuously over the last decade. However, the expanding body of research specific to work engagement in nursing practice has not yet been synthesized systematically. Existing published English language reviews about work engagement in nursing have included studies from outside of nursing or are primarily conceptual in nature (Simpson, 2009a; Willoughby, 2011). A review has not previously been conducted that offers a synthesis of knowledge regarding what antecedents and outcomes are known to be associated with work engagement in nursing practice. Hence, existing reviews are inadequate to guide policy and practice and cannot fully support initiatives to promote the work engagement of nurses.

Furthermore, the lack of synthesized knowledge fails to provide an accessible foundation of knowledge on which further research can be based.

Purpose and Research Questions

The purpose of this systematic review is to systematically review current literature to examine factors that influence work engagement and the outcomes of work engagement in professional nursing practice. The objectives are to:

1. Identify factors that influence or predict work engagement and subsequently enable development of initiatives to improve work engagement of nurses. The review seeks to identify organizational, environmental, and personal factors that are associated with nurses' work engagement.
2. Expand the current knowledge base on nurse work engagement by making existing knowledge about factors associated with work engagement in nursing practice more accessible, reveal further gaps in knowledge, and informing further research and knowledge development in this area (Centre for Reviews and Dissemination (CRD), 2009).

The following research questions guided the systematic review:

1. What factors are known to influence or predict work engagement in nursing practice?
2. What outcomes are known to be associated with work engagement in nursing practice?

Background

Work engagement is most often defined as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli, Salanova, González-Romá, & Bakker, 2002, p. 74). Vigor is characterized by high levels of energy, mental resilience,

willingness to invest effort in one's work, and persistence despite difficulties (Schaufeli & Bakker, 2004). Dedication is characterized by a "sense of significance, enthusiasm, inspiration, pride, and challenge" (Schaufeli & Bakker, 2004, p. 295). Absorption refers to being fully concentrated and happily engrossed in one's work (Schaufeli & Bakker, 2004). While various conceptualizations of work engagement exist, it is widely agreed upon that work engagement is exhibited in a high level of energy in one's work, or vigor, and identification with one's work (Bakker et al., 2011; Leiter & Bakker, 2010). It is important to note that work engagement extends beyond individual, or immediate situations, which may be described by other forms of engagement, such as patient engagement, or therapeutic engagement, to an overall psychological state towards one's work (Leiter & Bakker, 2010).

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

Studies on work engagement in various disciplines have consistently demonstrated that organizational factors and aspects of the work environment influence the work engagement of employees (Bakker & Demerouti, 2007; Halbesleben, 2010). Personal factors, such as self-efficacy, have also been demonstrated to predict work engagement (Bakker et al., 2011; Bakker & Leiter, 2010; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). Development of known influencing factors, including autonomy, social support, organizational culture, learning opportunities, performance feedback, and self-efficacy have been suggested as the best mechanism for organizations to use to improve work engagement and the associated positive outcomes (Hakanen & Roodt, 2010; Halbesleben, 2010; Schaufeli, Bakker, & Van Rhenen, 2009).

The Job Demands-Resources (JD-R) model was first introduced by Demerouti and her colleagues in 2001, and to date is the most commonly used theoretical framework in studies on

work engagement (Hakanen & Roodt, 2010). A key assumption of the model is that each job or occupation has its own risk factors related to job stress, and therefore the model can be adapted and applied to various occupational settings (Bakker & Demerouti, 2007). The JD-R model outlines two specific sets of working conditions, job demands and job resources, which are related to negative and positive outcomes (Demerouti, Bakker, De Jonge, Janssen, & Schaufeli, 2001). The original JD-R model includes a dual process, through which job demands initiate a health impairment process leading to negative health-related outcomes, and job resources initiate a motivational process through which positive performance-related outcomes are realized (Demerouti et al., 2001; Schaufeli & Bakker, 2004).

Job demands refer to "physical, social, or organizational aspects of the job that require sustained physical and/or psychological effort or skills…and are associated with certain physiological and/or psychological costs" (Bakker & Demerouti, 2007, p. 312). Alternately, job resources refer to the "physical, psychological, social, and organizational aspects of the job that are either functional in achieving work goals, reduce job demands and the associated physiological and psychological costs, or stimulate personal growth, learning, and development" (Bakker & Demerouti, 2007, p. 312). Upon reviewing the empirical evidence for the JD-R model, Hakanen and Roodt (2010) conclude that job resources are the most important factors in predicting work engagement and accordingly, the most important factors for organizations to act on to improve employee performance.

Bakker and Demerouti (2008) built on the original JD-R model based on empirical evidence of the antecedents and consequences of work engagement and presented a revised JD-R model. See Figure 1 for JD-R model of engagement as documented in the Career Development International journal by Bakker and Demerouti (2008). The JD-R model of work engagement

(Figure 1) maintains the assumptions from the original model that job resources initiate a motivational process leading to work engagement and that job resources become more salient when job demands are high (Bakker & Demerouti, 2008). Personal resources were added to the model because research demonstrated that they are both related to job resources and independent predictors of work engagement (Bakker & Demerouti, 2008; Xanthopoulou et al., 2007). Personal resources, such as self-efficacy, self-esteem, and optimism can be developed for improved work performance, (Hakanen & Roodt, 2010). In a recent summary of research on the concept and antecedents of work engagement across disciplines, Bakker et al. (2011) concludes that the JD-R model of engagement should be used when considering interventions to promote engagement because it offers clear and valuable implications for practice.

The JD-R model of engagement was utilized in this review because it is the most prominent theoretical model of predictors and outcomes of work engagement, empirical evidence from a number of disciplines support the model, and the premise of the model is that it can be adapted to suit unique characteristics of any occupation or settings (Bakker & Demerouti, 2007; Bakker & Leiter, 2010; Hakanen & Roodt, 2010; Halbesleben, 2010; Schaufeli & Taris, 2014). Schaufeli and Taris (2014) suggest that the advantage of the JD-R model is its generalizability and flexibility, which allows for use in a broad array of situations and inclusion of additional concepts as required.

Methods

Search Strategy and Data Sources

The search strategy included use of eight electronic databases: CINAHL, MEDLINE, PsycINFO, PROQUEST, SCOPUS, Web of Science, EMBASE, and Business Source Complete. The search was conducted in October of 2013. A wide range of databases, which contain health

related research, were searched to ensure the search identified any studies about work engagement that included nurses. PROQUEST, a database of theses and dissertations was utilized to identify any existing research on work engagement in nursing that may not have been published elsewhere. The Business Source Complete database was searched because the concept of work engagement has been studied more extensively in business settings and the researchers and authors in the business field may have also conducted research with nurses. These studies may be published in business journals and may not be found in the health databases. The same search terms were used to search all databases. The search terms used were nurs* and engagement. Each search term was searched individually and then linked with "AND". See table 1 for the search strategy. Other strategies used to locate relevant studies included reviewing reference lists of all included studies and contacting authors and experts in the field of work engagement in nursing practice.

Inclusion Criteria

Titles and abstracts were selected for further screening if they met all of the following inclusion criteria (see Appendix A for inclusion and exclusion criteria): peer-reviewed research; English language full text publication available; population of professional registered nurses in direct-care positions; direct measurement of work engagement (if quantitative); and measurement of one or more factors which are predicted to influence work engagement or are anticipated outcomes of work engagement (if quantitative); and examination of relationships between work engagement and the other factors measured. Quantitative and qualitative studies were included. In lieu of direct measurement of work engagement and factors associated with work engagement, qualitative studies were included if they directly explored work engagement

in nursing practice. Due to the timeframe of the study and only English language proficiency in the research team, only studies published in English were included. Grey literature was excluded.

Screening

Study screening was done in two stages. The first screening stage included review of all titles and abstracts for the inclusion criteria. A second reviewer screened ten percent of the titles and abstracts. Any discrepancies between reviewers were discussed and consensus was reached in all cases. All manuscripts that passed the first screening stage proceeded to the full-text screening stage. Full text manuscripts were reviewed to ensure they met all inclusion criteria. The measurement of work engagement met the criteria if work engagement was measured directly using a tool specific for work engagement. Studies were primarily eliminated because the results for registered nurses in direct-care roles were not differentiated from other types of nurses, or because work engagement was not directly measured or examined. Other exclusion criteria were samples of registered nurses in other roles, such as management, supervisory or specified leadership roles, where results are not differentiated, and work engagement measured as the direct opposite of another construct, such as burnout. Studies were excluded if they utilized a burnout scale, instrument, or tool to measure work engagement. These studies were excluded because, while burnout and engagement may be negatively related, they are considered to be independent states (Schaufeli & Bakker, 2004). For the purpose of this review, I did not assume that a lack of burnout is equivalent to the presence of work engagement, and therefore, studies that used burnout measurement tools were excluded.

Authors of primary studies were contacted via email during the full-text screening stage as necessary to obtain clarification on whether the study met the inclusion criteria. The most common reason authors were contacted pertained to the study sample to verify that all

participants were registered nurses in direct care roles. If the published article was not clear about whether all participants were registered nurses in direct care roles, and the author could not be reached via email, the study was excluded.

Once the final list of studies for inclusion in the review was determined, an identified expert in the field of research was contacted and asked to review the list of included studies to confirm validity of the search and screening strategy. The expert identified that the search was comprehensive and confirmed that articles were inclusive of existing research based on the inclusion criteria. The identified expert also provided citations for three additional studies that were then screened according the previously identified strategy by the primary researcher.

Data Extraction

The following data were extracted from the included studies: author, year, journal, country, study purpose, theoretical framework or model, conceptualization or definition of work engagement utilized, methodological approach, setting, sampling method, sample size, description of participants, measurement instruments, reported reliability and validity, identified factors influencing work engagement, outcomes of work engagement, analysis and statistical techniques, and significant and non-significant results. For intervention studies, additional data were extracted including type of intervention, use of a control group or pre and post-intervention measurement. For qualitative studies, the data collection process, rigour, and qualitative findings were extracted, in addition to general, study, and participant characteristics. Data were extracted into a data extraction table by the primary researcher; a second researcher reviewed this table.

Quality Review

Each published article was assessed by the primary researcher for methodological quality using a quality-rating tool specific to the type of study being appraised. Quality appraisal was completed simultaneously with the data extraction process.

For correlational studies, a quality appraisal tool adapted from an instrument used in previously published systematic reviews (Cowden, Cummings, & Profetto-McGrath, 2011; Cummings et al., 2008; Cumming et al., 2010; Germain & Cummings, 2010; Wong & Cummings, 2007) was used (see Appendix B for the correlational quality assessment tool). The adapted tool for correlational studies (Appendix B) was used to assess four areas of the study: research design, sampling, measurement, and statistical analysis. Thirteen criteria were evaluated in the tool, with a total of fourteen possible points. Twelve items were scored as 0=not met, 1=met. One item was scored based on whether work engagement was measured as 0=not met, 1=self-reported, and 2=observed. Because the measurement of work engagement was an inclusion criterion, any quantitative studies that did not measure work engagement were already excluded; therefore, no studies scored 0 on this item. Based on the assigned points, studies were categorized as low (0-4), moderate (5-9), or high quality (10-14).

One included intervention study was assessed using a pre/post quality assessment tool adapted from another published systematic review (Cummings et al., 2008) (see Appendix C for intervention quality assessment tool). This adapted tool (Appendix C) was used to assess six areas of study quality: sampling, design, control of confounders, data collection, outcome measurement, statistical analysis, and study dropouts. A total of thirteen criteria comprised a total of sixteen possible points. Based on the assigned points, the study was categorized as low (<9), medium (9-13), or high quality (14-16).

One included qualitative study was assessed using the CASP qualitative tool (Critical Skills Appraisal Programme (CASP), 2010) (see Appendix D for qualitative quality assessment tool). This tool was selected due its systematic appraisal, widespread use to evaluate qualitative research, and ease of use. The CASP qualitative tool uses ten questions related to appropriateness of qualitative methodology, design, sampling, data collection, reflexivity, ethical issues, data analysis and rigour, clarity of findings, and value of the research. Nine of the ten questions are scored as yes=1, or no=0. The tally of points allows for a total scoring out of nine. The CRD (2009) suggests that when resources, including expertise, for quality appraisal is limited; priority in appraisal should be given to key sources of bias. The CASP qualitative tool allowed for identification of key sources of bias without demanding expertise in the area of qualitative quality appraisal.

Analysis

The data extracted from the included studies were synthesized in two ways, descriptive synthesis and narrative synthesis. For the descriptive synthesis, characteristics of the studies were examined to identify common threads and possible inferences based on common characteristics, such as authors, where studies were completed, years of study completion, characteristics of participants, how work engagement was measured and defined by researchers, theoretical or conceptual frameworks used, instruments used to examine all variables, and analytic techniques utilized.

The second stage of analysis, the narrative synthesis, involved a number of steps. The primary focus during this stage of analysis was to analyze relationships among work engagement and its antecedents and outcomes that have been examined or measured through nursing research to date.

First, findings from each study about factors associated with or outcomes of work engagement in nursing practice were examined. Significant and non-significant factors were then categorized using content analysis into themes and categories. Emerging themes and categories were discussed with my supervisor. Once initial themes and categories were identified they were compared to the Job Demands-Resources (JD-R) model of work engagement (Figure 1) to determine how extensively review findings aligned with the model and whether they may enhance the JD-R model.

Of note, some authors completed statistical analysis using the total score for work engagement and scores of the subscales, or dimensions, or work engagement. In this review, only the total score for work engagement was utilized for analysis. Schaufeli and Bakker (2003) have suggested that the total score for work engagement may be more useful because of moderate to high correlations between dimensions (as cited by Bakker & Demerouti, 2008). Additionally, only full sample data were analyzed for this review if results from sample sub-sets were also reported. However, significant differences between sample sub-sets were examined and considered for analysis if differences were meaningfully related to the purpose and research questions. Use of full sample results enabled the greatest possible degree of power in analysis and generalizability of findings.

Results

Search Results

The electronic database search yielded 9148 titles and abstracts. After removal of duplicates, a total of 3621 titles and abstracts were screened using inclusion and exclusion criteria to determine possible eligibility for inclusion. The title and abstract review of the database search results yielded 117 manuscripts to be retrieved for full text review. The full text

was not available for eight articles and therefore, they were excluded. Three additional articles (Hayati, Charkhabi, & Naami, 2014; Peng, Lee, & Tseng, 2014; Wonder, 2013) were identified through consultation with an identified expert in the field of research. One additional potentially relevant article (Walker & Campbell, 2013) was found through review of reference lists of included articles. A total of 113 full text articles were screened using inclusion and exclusion criteria.

After final full text review, nineteen manuscripts (reporting 18 studies) were selected. Two manuscripts were published from one study; they are counted as one study in the results and analysis of this review (Bamford, Wong, & Laschinger, 2013; Wong, Laschinger, & Cummings, 2010). Figure 2 provides a summary of the search strategy and screening process results.

Included Study Designs

In summary, 18 studies were retained including one qualitative study (Wu, 2010), two mixed-methods studies (Bishop, 2013; Lawrence, 2011), and 15 quantitative studies (Bamford et al., 2013; Cadiz, 2011; Giallonardo, Wong, & Iwasiw, 2010; Hayati et al., 2014; Laschinger, 2012; Laschinger, Wilk, Cho, & Greco, 2009; Laschinger, 2010; Laschinger, Grau, Finegan, & Wilk, 2012; Palmer, Quinn Griffin, Reed, & Fitzpatrick, 2010; Rivera, Fitzpatrick, & Boyle, 2011, Sawatzky & Enns, 2012; Simpson, 2009b; Sullivan Havens, Warshawsky, & Vasey, 2013; Walker & Campbell, 2013; Wang & Liu, 2013; Wong et al., 2010). All of the quantitative studies were non-experimental, correlational studies. The quantitative portion of one mixed-methods study was also correlational (Lawrence, 2011). A second mixed-methods study was an intervention study with pre and post- measurements comprising a quantitative evaluation of the intervention (Bishop, 2013). The qualitative portions of both mixed methods studies were excluded because the qualitative purposes and analyses did not fit the inclusion criteria of

examining work engagement (Bishop, 2013; Lawrence, 2011). Figure 2 provides a summary of the search strategy and screening process results.

Quality Assessment

Of the 18 studies included in this review, 17 studies were rated as moderate or high quality; this included all quantitative correlational studies (see Table 2 for summary of quality assessment for correlational studies) and the one qualitative study (see Table 3 for summary of quality assessment for the qualitative study). No studies were excluded based on quality assessment.

Strengths of the quantitative correlational studies are as follows: (1) all but one study were assessed to have adequate sample sizes, which was judged by appropriate power calculations (power=>0.8), or other rules of thumb from the quality appraisal tool, such as sample size of at least ten per independent variable studied; (2) 14 of the 16 studies used samples drawn from more than one site, promoting heterogeneity; (3) anonymity was protected in all of the studies; (4) reliability of instruments to measure factors associated with work engagement was reported in 15 studies and validity was reported in 12 studies; (5) 16 studies reported acceptable levels of reliability for the measurement of work engagement (alpha coefficients >0.70); (6) a theoretical or conceptual framework was discussed and used in 13 studies; and (7) all studies which measured multiple factors analyzed correlations between all study variables.

The most common weaknesses in the 16 quantitative studies were related to design and sampling. All studies utilized non-experimental designs, which limits the ability to determine causation. Fifteen of the studies were cross-sectional and one study was a time-series design. None of the studies were prospective. In terms of sampling, non-probability sampling was used in nine of the studies and a low response rate (<60%) was reported in 12 of the studies.

Measurement of variables, including work engagement, was entirely self-reported in all studies. Finally, failure to discuss the management of outliers was observed in eight studies.

The single qualitative study (Wu, 2010) used an ethnographic approach and was assessed as high quality with no notable weaknesses identified in the CASP quality appraisal process (see Table 3 for summary of quality assessment for the qualitative study).

The quantitative portion of the pre/post intervention design study (Bishop, 2013) was rated as low quality due to weakness in sampling methods, lack of evidence related to control of confounders, use of self-report, and lack of discussion regarding missing data (see Table 4 for summary of quality assessment for the intervention study).

Characteristics of Included Studies

The characteristics of the 18 included studies are reported in Table 5.

Author(s), year, journal, & country. Laschinger was the most frequent author with six included studies, including four first author articles (Laschinger, 2010; Laschinger, 2012; Laschinger et al., 2012; Laschinger, Wilk, Cho, & Greco, 2009) and two secondary author articles (Bamford et al., 2013; Wong et al., 2010).

All included studies were published between 2009-2014, with at least two studies published each year, except for 2014. The majority of studies were published in 2010 (six studies) (Cadiz, 2010; Giallonardo et al., 2010; Laschinger, 2010; Palmer et al., 2010; Wong et al., 2010; Wu, 2010), and 2013 (five studies) (Bamford et al., 2013; Bishop, 2013; Sullivan Havens et al., 2013; Walker & Campbell, 2013; Wang & Liu, 2013).

Fourteen of 19 manuscripts were published in nursing journals (Bamford et al., 2013; Bishop, 2013; Giallonardo et al., 2010; Laschinger, 2012; Laschinger et al., 2009; Lawrence, 2011; Palmer et al., 2010; Rivera et al., 2011; Sawatzky & Enns, 2012; Simpson, 2009b;

Sullivan Havens et al., 2013; Walker & Campbell, 2013; Wang & Liu, 2013; Wong et al., 2010), of which nine were published in the Journal of Nursing Management (Bamford et al., 2013; Bishop, 2013; Giallonardo et al., 2010; Laschinger, 2012; Laschinger et al., 2009; Sawatzky & Enns, 2012; Sullivan Havens et al., 2013; Wang & Liu, 2013; Wong et al., 2010).

Five studies not published in nursing journals included a non-nursing specific health care management journal (Laschinger et al., 2012), a multidisciplinary journal (Hayati et al., 2014), a book (Laschinger, 2010), and two unpublished dissertations from universities in the United States (Cadiz, 2010; Wu, 2010).

The majority of studies were conducted in North America, seven in Canada (Bamford et al., 2013; Giallonardo et al., 2010; Laschinger, 2010; Laschinger, 2012; Laschinger et al., 2012; Laschinger et al., 2009; Sawatzky & Enns, 2012; Wong et al., 2010) and seven in the United States (Bishop, 2010; Cadiz, 2010; Lawrence, 2011; Palmer et al., 2010; Rivera et al., 2011; Simpson, 2009b; Sullivan Havens et al., 2013). One study was conducted in each of the following countries: Australia (Walker & Campbell, 2013), China (Wang & Liu, 2013), Iran (Hayati et al., 2014), and Taiwan (Wu, 2010). The study conducted in Taiwan is reported as an unpublished dissertation from the University of Texas in the United States (Wu, 2010).

Participants/sample. The total number of participants in all studies was 4750. As per inclusion criteria, all study participants were registered nurses working in direct care roles and none were employed in management, supervisory, or leadership specific roles. Four studies were conducted at single hospital sites (Bishop, 2013; Lawrence, 2011; Rivera et al., 2011; Wu, 2010) and fourteen studies were conducted across multiple sites (Bamford et al, 2013; Cadiz, 2010; Giallonardo et al., 2010; Hayati et al., 2014; Laschinger, 2010; Laschinger, 2012; Laschinger et al., 2012; Laschinger et al., 2009; Palmer et al., 2010, Sawatzky & Enns, 2012; Simpson, 2009b;

Sullivan Havens et al., 2013; Walker & Campbell, 2013; Wang & Liu, 2013; Wong et al., 2010). In seventeen studies, participants were drawn from acute-care hospital sites (Bamford et al., 2013; Bishop, 2013; Giallonardo et al., 2010; Hayati et al., 2014; Laschinger, 2010; Laschinger, 2012; Laschinger et al., 2012; Laschinger et al., 2009; Lawrence, 2011; Palmer et al., 2010; Rivera et al., 2011; Sawatzky & Enns, 2012; Simpson, 2009b; Sullivan Havens et al., 2013; Walker & Campbell, 2013; Wang & Liu, 2013; Wong et al., 2010; Wu, 2010). One study included registered nurses working in acute-care hospital sites and other non-hospital sites (Cadiz, 2010).

Demographics of study samples were reported in all included studies. The majority of participants were reported as female and accounted for 77-100% of study samples. Twelve studies included registered nurses of all ages and experience levels (Bamford et al., 2013; Cadiz, 2010; Hayati et al., 2014; Laschinger, 2010; Laschinger et al., 2009; Lawrence, 2011; Palmer et al., 2010; Sawatzky & Enns, 2012; Simpson, 2009b; Sullivan Havens et al., 2013; Wang & Liu, 2013; Wong et al., 2010; Wu, 2010). Four studies focused on new graduate nurses, with definition of new graduate varying from less than two years to less than 3 years experience (Giallonardo et al., 2010; Laschinger, 2012; Laschinger et al., 2012; Walker & Campbell, 2013). One study focused on older registered nurses, and specified their inclusion criterion as 45 years of age or older (Bishop, 2013).

Study purpose. Fifteen studies quantitatively examined predictors of nurses' work engagement (Bamford et al., 2013; Cadiz, 2010; Giallonardo et al., 2010; Hayati et al., 2014; Laschinger, 2010; Laschinger et al., 2012; Laschinger et al., 2009; Lawrence, 2011; Palmer et al., 2010; Rivera et al., 2011; Sawatzky & Enns, 2012; Simpson, 2009; Sullivan Havens et al., 2013; Walker & Campbell, 2013; Wang & Liu, 2013; Wong et al., 2010). One study examined

the effect of an intervention on work engagement (Bishop, 2013). One qualitative study sought to describe nurses' perception of work engagement and factors perceived to influence their work engagement (Wu, 2010).

Seven quantitative studies examined outcomes of work engagement of nurses (Giallonardo et al., 2010; Laschinger, 2012; Laschinger et al., 2012; Laschinger et al., 2009; Sawatzky & Enns, 2012; Walker & Campbell, 2013; Wong et al., 2010). One qualitative study described nurses' perception of outcomes of their work engagement (Wu, 2010). The majority of studies that examined outcomes of work engagement also examined influencing factors. One study looked at outcomes only (Laschinger, 2012). Six of seven quantitative outcome studies examined work engagement as a mediating factor between an antecedent factor(s) and an outcome(s) (Giallonardo et al., 2010; Laschinger et al., 2012; Laschinger et al., 2009; Sawatzky & Enns, 2012; Walker & Campbell, 2013; Wong et al., 2010).

Theoretical or conceptual framework. Fifteen studies reported using a theoretical or conceptual framework or model to guide the research (Bamford et al., 2013; Bishop, 2013; Cadiz, 2010; Giallonardo et al., 2010; Hayati et al., 2014; Laschinger, 2010; Laschinger, 2012; Laschinger et al., 2012; Laschinger et al., 2009; Lawrence, 2011; Palmer et al., 2012; Rivera et al., 2011; Sawatzky & Enns, 2012; Simpson, 2009b; Wong et al., 2010; Wu, 2010). This is important because use of a conceptual or theoretical framework provides justification for the study, identifies the value of the research to the discipline and further theory development, and distinguishes the study's relationship to existing research on the topic (Wood & Ross- Kerr, 2011).

Eleven studies identified that previously established theories guided the research (Bamford et al., 2013; Bishop, 2013; Cadiz, 2010; Giallonardo et al., 2010; Hayati et al., 2014;

Laschinger, 2010; Laschinger et al., 2012; Laschinger et al., 2009; Palmer et al., 2010; Simpson, 2009b; Wong et al., 2010; Wu, 2010). Four studies identified that researchers developed a conceptual framework for the study derived from previous literature (Laschinger, 2012; Lawrence, 2011; Rivera et al., 2011; Sawatzky & Enns, 2012). Three studies did not clearly state that a theoretical or conceptual framework or model guided the research (Sullivan Havens et al., 2013; Walker & Campbell, 2013; Wang & Liu, 2013). Many studies utilized more than one theory, or a combination of established theories and previous research, to create a framework or model for the proposed study. Multiple studies integrated the identified conceptualization of work engagement with additional theory or research to create a conceptual framework.

Variation in the specific theoretical frameworks utilized in the included studies was evident and theories from a number of different fields were used. Two studies utilized a previously documented and published nursing theory (Bishop, 2013; Rivera et al., 2011) and all other theories were from other disciplines, including sociology, organizational psychology, and management and leadership.

Theoretical frameworks that suggest characteristics of the work environment empower employees or influence the way they work were most prominent in the included studies. These theories all explain ways in which the environment or context influences the individual. Seven studies used a theoretical model with this premise. Specifically, two studies used Maslach and Leiter's (1997) six areas of worklife model (Bamford et al., 2013; Laschinger, 2010). Two studies used Kanter's theory of structural power (Laschinger, 2009; Laschinger, 2010). One study used the Job Demands-Resources model (Bakker & Demerouti, 2008) (Laschinger et al., 2012). One study used the personal-environment (P-E) fit concept (Kristof, 1996) and the person-environment interaction (Neufeld et al., 2006) (Wu, 2010). Finally, one study used

conservation of resources theory (Hobfoll, 1989) and trait activation theory (Tett & Burnett, 2003), which both explain how personal and contextual characteristics can affect people in the workplace (Cadiz, 2010).

Leadership theories were the second most common type of frameworks or models used. The basic premise of the leadership theories is that a positive style of leadership and positive leadership practices of leaders influence followers' attitudes and behaviors. Three studies used leadership theories, including authentic leadership theory (Avolio et al., 2004) (Bamford et al., 2013; Giallonardo et al., 2010; Wong et al., 2010) and transformational leadership theory (Bass, 1999) (Hayati et al., 2014).

Three studies used theories that explained personal traits or psychological processes as influential to an individual's work or ability to engage in work, including Boykin and Schoenhofer's (2011) theory on nursing as caring (Bishop, 2013), Reed's (2003) theory on self-transcendence (Palmer et al., 2010), and Social Exchange Theory (Rivera et al., 2011). Three studies used theories that explained the processes of retention of employees and turnover (Sawatzky & Enns, 2012; Laschinger, 2012; Simpson, 2009b) and two of these theories were developed by the authors for the purpose of the study (Sawatzky & Enns, 2012; Laschinger, 2012).

Conceptualization of work engagement. Fifteen included studies utilized a definition and conceptualization of work engagement described by Schaufeli and Bakker (2004; 2010; Schaufeli et al., 2002; Schaufeli, Bakker, & Salanova, 2006) (Bamford et al., 2013; Bishop, 2013; Cadiz, 2010; Giallonardo et al., 2010; Hayati et al., 2014; Laschinger, 2010; Laschinger, 2012; Laschinger et al., 2012; Laschinger et al., 2009; Lawrence, 2011; Palmer et al., 2010; Sawatzky & Enns, 2012; Simpson, 2009b; Sullivan Havens et al., 2013; Wang & Liu, 2013;

Wong et al., 2010). The authors referenced various articles written by Schaufeli and Bakker at various time points between 2002-2010, however, the foundational definition and conceptualization of work engagement outlined by Schaufeli and Bakker has not changed over this time period. One study did not clearly state any conceptualization or definition of work engagement that was used, however, the Utrecht Work Engagement Scale was the instrument used to measure work engagement in the study, which may suggest alignment with Schaufeli and Bakker's conceptualization of work engagement (Walker & Campbell, 2013).

Three studies (Giallonardo et al., 2010; Laschinger, 2009; Bishop, 2013) specifically identified that they integrated Schaufeli and Bakker's concept of work engagement with another model, including Avolio et al.'s (2004) model of authentic leadership (Giallonardo et al., 2010), Kanter's (1993) theory of structural power (Laschinger, 2010), and Boykin and Schoenhofer's (2001) theory on nursing as caring, to provide a theoretical framework for the research. One study used the Job Demands-Resources model (JD-R) (Bakker & Demerouti, 2008) to provide a framework for examining resource variables (Laschinger et al., 2012).

The one qualitative study did not identify a previously documented conceptualization or definition of work engagement. Rather, the author defined work engagement independently as "a positive state of mind when performing the work role, resulting in a sense of fulfillment" (Wu, 2010, p. 6). Wu (2010) clearly identifies work engagement as a positive state of mind related to work, which is also a key characteristic of Schaufeli & Bakker's conceptualization that is different from other conceptualizations of work engagement that focus primarily on the interaction between the employee and the organization (Kahn, 1990).

The other study that did not utilize Schaufeli and Bakker's conceptualization of work engagement adopted a conceptualization that focuses on the interaction between the employee

and the organization (Rivera et al., 2011). Rivera et al. (2011) used a definition of work engagement from the Advisory Board Company (2007) and stated that nurse engagement was measured by four factors: being inspired by one's workplace; willingness to invest discretionary effort to help the organization succeed; likelihood to recommend one's employer to others; and planning to work with the organization in three years.

Instruments used to measure work engagement. A total of three different instruments were used to measure work engagement of registered nurses in seventeen quantitative studies. Fifteen of the 17 quantitative studies used a version of the Utrecht Work Engagement Scale (UWES) developed by Schaufeli and Bakker in 2003 (Bamford et al., 2013; Bishop, 2013; Cadiz, 2010; Giallonardo et al., 2010; Hayati et al., 2014; Laschinger, 2010; Laschinger, 2012; Laschinger et al., 2012; Laschinger et al., 2009; Lawrence, 2011; Palmer et al., 2010; Simpson, 2009b; Sullivan Havens et al., 2013; Walker & Campbell, 2013; Wang & Liu, 2013; Wong et al., 2010). Four different versions of the UWES were used. Five studies used the English, 17-item version of the UWES (Bishop, 2013; Giallonardo et al., 2010; Hayati et al., 2014; Lawrence, 2011; Palmer et al., 2010). Eight studies used the UWES-9, a nine-item short version of the UWES (Bamford et al., 2013, Cadiz, 2010; Laschinger, 2010; Laschinger, 2012; Laschinger et al., 2012; Laschinger et al., 2009; Simpson, 2009; Sullivan Hayes, 2013; Wong, 2010). One study used a 14-item version of the UWES (Walker & Campbell, 2013). One study used a Chinese version of the UWES (Wang & Liu, 2013).

Two studies each used a different measure of work engagement. These included the nurse engagement survey (NES) (Rivera et al., 2011) and the engagement composite questionnaire (Sawatzky & Enns, 2012).

Instruments used to measure factors associated with work engagement. Thirty-three different instruments were used to measure various factors predicted to be associated with work engagement in nursing practice. No two studies used the same combination of measurement instruments. Twenty-three different instruments were used to measure antecedents of work engagement, either directly and/or indirectly through a mediating factor. Four different instruments were used to measure intermediary or mediating factors. Eight different instruments were used to measure outcomes of work engagement.

Six instruments were used in more than one study. The Practice Environment Scale (PES) of the Nursing Work Index (Lake, 2002) was used in three studies (Laschinger et al., 2012; Sullivan Havens et al., 2013; Wang & Liu, 2013). The Areas of Worklife Scale (AWS) (Maslach & Leiter, 1997) was also used in three studies (Bamford et al., 2013; Laschinger, 2010; Laschinger et al., 2012). The Authentic Leadership Questionnaire (ALQ) (Avolio, Gardner, & Walumbwa, 2007) was used in two studies and reported in three manuscripts (Bamford et al., 2013; Wong et al., 2010; Giallonardo et al., 2010). The Conditions of Work Effectiveness II (Laschinger, Finegan, & Shamian, 2001a; Laschinger, Finegan, & Shamian, 2001b) was used in two studies to measure structural empowerment (Laschinger, 2010; Laschinger et al., 2009). The turnover intent of nurses was measured by tool adapted from Kelloway, Gottlieb, & Barham (1999) in two studies (Laschinger, 2012; Laschinger et al., 2012). Finally, two studies used the Index of Work Satisfaction (Stamps, 1997) (Giallonardo et al., 2010; Simpson, 2009b).

All other instruments were used in single studies. Three different instruments were used to measure job resources and factors related to the work environment. Factors related to retention and turnover were measured by four different instruments. Three instruments were used to

measure factors related to job satisfaction and quality of life of nurses. Three instruments were used to measure personal and professional practices.

Analysis techniques used for quantitative studies are reported in Table 5. The majority of studies (n=13) (Bamford et al., 2013; Cadiz, 2010; Giallonardo et al., 2010; Hayati et al., 2014; Laschinger, 2012; Laschinger et al., 2012; Lawrence, 2011; Rivera et al., 2011; Sawatzky & Enns, 2012; Simpson, 2009; Sullivan Havens et al., 2013; Walker & Campbell, 2013; Wang & Liu, 2013; Wong et al., 2010) use a combination of correlational analyses and either multiple regression, logistic regression, or structural equation modeling. However, each study examined select relationships in modeling analyses and some results were reported strictly as correlations. Two studies reported results of only the structural equation modeling and additional fit indices (Laschinger, 2010; Laschinger et al., 2009). One study used correlational analyses only (Palmer et al., 2010). The intervention study used paired t-tests as the sole form of statistical analyses (Bishop, 2013). The one qualitative study used participant observation and semi-structured interviews to collect data about registered nurses perceptions of work engagement. Qualitative thematic analytic techniques were used to determine findings from field notes and audio-recorded interviews. See Table 6 for a summary of the results. Table 6 details which results were based strictly on correlational analysis or t-tests.

Narrative Synthesis of Results

Using content analysis, all results of the 18 included studies were first grouped into two major groups, (1) factors influencing work engagement, and (2) outcomes of work engagement.

The results of the included studies presented both themes that align with the JD-R model of engagement (Bakker & Demerouti, 2008) (Figure 1) and unique themes and sub-themes, including greater emphasis on specific factors and outcomes. By overlaying my results on the

JD-R model of engagement (Bakker & Demerouti, 2008), I adapted the JD-R model of engagement in nursing practice (see Figure 3 for adapted JD-R model). I present the thematic categories of factors that predict work engagement and outcomes of work engagement in detail according to the my adapted JD-R model for work engagement (Figure 3) in nursing practice and provide a comprehensive summary of the findings.

Impact of influencing factors on work engagement. A total of 77 influencing factors were categorized into six themes: (1) organizational climate, (2) job resources, (3) professional resources, (4) personal resources, (5) job demands, and (6) demographic variables. Sub-themes were also identified in some of the thematic categories. See Table 6 for all influencing factors sorted by the thematic categories and sub-categories.

Organizational climate. Seven quantitative studies and one qualitative study examined influencing factors that can be considered part of the broad organizational climate (Bamford et al., 2013; Giallonardo et al., 2010; Hayati et al., 2014; Rivera et al., 2011; Sawatzky & Enns, 2012; Wong et al., 2010; Wu, 2010). These factors are grouped into two categories, leadership and structural empowerment.

Leadership. Specific types of leadership, authentic leadership (Bamford et al., 2013; Giallonardo et al., 2010; Wong et al., 2010) and transformational leadership (Hayati et al., 2014), were both reported to influence work engagement directly or indirectly in three studies. Giallonardo et al. (2010) reported that perceptions of preceptor authentic leadership was a significant, direct predictor of work engagement in new graduate nurses. A second study that examined authentic leadership was reported in two articles of the same study. The influence of authentic leadership on work engagement was fully mediated by other factors in both of these articles (Bamford et al., 2013; Wong et al., 2010). The relationship between authentic leadership

and work engagement was fully mediated by trust in the manager in Wong et al.'s (2010) analysis. Whereas, Bamford et al. (2013) reported that relationship between authentic leadership and work engagement was fully mediated by the six areas of worklife (workload, control, values, community, rewards, fairness).

Transformational leadership was positively correlated with work engagement in one study (Hayati et al., 2014). This study also reported that transformational leadership was a significant positive predictor for the three dimensions of work engagement, vigour, dedication, and absorption (Hayati et al., 2014).

While the type of leadership was not specifically specified, the qualitative study reported that nurses identified that leadership in general impacted their level of work engagement (Wu, 2010). Nursing management was also reported to be an associated with engagement of nurses in one study (Sawatzky & Enns, 2012). Conversely, Rivera et al. (2011) reported manager action to be a non-significant predictor of work engagement when other predicted drivers of engagement, including autonomy, nurse and non-nurse teamwork, personal growth, recognition, salary and benefits, and work environment, were controlled for.

Structural Empowerment. Two studies examined structural empowerment as a predictor of work engagement (Laschinger, 2010; Laschinger et al., 2009). Laschinger et al. (2009) reported that structural empowerment was a direct, significant predictor of work engagement in both new graduate nurses and experienced nurses. The impact of empowerment on work engagement was not significantly different between the new graduate and experienced nurses (Laschinger et al., 2009). In a later study, Laschinger (2010) did not examine structural empowerment as a direct predictor of work engagement, but reported the impact of structural

empowerment on work engagement to be partially mediated by four of the six areas of worklife, control, rewards, fairness, and value congruence.

Job resources. Job resources were the most prominent factors examined in terms of influence on work engagement. The 20 influencing factors in this category were group into three sub-themes, (1) organizational, (2) interpersonal and social relations, and (3) organization of work and tasks.

Organizational. Two quantitative studies reported what can be considered organizational resource factors to be significant predictors of work engagement, the six areas of worklife (Bamford et al., 2013) and value congruence (Laschinger, 2010). Additionally, in the qualitative study, Wu (2010) reported that nurses identified work environment and salary and benefits as important elements for work engagement. However, both of these factors were reported as not significant in relation to work engagement in two quantitative studies (Rivera et al., 2011; Simpson, 2009b). Additionally, Simpson (2009b) reported that satisfaction with organizational policies was not a significant predictor of work engagement.

Interpersonal and social relations. Within the category of job resources, factors related to interpersonal and social relations were most commonly examined. Significant predictors of work engagement include a social identification with the work unit (Wong et al., 2010), satisfaction with interaction (Simpson, 2009b), relational coordination (Sullivan Havens et al., 2013), and collaboration with physicians (Sawatzky & Enns, 2012). Likewise, the intervention study reported that a relationally based intervention with nurses resulted in significantly increased work engagement based on pre-post t-tests (Bishop, 2013). The stated purpose of the intervention was to create a supportive environment for older registered nurses to reflect, share, stories, and dialogue about the true meaning of care (Bishop, 2013).

The qualitative study also reported a number of factors within this sub-theme that nurses believed influenced their level of work engagement (Wu, 2010). These factors include social identification with the work unit, satisfaction with interaction, relationships with nurse peers, patients, and families, and support from peers, family, and management (Wu, 2010).

Conversely, three relational factors were reported to be not significant predictors of work engagement; community (Laschinger, 2010), nurse teamwork (Rivera et al., 2011), and non-nurse teamwork (Rivera et al., 2011).

Organization of work and tasks. Rewards (Laschinger, 2010), fairness (Laschinger, 2010), and staffing resources (Sawatzky & Enns, 2012) all significantly predicted work engagement. However, Rivera et al. (2011) reported that recognition was not a significant predictor of work engagement when other predicted drivers of engagement were controlled for.

Professional resources. Professional resources are resource factors that enable nurses to engage in professional nursing practice according to professional standards and scope of practice and allow nurses to meet professional goals. Professional resource factors were the second most common type of factor examined in relation to their influence on work engagement. Sixteen factors were further categorized into four sub-themes: (1) professional practice environment, (2) autonomy, (3) role and identity, and (4) professional practice and development.

Professional practice environment. Four quantitative studies reported that professional practice environment was a significant, direct (Laschinger et al., 2012; Sawatzky & Enns, 2012; Wang & Liu, 2013) and/or indirect (Sullivan Havens et al., 2013; Wang & Liu, 2013) predictor of work engagement. One study reported that professional practice environment was both a direct and indirect predictor of work engagement, which is partially mediated by psychological empowerment (Wang & Liu, 2013).

Autonomy. Four factors related to autonomy in nurses' work were examined in six studies. Control was reported as a significant direct (Laschinger, 2010; Laschinger et al., 2012) and indirect (Laschinger, 2010) predictor of work engagement. Decisional involvement was also reported to significantly, positively impact work engagement (Sullivan Havens et al., 2013). Additionally, Wu (2010) reported that nurses perceived autonomy to influence their work engagement. Conversely, autonomy was reported as a not significant in influencing work engagement in two studies (Rivera et al., 2011; Simpson, 2009b). Decisional dissonance was also reported as non-significant in one study (Sullivan Havens et al., 2013).

Role and identity. Factors in this sub-theme, all reported to positively influence work engagement, were satisfaction with professional status (Simpson, 2009b), professional respect (Wu, 2010); discovery of the core value of nursing (Wu, 2010), passion for nursing (Rivera et al., 2011), and interest in nursing (Wu, 2010). Notably, Rivera et al. (2011) reported that passion for nursing was the only significant predictor of work engagement when other drivers of engagement were controlled for, including autonomy and input, manager action, nurse and non-nurse teamwork, personal growth, recognition, salary and benefits, and work environment. Furthermore, Simpson (2009b) also reported that the combined effect of satisfaction with professional status and interaction significantly influenced the relationship between thinking of quitting and work engagement. The lower the satisfaction with professional status and interaction, the stronger the negative relationship between thinking of quitting and work engagement (Simpson, 2009b).

Professional practice and development. Five factors were reported to have a relationship with work engagement within this sub-theme. Three factors pertained to reflective practice but the results were equivocal (Cadiz, 2010; Lawrence, 2011). Additional factors were reported

qualitatively and included professional accomplishment, professional performance, and challenge and professional growth (Wu, 2010).

Personal resources. Thirteen personal resource factors were examined and were considered personal resources if they reside within the individual. These factors were further grouped into three sub-themes including: (1) psychological, (2) relational, and (3) skill.

Psychological. Psychological factors examined include psychological capital, psychological empowerment, self-transcendence, and turnover cognitions. Psychological empowerment (Wang & Liu, 2013), and self-transcendence (Palmer et al., 2010) were both reported to be significant, positive predictors of work engagement. Turnover cognition variables were either reported as a negative predictor of engagement (thinking of quitting) or not significant in relation to work engagement (job-search behavior, intent to quit, intent to search) (Simpson, 2009).

Relational. Three relational factors were reported in two quantitative studies and one qualitative study. Trust in manager (Wong et al., 2010), and social intelligence (Walker & Campbell, 2013) were reported as significant predictors of work engagement. In addition, Wu (2010) qualitatively reported that nurses perceived personality to be predictive of their level of work engagement.

Skill. Three factors related to skill, including clinical competence (Walker & Campbell, 2013), organizational acumen (Walker & Campbell, 2013), and personal growth (Rivera et al., 2011) were all not significant in predicting work engagement levels of nurses.

Job demands. Twelve factors were categorized as job demands and further categorized into the sub-themes of, (1) work pressure, (2) physical and mental demands, (3) emotional demands, and (4) adverse environment.

Work pressure. While three factors related to work pressure, including workload, indirect patient care, and adjustment to nursing work were identified qualitatively as factors that had a negative impact on nurses' work engagement (Wu, 2010), no significant quantitative evidence of the negative influence of these factors was reported. Laschinger (2010) reported workload to be non-significant related to work engagement levels. Additionally, Simpson (2009b) reported that task requirements did not contribute to the overall statistical model tested for predicting nurses' work engagement.

Physical and mental demands. Four studies examined factors relevant to physical and mental demands, including shiftwork, day shift versus night shift, length of the work shift, hours worked per week, recovery and rest, and no occupational care provision. No occupational care provision was reported to predict work engagement in one study (Sawatzky & Enns, 2012). Sawatzky & Enns (2012) also reported that shiftwork was a significant, negative predictor of work engagement. Similarly, a positive, significant correlation was found between day shift and work engagement (Rivera et al., 2011), and hours worked per week and work engagement (Simpson, 2009b). Contrary to Rivera et al.'s (2011) findings, Simpson (2009b) reported that day shift was not significantly correlated to work engagement. Additionally, the length of the work shift was also not significantly correlated to engagement in Simpson's (2009b) study.

Emotional demands. Moral distress was the only factor examined that was categorized as an emotional demand. Lawrence (2011) reported that moral distress had a significant, negative, correlational relationship with work engagement.

Adverse environment. Cadiz (2010) investigated the effect of a general ageism climate and reported that it was a negative, significant predictor of work engagement.

Demographic variables. Eleven demographic variables were examined in the included studies. Of 27 total results reported on demographic variable, 16 results were from correlational analyses.

Age was the most commonly examined demographic factor (n=8 studies) (Cadiz, 2010; Giallonardo et al., 2010; Laschinger et al., 2012; Palmer et al., 2010; Rivera et al., 2011; Simpson, 2009b; Sullivan Havens et al., 2013; Walker & Campbell, 2013), however, the results of age and work engagement are equivocal. Three studies reported a positive relationship between years of nursing experience and work engagement (Bamford et al., 2013; Palmer et al., 2010; Rivera et al., 2011) and one study reported that no significant relationship exists (Simpson, 2009b). Relationships among other demographic variables and work engagement were reported in single studies. Variables including sex, generational cohort, education level, tenure at hospital, length of time at research site, were reported as non-significant by a single or multiple authors.

Impact of work engagement on outcomes. Seventeen outcomes of work engagement were categorized into three themes: (1) performance and care outcomes, (2) professional outcomes, and (3) personal outcomes. See Table 7 for all outcomes of work engagement sorted by thematic categories.

Performance and care-related outcomes. Performance and care-related outcomes refer to outcomes related to various aspects of nurses' performance, including organizational outcomes and patient outcomes. The outcomes in this category include voice behavior, perceived care quality, quality care, work effectiveness, patient satisfaction, adverse events, and productivity. Three factors, voice behavior (Wong et al., 2010), perceived care quality (Wong et al., 2010), and work effectiveness (Laschinger et al., 2009) were all reported to significantly increase with greater work engagement. The remaining factors in this category were not

quantitatively analyzed but were identified to influence nurses' work engagement in qualitative analysis (Wu, 2010).

Professional outcomes. Professional outcomes refer to outcomes that impact the profession of nursing or the professional body of nurses in some way. These outcomes can be differentiated from organizational outcomes because of they impact the broader professional body of nurses that is not limited to a single or specific organization. The only professional outcome examined in the included studies was intent to leave nursing, which was reported to be higher when work engagement was low in one quantitative study (Laschinger, 2012) and one qualitative study (Wu, 2010).

Personal outcomes. Personal outcomes refer to the effects of work engagement on the individual nurse. Characteristically, these outcomes exist within the individual. Personal outcomes were the most commonly examined outcomes of work engagement, with a total of 9 factors examined. Three studies reported significantly higher job satisfaction (Giallonardo et al., 2010; Sawatzky & Enns, 2012), career satisfaction (Laschinger, 2012) and compassion satisfaction (Sawatzky & Enns, 2012) with greater work engagement. Three studies reported significantly decreased burnout (Sawatzky & Enns, 2012), job turnover intent (Laschinger, 2012; Laschinger et al., 2012), and intention to leave current position (Sawatzky & Enns, 2012) with greater work engagement. Additionally, the qualitative study reported that nurses identified that work engagement was linked to their well-being and intention to leave (Wu, 2010). Conversely, one study reported no significant, correlational relationship between intention to remain and work engagement (Walker & Campbell, 2013).

Discussion

The findings of this comprehensive review indicate that a vast number of factors are associated with work engagement and many have a significant relationship with work engagement of professional registered nurses. Moreover, factors influencing nurses' work engagement are present at various levels, from broad organizational climate to specific job, professional, and personal resources, which is consistent with the premise of the JD-R model of engagement (Figure 1) (Bakker & Demerouti, 2008). To date, the majority of research related to work engagement in nursing practice has examined antecedent factors, however, outcomes of work engagement in nursing practice have been examined to a lesser extent, and results largely indicate that work engagement contributes to increased positive outcomes and decreased negative outcomes for individual nurses and health care organizations. The findings of this review offer a more comprehensive knowledge base than previous reviews on work engagement in nursing research (Bargagliotti, 2011; Simpson, 2009a) and provide insight into antecedents to and outcomes that are potentially unique to professional nurses' work engagement. However, the findings also point to gaps in knowledge and provide important rationale for continued organizational and research interest in professional nurses' work engagement.

During analysis, the findings of this review prompted development of an adapted Job Demands-Resources (JD-R) model for work engagement in nursing practice (Figure 3). This adapted model provides a theoretical framework on the antecedents and outcomes of nurses' work engagement and should be further expanded on, utilized to develop interventions, and tested in future research (Figure 3). While some nursing researchers have expressed concern regarding use of the JD-R model in nursing because several variables important to nursing, such as internal factors, relational factors, aspects of the work environment, and characteristics of the

nursing profession (Bargagliotti, 2012; Simpson, 2009a) are missing. I propose that adaption of the model based on research findings from this review offers nursing science a valuable beginning framework.

Synthesis of the results was inherently challenging due to wide range of factors and measurement tools utilized by researchers. Accordingly, this high degree of variation presents difficulty in making clear, succinct, practical recommendations for practice, leadership, and policy. Consequently, effective translation of knowledge about work engagement from researchers to leaders and nurses in practice settings is at risk. The JD-R model for engagement is not free from limitations, namely a lack of specificity and in-depth explanation of processes among concepts within the model (Schaufeli & Taris, 2014). However, the benefit of the model's generalizability and flexibility is suited to the current state of nursing research on work engagement and has allowed for development of an adapted model for nursing (Figure 3). The JD-R model provides a framework to make sense of current research and direct future research on nurses' work engagement, while still allowing for researchers to draw on appropriate theories that specifically pertain to concepts and realities in professional nursing practice (Schaufeli & Taris, 2014). Here, I will discuss the findings of the review according to the adapted JD-R model of engagement for nursing practice (Figure 3). Then I will discuss the implications of these findings for nursing practice, leadership, policy-making, and current and future research.

A key adaptation of the original JD-R model of engagement (Figure 1), based on the findings of this review, is placement of factors related to the broad organizational climate outside of and prior to the block of resources (Figure 3). Job, professional, and personal resources are largely present at the operational level of nursing work. However, review findings suggest that

factors at a broader organizational level, such as leadership styles and structural empowerment, influence nurses' work engagement directly and indirectly.

Additionally, findings demonstrate that leadership characteristics and structural empowerment are mediated by and hence, operate through resources at an operational level (Bamford et al., 2013; Laschinger, 2010; Wong et al., 2010). Placement of the organizational climate outside the operational level of resources highlights the importance and role of broad level organizational factors as a precursor to operational resources. Hakenen and Roodt (2010) identify that overall, little attention has been paid to the effect of leadership on work engagement, however, a number of studies in this review of nursing research examined leadership and empowerment factors. Apparent research attention to this area may indicate that these factors are particularly relevant to professional nurses' work engagement.

Existing nursing research clearly supports that leadership practices function through other factors to impact specific, positive outcomes. Fasoli (2010) proposes that nursing leadership must support professional nursing practice through the operational level that is the organization of care. Germain and Cummings (2010) identify that nursing leadership indirectly impacts nurses' motivation to perform through other influencing factors, including autonomy, working relationships, and resources. Additionally, Cowden et al. (2011) suggest that effective leadership styles, such as transformational and relational leadership, must be embraced as part of the organizational culture and present at all levels of the organization.

A central assumption of the JD-R model of engagement is that resources become more salient when job demands are high (Bakker & Leiter, 2010). It is plausible that factors related to the broad organizational climate also contribute to this mitigation effect and previous nursing research provides support for this notion. Cummings, Hayduk, and Estabrooks (2005) reported

that resonant leadership styles, versus dissonant leadership styles, mitigated the impact of hospital restructuring on nurses and subsequently resulted in fewer unmet patient care needs.

A second adaption to the JD-R model of engagement that was guided by the findings of this review is the addition of professional resources as a distinct category under resources (Figure 3). Factors related to professional aspects of nursing were commonly examined and the vast majority of results demonstrated that these factors were significant, positive predictors of nurses' work engagement. Hakanen and Roodt (2010) support the role of work identity formation on work engagement as an important avenue for future research. It is clear that nursing research in this area has already started. It is reasonable to suggest that this research initiative is in response to the nature of nursing as a profession and previous Magnet-hospital research, which has clearly demonstrated the positive impact of professional nursing practice environments on both patient and organizational outcomes (Fasoli, 2010). Based on review findings, and the expected continued research attention to professional factors, it is imperative that the JD-R model for engagement in nursing practice reflects the significance of professional resources to nurses' work engagement.

The trend of outcomes examined in the included studies also prompted variations to the categories of outcomes in the adapted JD-R model of engagement to include personal outcomes and professional outcomes, in addition to performance outcomes (Figure 3). Bakker and Demerouti (2008) and other prominent authors in the field of work engagement research have primarily focused on the outcomes for the organization, and have termed the outcomes category as performance (Figure 1). However, the findings of this review demonstrate that work engagement in professional nurses significantly influences personal outcomes in addition to performance related outcomes. In fact, personal outcomes were the most commonly examined

type of outcome in the studies included in this review and strict organizational outcomes have been minimally studied in nursing research. Performance outcomes were examined in two quantitative studies included in this review, which measured nurses' perceived levels of voice behavior, care quality and work effectiveness. While the qualitative study identified outcome themes related to the organization, including quality care, productivity, and adverse events, no studies have objectively measured organizational outcomes.

The sub-category of professional outcomes was also added to the model in response to review findings and anticipated relevance of such outcomes in professional nursing. In this review, one study reported that greater work engagement significantly decreased intent to leave nursing. Further, the identified significance of professional resources on nurses' work engagement suggests that professional outcomes of work engagement are important to consider.

Finally, review findings indicate that future work is required related to the proposed feedback loop and reciprocal relationship, or "positive gain spiral" between existing work engagement and outcomes and the resources that predict ongoing work engagement (Bakker & Demerouti, 2008; Schaufeli et al., 2009) (Figure 1; Figure 3). While it is theoretically plausible these reciprocal relationships exist related to professional nurses' work engagement, as has been demonstrated in research of other disciplines (Salanova, Schaufeli, Xanthopoulou, & Bakker, 2010), it has not yet been studied.

Implications for Nursing Practice

Evidence from this review demonstrates that personal and professional resources influence and predict work engagement and correspondingly presents implications for the individual nurse. Specifically, professional development practices, such as critical reflective practice (Lawrence, 2011) and core self-evaluation (Cadiz, 2010), have been found to predict work engagement and

consequently, the importance of such practices is supported. Additionally, a passion for nursing, the discovery of the core value of nursing, and an interest in nursing have all been identified to influence nurses' work engagement. Moreover, I have argued elsewhere that work engagement is essential to ethical nursing practice (Keyko, 2014). Therefore, the ethical responsibility of registered nurses' supports individual responsibility for work engagement in professional practice (Keyko, 2014). However, the influence of leadership and the organizational climate on individual level resources cannot be ignored.

Implications for Nursing Leadership and Policy-Makers

The findings of this review highlight the specific and clear impact of the broad organizational level on nurses work engagement. From an ethical perspective, the responsibility for nurses' work engagement does not reside solely within the individual nurse alone, but extends to the broader context of practice environments, the organization, and health care systems (Keyko, 2014). Leadership and structural empowerment were found to both directly impact work engagement of registered nurses and indirectly influence work engagement through various operational resource factors. Studies that reported authentic leadership's indirect effect on work engagement provide insight into both the mechanism by which authentic leadership impacts work engagement and the aspects of authentic leadership that are potentially most important to nurses' work engagement.

Additionally, the documented significant positive relationships between operational level resources and work engagement suggests areas where health care and nursing leaders can focus attention in effort to promote work engagement. Nurse managers in first-level management positions who directly interact with nursing staff providing direct care are in a pivotal position to both influence operational resources and advocate for broader organizational changes based on

current circumstances. Nurse managers and leaders can foster the development of trust by responding to nurses' concerns and delivering on promises. To promote value congruence, it is important for nurse and health care leaders to share the their values and vision with staff nurses and seek feedback. This concept has been supported as an effective leadership strategy in mainstream business literature for some time (Kouzes & Posner, 2012). To respond to the potential negative impact of job demands, which are inherent to nursing work, such as shiftwork, on work engagement, nurse leaders are challenged to develop creative solutions. Involving staff registered nurses in brainstorming such solutions will not only present viable ideas, but may foster further trust in the manager.

Evidence of the impact of interpersonal relationships among nurses and their leaders, managers, and colleagues suggests that attention needs not only to be directed at promoting leadership to foster work engagement in nurses, but also to the work group and relationships between colleagues. Results support that issues at multiple levels within current nursing work environments must be attended to ensure nurses are engaged in their work and empowered to provide high quality care (Laschinger et al., 2009).

The theoretical basis and empirical support outside of nursing for a positive gain spiral where initial work engagement predicts an increase in job resources, and in turn, further increases work engagement (Schaufeli et al., 2009) may offer a valuable reward for leaders who actively seek to promote nurses' work engagement. The results related to personal resources suggest that this positive gain spiral is particularly relevant to nurses. That is, if nurses' work engagement is fostered, it may feed back to greater personal resource factors, and subsequently, further increases in work engagement and associated positive outcomes.

The relationships among broader organizations, work engagement of nurses, and outcomes are not straightforward. Rather, findings suggest that characteristics of the organizational climate play a role in work engagement and subsequent outcomes. Further research is both warranted and necessary to gain improved understanding of these complex relationships.

Implications for Nursing Research

There was considerable consistency in conceptualizations of work engagement and instruments used to measure work engagement across the included studies. Fifteen studies used the same definition of work engagement and measured work engagement with a version of the same instrument, the Utrecht Work Engagement Scale. Therefore, a statistical meta-analysis could be done on these results and is a clear next step for research in this area.

The adapted JD-R model for work engagement in nursing practice assists in identifying important areas for future research based on gaps in the current model. While the findings from this review only examine relationships between work engagement and both select leadership styles and structural empowerment, it suggests that other aspects of organizational climate influence work engagement as well. Additionally, relationships between organizational climate and job demands were not examined in studies included in this review, but existing nursing research supports possible relationships that should be examined in the context of nurses' work engagement to further expand the adapted JD-R model for work engagement (Figure 3).

The current status of research on work engagement in nursing practice includes a substantial volume of research that predominantly pertains to various antecedents of work engagement. While an extensive number of factors have a demonstrated relationship with nurses' work engagement, it is necessary for more rigorous research designs to be used to improve the

strength of findings related to work engagement. At this point, I suggest that future research build on existing correlational data and move forward to stronger and more complex statistical analysis. At the same time, more qualitative work is also required to identify potential unknown factors that nurses' perceive to influence their work engagement and be outcomes of engagement.

The evident lack of objective measurement of outcomes presents an essential area for future research. For example, absenteeism is an organizational outcome that could be feasibly measured and examined related to nurses' work engagement, as has been done in other disciplines (Schaufeli et al., 2009). Additionally, a surprising finding of this review was the lack of research on the patient-related outcomes of professional nurses' work engagement, which also presents an important area for future research attention. Future research on patient-centered outcomes of nurses' work engagement would provide further support for the importance and value of promoting work engagement in professional nursing practice.

Additionally, greater diversity in sample participants is required. All but one of the studies included in this review used samples of nurses from acute-care hospital settings. The inherent diversity of nursing practice settings and nursing work suggests that research studies on work engagement must extend to other populations of nurses in order to determine whether the findings from this review are applicable to all registered nurses, or whether there are unique influencing factors and outcomes present in other populations and settings.

All but one study in this review used cross-sectional designs to examine nurses' work engagement. Longitudinal research is required to enhance knowledge about the development and promotion of work engagement in professional nursing practice. It is possible that personal and professional resources in particular may change over time. For example, Hakanen and Roodt

(2010) suggest that work identity may develop over time and result in deeper engagement throughout the work career.

Finally, greater specificity in the factors examined to have a relationship with nurses' work engagement must be sought. Many studies in this review utilized instruments with multiple subscales, but reported results based on the overall score. In such cases, it is difficult to isolate what exactly influences work engagement or has the biggest impact on work engagement. This also applied to outcomes of work engagement.

Limitations

This review is subject to a number of limitations, which should be considered when applying the findings to practice. The review only included studies that directly examined work engagement, and therefore, may have resulted in the inclusion of studies that predominantly measured work engagement using the Utrecht Work Engagement Scale because it is the most common direct measurement tool for work engagement. Accordingly, it was also more likely that studies using Schaufeli and Bakker's (2004) conceptualization of work engagement would be included.

The variability in antecedent and outcome factors examined in the included studies limited the ability to statistically summarize these results through meta-analysis. The predominantly correlational designs do not allow for causal assertions, nor do they support claims of specific directionality of effect. Therefore, variables that were examined as predictors of work engagement may also be conceptualized as outcomes. All of the studies included in this review used self-reported data, which introduces a potential response bias and limits the objectivity of the findings. The narrow population of predominantly acute-care nurses that has been studied limits the generalizability of the findings to all professional registered nurses.

Conclusion

The findings of this systematic review suggest that multiple organizational, operational, and individual level factors influence the work engagement of professional registered nurses. The findings also demonstrate that positive outcomes of work engagement also exist at multiple levels and are valuable to both performance and to the individual nurse. Review findings and evaluation of existing theoretical and empirical knowledge about work engagement resulted in an adapted version of the Job Demands-Resources model for work engagement in nursing practice. This adapted model offers a valuable framework in which to understand work engagement in nursing practice, to develop interventions for promoting engagement, and to direct further research. The findings offer beginning opportunities for nurse leaders to promote work engagement in professional nurses through action on organizational level resources. While many avenues for future research exist, however, there is an imminent need to understand the organizational and patient related outcomes of nurses' work engagement. The hope is that the JD-R model for engagement in nursing practice stimulates intervention to act on promoting work engagement in professional nurses now, while also presenting the essentiality of further research work.

References

Advisory Board Company (2007). *Engaging the nurse workforce: Best practices for promoting exceptional staff performance.* Washington, DC: Advisory Board Company.

Aiken, L. H., Clarke, S. P., Sloane, D. M. et al. (2001). Nurses' reports on hospital care in five countries. Health Affairs 20(3), 43-53.

Avolio, B., Bass, B. M., & Jung, D. I. (1999). Reexamining the components of transformational leadership theory and transactional leadership using the multifactor leadership questionnaire. *Journal of Occupational Organizational Psychology 72,* 441-462.

Avolio, B., Gardner, W., Walumbwa, F. (2007). Authentic leadership questionnaire. Retrieved from http://www.mindgarden.com/products/alq.htm, accessed 1 July, 2014.

Avolio, B., Gardner, W., Walumbwa, F., Luthans, D., & May, D. (2004). Unlocking the mask: A look at the process by which authentic leaders impact follower attitudes and behaviours. Leadership Quarterly 15, 801-823.

Bakker, A. B., Albrecht, S. L., & Leiter, M. P. (2011). Key questions regarding work engagement. European Journal of Work and Organizational Psychology 20(1), 4-28. doi: 10.1080/1359432x.2010.485352

Bakker, A. B., & Bal, P. M. (2010). Weekly work engagement and performance: A study among starting teachers. Journal of Occupational and Organizational Psychology 83,189-206. doi: 10.1348/096317909X402596

Bakker, A. B. & Demerouti, E. (2007). The job demands-resources model: State of the art. Journal of Managerial Psychology 22(3), 309-328. doi: 10.1108/02683940710733115.

Bakker, A. B. & Demerouti, E. (2008). Towards a model of work engagement. Career Development International 13(3), 209-223. doi: 10.1108/13620430810870476

Bakker, A. B. & Leiter M. P. (2010). Where to go from here: Integration and future research on work engagement. In A. B. Bakker & M. P. Leiter (Eds.), Work engagement: A handbook of essential theory and research (pp. 181-196). New York, NY: Psychology Press.

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. doi: 10.1111/j.1365-2834.2012.01399.x

Bargagliotti, A. L. (2012). Work engagement in nursing: a concept analysis. Journal of Advanced Nursing, 68(6), 1414-1428. doi: http://dx.doi.org/10.1111/j.1365-2648.2011.05859.x

Bass, B. (1999). Two decades of research and development in transformational leadership. European Journal of Work Organizational Psychology 8(1), 9-32.

Bass, B. M. & Avolio, B. J. (1997). Full range leadership development: Manual for the multifactor leadership questionnaire. Mind Garden Inc, Palo Alto, USA.

Bishop, M. (2013). Work engagement of older registered nurses: The impact of a caring-based intervention. Journal of Nursing Management 21, 941-949. doi: 10.1111/jonm.12182

Boykin, A. & Schoenhofer, S. O. (2011). Nursing as caring: A model for transforming practice. Jones and Bartlett Publishers, Sudbury: MA.

Cadiz, D. M. (2011). The effects of ageism climates and core self-evaluations on nurses' turnover intentions, organizational commitment, and work engagement. Dissertation. Portland State University.

Caballero, C. L., Walker, A., & Fuller-Tyszkiewicz, M. (2011). The work readiness scale (WRS): Developing a measure to assess work readiness in college graduates. Journal of Teaching and Learning for Graduate Employability 2, 41-54.

Centre for Reviews and Dissemination (CRD) (2009). Systematic reviews: CRD's guidance for undertaking reviews in health care. Layerthorpe, York: CRD, University of York.

Choi, J., Bakken, S., Larson, E., Du, Y., & Stone, P. W. (2004). Perceived nursing work environment of critical care nurses. Nursing Research 53(6), 370-376.

Cowden, T., Cummings, G., & Profetto-McGrath, J. (2011). Leadership practices and staff nurses' intent to stay: A systematic review. Journal of Nursing Management 19, 461-477. doi: 10.1111/j.1365-2834.2011.01209.x

Cummings, G. G. (2013). Nursing leadership and patient outcomes. Journal of Nursing Management 21, 707-708. doi: 10.1111/jonm.12152.

Cummings, G., Hayduk, L., & Estabrooks, C. (2005). Mitigating the impact of hospital restructuring on nurses: The responsibility of emotionally intelligent leadership. *Nursing Research 54*(1), 2-12.

Cummings, G., Lee, H., MacGregor, T., Davey, M., Wong, C., Paul. L., & Stafford, E. (2008). Factors contributing to nursing leadership: A systematic review. Journal of Health Services Research & Policy 13(4), 240-248. doi: 10.1258/jhsrp.2008.007154.

Cummings, G., MacGregor, T., Davey, M., Lee, H., Wong, C. A., Lo, E., Muise, M., & Stafford, E. (2010). Leadership styles and outcome patterns for the nursing workforce and work environment: A systematic review. International Journal of Nursing Studies 47, 363-385. doi: 10.1016/j.ijnurstu.2009.08.006

Critical Appraisal Skills Programme (CASP) (2010). 10 questions to help you make sense of qualitative research. Retrieved from http://www.caspinternational.org/mod_product/uploads/CASP%20Qualitative%20Research%20Checklist%2031.05.13.pdf

Demerouti, E., Bakker, A. B., De Jonge, J., Janssen, P. P. M., & Schaufeli, W. B. (2001). Burnout and engagement at work as a function of demands and control. Scandinavian Journal of Work, Environment, and Health 27, 279-286.

Fasoli, D. R. (2010). The culture of nursing engagement: a historical perspective. Nursing Administration Quarterly, 34(1), 18-29. doi: 10.1097/NAQ.0b013e3181c95e7a

Germain, P. B., & Cummings, G. (2010). The influence of nursing leadership on nurse performance: A systematic review. Journal of Nursing Management 18, 425-439. doi: 10.1111/j.1365-2834.2010.01100.x

Giallonardo, L. M., Wong, C. A., & Iwasiw, C. L. (2010). Authentic leadership of preceptors: predictor of new graduate nurses' work engagement and job satisfaction. Journal of Nursing Management, 18(8), 993-1003. doi: http://dx.doi.org/10.1111/j.1365-2834.2010.01126.x

Gittell, J. H., Fairfield, K., Bierbaum, B. et al. (2000). Impact of relational coordination on quality of care post-operative pain and function, and length of stay: A nine hospital study of surgical patients. *Medical Care 38*(8), 807-819.

Hackman, J. R. & Oldman, G. R. (1975). Development of the Job Diagnostic Survey. Journal of Applied Psychology 60(2), 159-170.

Hakanen, J. J. & Roodt, G. (2010). Using the job demands-resources model to predict engagement: Analyzing a conceptual model. In A. B. Bakker & M. P. Leiter (Eds.), *Work*

engagement: A handbook of essential theory and research (pp. 85-101). New York, NY: Psychology Press.

Halbesleben, J. R. B. (2010). A meta-analysis of work engagement: Relationships with burnout, demands, resources, and consequences. In A. B. Bakker & M. P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research* (pp. 102-117). New York, NY: Psychology Press.

Halbesleben, J. R. B., & Wheeler, A. R. (2008). The relative role of engagement and embeddedness in predicting job performance and turnover intention. Work and Stress 22, 242-256.

Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. Journal of Applied Psychology, 87(2), 268-279. doi: http://dx.doi.org/10.1037/0021-9010.87.2.268

Havens, D. S., & Vasey, J. (2003). Measuring staff nurse decisional involvement: The decisional involvement scale (DIS). Journal of Nursing Administration 33(6), 331-336.

Havens, D. S., & Vasey, J. (2005). The staff nurse decisional involvement scale: Report of psychometric assessments. Nursing Resarch 54(6), 376-383.

Hayati, D, Charkhabi, M., & Naami, A. (2014). The relationship between transformational leadership and work engagement in governmental hospitals nurses: A survey study. SpringerPlus 3(25). doi: 10.1186/2193-1801-3-25

Hewitt Associates (2008). *The Hewitt engagement model.*

Hobfall, S. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist 44,* 513-524.

Judge, T., Erez, A., Bono, J., & Thoresen, C. (2003). The core self-evaluations scale: Development of a measure. Personnel Psychology, 56, 303-331.

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. Academy of Management Journal, 33, 692-724.

Kanter, R. M. (1993). *Men and women of the corporation* (2nd ed.). New York: Basic Books.

Kark, R. (2001). Gender differences in transformational leadership, followers' identifications, and effects on followers; perceptions. Unpublished PhD dissertation, Hebrew University of Jerusalem, Jerusalem.

Kark, R., Shamir, B., & Chen, G. (2003). The two faces of transformational leadership: Dependence and empowerment. *Journal of Applied Psychology 88*(2), 243-255.

Kelloway, E. K., Gottlieb, B. H., & Barham, L. (1999). The source, nature, and direction of work and family conflict: A longitudinal investigation. Journal of Occupational Health Psychology 4, 337-346.

Keyko, K. (2014). Work engagement in nursing practice: A relational ethics perspective. Nursing Ethics. doi: 10.1177/0969733014523167

Kopelman, R. E., Rovenpor, J. L., & Millsap, R. E. (1992). Rationale and construct validity evidence for the job search behaviour index: Because intentions (and New Year's resolutions) often come to naught. Journal of Vocational Behaviour 40, 269-287.

Kouzes, J. & Posner, B. (2012). The leadership challenge: How to make extraordinary thing happen in organizations (5th ed.). San Franscisco, CA: Jossey-Bass.

Kristof, A. L. (1996). Person-organization fit: An integrative review of its conceptualizations, measurements, and implications. Personnel Psychology 49, 1-8.

Lake, E. T. (2002). Devleopment of the practice environment scale of the nursing work index. *Research in Nursing & Health, 25*(3), 176-188.

Laschinger, H. K. S. (2010). Staff nurse work engagement in Canadian hosptial settings: The influence of workplace empowerment and six areas of worklife. In S. L. Albrecht (Ed.) *Handbook of Employee Engagement: Perspectives, Issues, Research, and Practice*. (pp. 309-322). Glos: UK: Edward Elgar Publishing Limited.

Laschinger, H. K. S. (2012). Job and career satisfaction and turnover intentions of newly graduated nurses. Journal of Nursing Management 20, 472-484.

Laschinger, H. K. S., Finegan, J., & Shamian, J. (2001a). Promoting nurses' health: The effect of empowerment on job strain and work satisfaction. Nursing Economics 19, 42-52.

Laschinger, H. K. S., Finegan, J., & Shamian, J. (2001b). The impact of workplace empowerment and organizational trust on staff nurses' work satisfaction and organizational commitment. Health Care Management Review 26(3), 7-23.

Laschinger, H. K. S., Finegan, J., Shamian, J., & Wilk, P. (2001c). Impact of structural and psychological empowerment on job strain in nursing work settings: Expanding Kanter's Model. Journal of Nursing Administration 31, 260-272.

Laschinger, H. K. S., Grau, A. L., Finegan, J., & Wilk, P. (2012). Predictors of new graduate nurses' workplace well-being: Testing the job demands-resources model. Health Care Management Review 37(2), 175-186. doi: 10.1097.HMR.0b013e31822aa456,

Laschinger, H. K. S., Wilk, P., Cho, J., & Greco, P. (2009). Empowerment, engagement and perceived effectiveness in nursing work environments: Does exerience matter? Journal of Nursing Management 17, 636-646. doi: 10.1111/j.1365-2834.2008.00907.x

Lawrence, L. A. (2011). Work engagement, moral distress, education level, and critical reflective practice in intensive care nurses. Nursing Forum 46(4), 256-268.

Leiter, M. P., & Bakker, A. B. (2010). Work engagement: Introduction. In A. B. Bakker & M. P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research* (pp. 10-24). New York, NY: Psychology Press.

Leiter, M. P. & Maslach, C. (2004). Areas of worklife: A structured approach to organizational predictorsof job burnout. In P. Perrewe & D. C. Ganster (Eds.), *Research in occupational stress and well being* (Vol. 3, pp. 91-134). Oxford, UK: Elsevier.

Leiter, M. & Maslach, C. (2002). *Areas of worklife scale manual.* Wolfville, NS: Centre for Organizational Research and Development, Acadia University.

Li, C. P., Li, X. X., & Shi, K. (2006). The measurement of empowerment and its relationship with employee work attitude. Acta Psychologica Sinica 38, 99-106 (In Chinese).

Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. Personal Psychology 60, 541-572.

Maslach, C., & Leiter, M. P. (1997). The truth about burnout: How organizations cause personal stress and what to do about it. San Francisco, CA: Jossey-Bass.

May, D., Gilson, R., & Harter, L. (2004). The psychological condition of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of Occupational Organizational Psychology 77,* 11-37.

Mayer, R. C. & Gavin, M. B. (2005). Trust in management and performance: Who minds the shop while employees watch the boss? *Academy of Mnaagement Journal 48*(5), 874-888.

Mobley, W. (1977). Intermediate linkages between job satisfaction and employee turnover. Journal of Applied Psychology, 63, 237-240.

Mobley, W., Griffeth, R., Hand, H., & Meglino, B. (1979). Review and conceptual analysis of employee turnover process. *Psychological Bulletin 86,* 493-522.

Neufeld, J. E., Rasmussen, H. N., Lopez, S. J., Ryder, J. A., Magyar-Moe, J. L., Ford, A. I.,…Bouwkamp, J. C. (2006). The engagement model of person-environment interaction. The Counseling Psychologist 34, 245-259.

Palmer, B., Quinn Griffin, M. T., Reed, P., Fitzpatrick, J. J. (2010). Self-transcendence and work engagement in acute care staff registered nurses. Critical Care Nursing Quarterly 33(2), 138-147.

Peng, J. C., Lee, Y. L., & Tseng, M. M. (2014). Person-organization fit and turnover intention: Exploring the mediating effect of work engagement and the moderating effect of demand-ability fit. The Journal of Nursing Research 22(1), 1-11. doi: 10. 1097/jnr.0000000000000019

Price, J. L. & Mueller, C. W. (1981). A causal model of turnover for nurses. Academy of Management Journal 24(3), 543-565.

Reed, P. (1991). Self-transcendence and mental health in oldest-old adults. Nursing Research 40, 1-7.

Reed, P. (2003). The theory of self-transcendence. In M. Smith & P. Liehr, P. (Eds.), *Middle range theory for nursing.* New York, NY: Springer Publishing Company Inc.

Rivera, R. R., Fitzpatrick, J. J., Boyle, S. M. (2011). Closing the RN engagement gap: Which drivers of engagement matter? Journal of Nursing Administration 41(6), 265-272. doi: 10.1097/NNA.0b013e31821c476c

Robinson, S. (1996). Trust and breach of psychological contract. Administrative Science Quarterly 41, 574-599.

Sager, J. K., Griffeth, R. W., & Hom, P. W. (1998). A comparison of structural models representing turnover cognitions. Journal of Vocational Behaviour 53, 254-273.

Salanova, M., Lorente, L., Chambel, M. J., & Martinez, I. M. (2011). Linking transformational leadership to nurses' extra-role performance: the mediating role of self-efficacy and work engagement. Journal of Advanced Nursing, 67(10), 2256-2266. doi: http://dx.doi.org/10.1111/j.1365-2648.2011.05652.x

Salanova, M., Schaufeli, W. B., Xanthopoulou, D., & Bakker, A. (2010). The gain spiral of resources and work engagement: Sustaining a postive worklife. In A. B. Bakker & M. P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research* (pp. 10-24). New York, NY: Psychology Press.

Sawatzky, J. V. & Enns, C. L. (2012). Exploring the key predictors of retention in emergency nurses. Journal of Nursing Management 20, 696-707. doi: 10.1111/j.1365-2834.2012.01355.x

Schaufeli, W. B. & Bakker, A. B. (2003). *Utrecht work engagement scale (UWES): Preliminary manual.* Utrecht University, ND: Occupational Health Psychology Unit.

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 Behaviour 25, 293-315. doi: 10.1002/job.248

Schaufeli, W. B., & Bakker, A. B. (2010). Defining and measuring work engagement: Bringing clarity to the concept. In A. B. Bakker & M. P. Leiter (Eds.), *Work engagement: A*

handbook of essential theory and research (pp. 10-24). New York, NY: Psychology Press.

Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionairre: A cross-sectional study. Educational and Psychological Measurement 66, 701-716.

Schaufeli, W. B., Bakker, A. B., & Van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. Journal of Organizational Behaviour 30, 893-917. doi: 10.1002/job.595

Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. Journal of Happiness Studies, 3(1), 71-92.

Schaufeli, W. B. & Taris, T. W. (2014). A critical review of the job demands-resources model: Implications for improving work and health. In G. F. Bauer & O. Hammig (Eds.), *Bridging occupational, organizational, and public health: A transdiciplinary approach.* (pp. 43-68). Dordrecht: Springer Science and Business Media. doi: 10.1007/978-94-007-5640-3_4,

Simpson, M. R. (2009a). Engagement at work: A review of the literature. International Journal of Nursing Studies, 46(7), 1012-1024. doi: 10.1016/j.ijnurstu.2008.05.003

Simpson, M. (2009b). Predictors of work engagement among medical-surgical registered nurses. Western Journal of Nursing Research 31(1), 44-65. doi: 10.1177/0193945908319993

Sullivan Havens, D., Warshawsky, N. E., Vasey, J. (2013). RN work engagement in generational cohorts: The view from rural US hosptials. Journal of Nursing Management 21, 927-940. doi: 10.1111/jonm.12171

Stamm, B. H. (2005). The Professional Quality of Life Scale. Idaho State University, Pocatello, Idaho.

Stamps, P. L. (1997). Nurses and work satisfaction: An index for measurement (2nd edition). Chicago, IL: Health Administration Press

Tett, R. P., & Burnett, D. D. (2003). A personality trait-based interactionist model of job performance. Journal of Applied Psychology, 88, 500-517.

VanDyne, L. & LePine, J. A. (1998). Helping and extra-role behaviours: Evidence of construct and predictive validity. Academy of Management Journal 41(1), 108-119.

Walker, A. & Campbell, K. (2013). Work readiness of graduate nurses and the impact on job satisfaction, work engagement, and intention to remain. Nurse Education Today 33, 1490-1495. doi: 10.1016/j.nedt.2013.05.008

Wang, S. & Liu, Y. (2013). Impact of professional nursing practice environment and psychological empowerment on nurses' work engagement: Test of structural equation modelling. Journal of Nursing Management. doi: 10.1111/jonm.12124

Willoughby, C. M. (2011). A critical literature review exploring work engagement in the nursing profession (Doctoral dissertation). Retrieved from PROQUEST database. (UMI No. 3480027).

Wood, M. J. & Ross-Kerr, J. C. (2011). Basic steps in planning nursing research. Mississauga, Ontario: Jones and Bartlett Publishers.

Wonder, A. H. (2013). Work engagement in Magnet-designated hospitals: Exploring social and institutional demographics of RNs to optimize improvement efforts. Journal of Nursing Administration 43(12), 667-672.

Wong, C. A., & Cummings, G. (2007). The relationship between nursing leadership and patient outcomes: A systematic review. Journal of Nursing Management 15, 508-521.

Wong, C. A., Laschinger, H. K. S., & Cummings, G. G. (2010). Authentic leadership and nurses' voice behaviour and perceptions of care quality. Journal of Nursing Management 18, 889-900. doi: 10.1111/j.1365-2834.2010.01113.x

Wu, M. (2010). Perceptions of work engagement of nurses in Taiwan. Dissertation. University of Texas School of Nursing.

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2007). The role of personal resources in the job demands-resources model. Interventional Journal of Stress Management 14, 121-141.

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009). Work engagement and financial returns: A diary study on the role of job and personal resources. Journal of Occupational and Organizational Psychology 82, 183-200. doi:10.1348/096317908X28563

Zhang, Y. W. & Gan, Y. Q. (2005) (Chinese). The Chinese version of Utrecht work engagement scale: An examination of reliability and validity. *Chinese Journal of Clinical Psychology 13,* 268-281.

Table 1

Search Strategy and Search Results

Database/Source- 1985-2013 Oct	**Search Terms**	**# of Titles and Abstracts**
CINAHL	nurs* AND engagement (no fields selected)	1432
MEDLINE	nurs* (KW) AND engagement (KW)	1536
PscyINFO	nurs* (KW) AND engagement (KW)	760
SCOPUS	nurs* AND engagement (both terms in article title, abstract, or key words)	1890
Web of Science	nurs* AND engagement (both terms in "topic")	1095
EMBASE	nurs* (KW) AND engagement (KW)	1802
PROQUEST	nurs* AND engagement (anywhere but full text)	443
Business Source Complete	nurs* (KW) AND engagement (KW)	190
Reference list review		1
Contacting experts		3
Total abstracts and titles reviewed: 9152 Total abstracts and titles reviewed minus duplicates: 3625 First selection of studies (after title and abstract review): 121 Second selection of manuscripts/studies (after full text review): 19/18		

Table 2

Quality Assessment Summary of Correlational Studies

Work Engagement in Nursing Practice: A Systematic Review Quality Assessment and Validity Tool for Correlational Studies		
Design:	**No**	**Yes**
1. Was the study prospective?	16	0
2. Was probability sampling used?	9	7
Sample:		
1. Was the sample size justified?	1	16
2. Was the sample drawn from more than one site?	2	14
3. Was anonymity protected?	0	16
4. Response rate more than 60%?	12	4
Measurement: **Factors Associated with Work Engagement (IVs):** (assess for IVs correlated with DV only)		
1. Was the factor measured reliably?	1	15
2. Was the factor measured using a valid instrument?	4	12
Work Engagement (DV):		
1. Are the effects observed rather than self-reported? (2 points)	16	0
2. Did the scale used for measuring work engagement as an outcome have an internal consistency ≥ 0.70?	0	16
3. Was a theoretical model/framework used for guidance?	3	13
Statistical Analysis:		
1. If multiple factors were studied, are correlations analyzed?	0	16
2. Are outliers managed?	8	8
Overall Study Validity Rating: (0-4=LOW; 5-9=MED; 10-14=HIGH)	Total range: 7-12 (MED to HIGH quality)	

Note. Adapted from Cummings et al. (2010) and Germain & Cummings (2010).

Table 3

Quality Assessment Summary of Qualitative Study

CASP Qualitative Criteria:			
	No	**Yes**	**Explanation of answer:**
1. Was there a clear statement of the aims of the research?	0	1	
2. Is a qualitative methodology appropriate?	**0**	**1**	
3. Was the research design appropriate to address the aims of the research?	**0**	**1**	
4. Was the recruitment strategy appropriate to the aims of the research?	**0**	**1**	
5. Were the data collected in a way that addressed the research issue?	**0**	**1**	
6. Has the relationship between researcher and participants been adequately considered?	**0**	**1**	
7. Have the ethical issues been taken into consideration?	**0**	**1**	
8. Was the data analysis sufficiently rigorous?	**0**	**1**	
9. Is there a clear statement of the findings?	**0**	**1**	
10. How valuable is the research?			
Total Score: 9 /9 possible yes answers			

Note. Adapted from: Critical Appraisal Skills Programme (CASP) (2010).

Table 4

Quality Assessment Summary of Intervention Study

Factors Associated with Work Engagement in Nursing Practice: A Systematic Review **Quality Assessment and Validity Tool for Pre/Post Intervention Design**		
Sampling:	**No**	**Yes**
1. Was probability sampling used?	1	0
2. Was sample size justified to obtain appropriate power?	1	0
Subtotal (out of 2): 0		
Design:		
1. One pre-test or baseline and several post-test measures?	1	0
2. Simple before-and-after study	0	1
Subtotal (out of 2): 1		
Control of Confounders:		
Does the study employ a comparison strategy? An attempt to create or assess equivalence of groups at baseline by:		
a) Matching group participants?	1	0
b) Statistical control?	1	0
c) None	0	1
The group comparisons were the same for all occasions (pre, baseline, and post evaluations)	0	1
Subtotal (out of 2): 1		
Data Collection and Outcome Measurement:		
1. Was the DV directly measured by an assessor?	1	0
2. Was the DV either:		
a) Directly measured? (2 pts)	1	0
b) Self-reported? (1pt)	0	1
3. Was the DV measured reliably?	0	1
4. Was the DV measured validity?	0	1
Subtotal (out of 5): 4		
Statistical Analysis and Conclusions:		
1. Were the statistical tests used appropriate for the main outcome?	0	1
2. Were the p values and confidence intervals reported appropriately?	0	1
3. If multiple factors were studied, were correlations analyzed?	1	0
4. Were missing data managed appropriately?	1	0
Subtotal (out of 4): 2		
Drop-outs: Is attrition rate <30%? (If no attrition, code 1)	10% attrition	
Total: Total number of points (out of 16 points)	8	
Overall Study Validity Rating: (<9=LOW; 9-13=MED; 14-16=HIGH)	Total: LOW	

Note. Adapted from: Cummings et al. (2008)

Table 5

Characteristics of Included Studies

Quantitative- Correlational Studies

Author(s)/Year Journal/Country	Purpose	Participants/ Sample	Work Engagement	Theoretical/ Conceptual Framework	Measure of Work Engagement/ Instrument	Other Measures/ Instruments	Reliability/ Validity	Analysis
1a. Bamford et al. (2013). Journal of Nursing Management. Canada	To empirically test propositions outlined in authentic leadership theory by investigating relationships among nurse managers authentic leadership, nurses' overall person-job match in the six areas of worklife and their work engagement.	Random sample of 600 registered nurses employed in direct-care nursing positions in acute care and community hospitals in Ontario, Canada (from College of Nurses registry) Response rate = 48% Final n=280	Schaufeli & Bakker (2004)	Six areas of worklife (Maslach & Leiter, 1997) applied to authentic leadership theory (Avolio et al., 2004) Authentic leadership theory (Avolio et al., 2004)	Utrecht Work Engagement Scale (UWES-9) short version (Schaufeli & Bakker, 2003) *Reliability:* α= 0.90 *Validity:* Confirmatory factor analysis	<u>Antecedent factor(s):</u> Authentic Leadership Questionairre (ALQ) (Avolio et al., 2007) Personal identification with leader scale (Kark, 2001) Social identification with work unit (Kark et al., 2003) Trust in Management Scale (Mayer & Gavin, 2005) <u>Mediating factor(s):</u> Areas of Worklife Scale (AWS) (Leiter & Maslach, 2002) <u>Outcome factor(s):</u> Helping and Voice Behaviours Scale (VanDyne & LePine, 1998) Perceptions of care quality: International Survey of Hospital Staffing and Organization of Patient Outcomes (Aiken et al., 2001)	α=0.97/ Confirmatory factor analysis, discriminant α=0.95/ Confirmatory factor analysis α=0.90/ Confirmatory factor analysis α=0.83/ Factor analysis α=0.89/ Criterion-related α=0.92/ Construct, discriminant, predictive, convergent α=NR/NR	Descriptive statistics Pearson's correlations Hierarchical multiple regression Structural equation modeling Sobel test Fit indices: chi-square, comparative, incremental, root mean square error of approximation
1b.Wong et al. (2010). Journal of Nursing Management. Canada	To test a theoretical model linking authentic leadership with staff nurses' trust in their manager, work engagement, voice behaviour, and perceived unit care quality.	**Demographics:** Reported- yes Examined/analyzed - yes (Bamford et al.); no (Wong et al.)			**Work engagement level:** Moderate engagement- mean 4.01, SD 0.97			

Author(s)/Year Journal/Country	Purpose	Participants/ Sample	Work Engagement	Theoretical/ Conceptual Framework	Measure of Work Engagement/ Instrument	Other Measures/ Instruments	Reliability/ Validity	Analysis
2. Cadiz (2010). Dissertation- Portland State University. USA	To examine the interaction between core-self evaluations and ageism climates on turnover intentions, organizational commitment, and work engagement.	Registered nurses recruited by the Oregon Nurses Association (ONA). Time 1- 657 surveys distributed Response rate=64.5% n=424 Time 2- 657 surveys distributed Response rate=53.1% n= 339 Matched data: Response rate=51.6% Final n=339 **Demographics:** Reported- yes Examined/analyzed- yes	Schaufeli & Bakker (Schaufeli et al., 2002)	Conservation of Resources Theory (COF) (Hobfoll, 1989) Trait Activation Theory (TAT) (Tett & Burnett, 2003)	Utrecht Work Engagement Scale (UWES-9) short version (Schaufeli et al., 2006) *Reliability*: α= 0.92 *Validity*: NR **Work engagement level:** T1 mean 3.31, SD 0.76 T2 mean 3.25, SD 0.75	<u>Antecedent factors(s):</u> Core Self-Evaluation Scale (CSES) (Judge, Erez, Bono, & Thoresen, 2003)	α=0.82/ NR	Descriptive statistics Correlation analysis Regression analysis- hierarchical multiple regression
3. Giallonardo et al. (2010). Journal of Nursing Management. Canada	To examine the relationships between new graduate nurses' perceptions of preceptor authentic leadership and their work engagement and job satisfaction.	Random sample of 500 registered nurses from the College of Nurses of Ontario (CNO) registry working in acute-care setting with less than or equal to 3 years of nursing experience. Response rate=39% Final n=170 **Demographics:** Reported- yes Examined/analyzed- yes	Schaufeli & Bakker (2004)	Integrates Avolio et al.'s (2004) model of authentic leadership with Schaufeli & Bakker's (2004) concept of work engagement.	Utrecht Work Engagement Scale (UWES) (Schaufeli & Bakker, 2003) *Reliability:* α= 0.86 *Validity:* Confirmatory factor analysis **Work engagement level:** Moderate engagement- mean 3.98, SD 0.61	<u>Antecdent factor(s):</u> Authentic Leadership Questionairre (ALQ) (Avolio et al., 2007) <u>Outcome factor(s):</u> Part B of Index of Work Satisfaction Scale (IWSS) (Stamps, 1997)	α=0.91/ Confirmatory factor analysis α=0.90/ NR	Descriptive statistics Pearson's correlations Hierarchical multiple regression Mediation analysis

Author(s)/Year Journal/Country	Purpose	Participants/ Sample	Work Engagement	Theoretical/ Conceptual Framework	Measure of Work Engagement/ Instrument	Other Measures/ Instruments	Reliability/ Validity	Analysis
4. Hayati et al. (2014). SpringerPlus. Iran	To investigate the interrelationships between the multidimensional constructs of transformational leadership, as conceptualized by Avolio et al. (1999), and employee work engagement, as conceptualized by Schaufeli et al. (2002).	Stratified random sample of registered nurses employed from five public hospitals in Khuzestan province of Iran. Final n= 240 185 women, 55 men, mean age=25 **Demographics:** Reported- yes Examined/analyzed- yes	Schaufeli et al. (2002)	Transformational leadership theory (Avolio et al., 1999; Bass, 1999)	Utrecht Work Engagement Scale (UWES) (Schaufeli et al., 2002) *Reliability:* α= 0.73* *Validity:* NR **Work engagement level:** Mean 57.73, SD 17.99	Antecedent factor(s): Multifactor Leadership Questionnaire (MLQ) (Bass & Avolio, 1997)- transformational leadership evaluation	α=0.81-0.94*/ Reported elsewhere	Descriptive statistics Inferential statistics (correlations) Multiple regression
5. Laschinger (2010). In S. L. Albrecht (Ed.). Canada	To test a model derived from Kanter's (1993) work empowerment theory that links staff nurses' perceptions of structural empowerment to their perceived fit with six key areas of worklife, and work engagement in acute care hospitals across Ontario.	Random sample of 500 registered nurses working full or part-time in acute-care hospitals in Ontario. Response rate=69% Final n=322 **Demographics:** Reported- yes Examined/analyzed- no	Schaufeli & Bakker (2004)	Integrates Kanter (1979, 1993) theory of structural power in organizations with Maslach & Leiter's (1997) worklife model.	Utrecht Work Engagement Scale (UWES-9) short version (Schaufeli et al., 2002) *Reliability:* NR *Validity:* Convergent, divergent **Work engagement level:** Mean 3.79, SD 0.79	Antecedent factor(s): Conditions of Work Effectiveness II (CWEQ-II) (Laschinger et al., 2001a, 2001b) Mediating factor(s): Areas of Worklife Scale (AWS) (Maslach & Leiter, 1997)	α=0.67-0.95*/ NR α=0.70-0.82*/ NR	Structural equation modeling Fit criteria: chi-square, comparative fit index, incremental fit index, normed fit index, root mean square error of approximation.

Author(s)/Year Journal/Country	Purpose	Participants/ Sample	Work Engagement	Theoretical/ Conceptual Framework	Measure of Work Engagement/ Instrument	Other Measures/ Instruments	Reliability/ Validity	Analysis
6.. Laschinger (2012). Journal of Nursing Management. Canada	Describe new graduate nurses' worklife experiences in Ontario hospital settings in the first 2 years of practice and to examine predictors of job and career satisfaction and turnover intentions.	Random sample of registered nurses in Ontario hospitals with 2 years or less of experience obtained from College of Nurses of Ontario registry. 37.7% met inclusion criteria Final n=342 **Demographics:** Reported- yes Examined/analyzed- yes	Schaufeli & Bakker (2004)	New graduate nurse work life and retention model (developed for this study based on management literature)	Utrecht Work Engagement Scale (UWES-9) short version (Schaufeli et al., 2002) *Reliability:* 0.86 *Validity:* NR **Work engagement level:** Moderate in both groups Year 1 RNs: Mean 3.23, SD 0.75 Year 2 RNs: Mean 3.31, SD 0.70	<u>Outcome factor(s):</u> Satisfaction scale (adapted from Hackman & Oldman, 1975)- job and career satisfaction Turnover Intent (adapted from Kelloway et al., 1999)- job and career turnover intent	α=0.80-0.84*/ NR α=0.83-0.87*/ NR	Independent t-tests Correlational analysis Regression analysis- hierarchical multiple regression
7. Laschinger et al. (2012). Health Care Management Review. Canada	To test the Job Demands-Resources (JD-R) model in a sample of new graduate nurses employed in acute care hospitals in Ontario.	New graduate registered nurses (less than 3 years experience) working in acute care hospitals across Ontario. Sample drawn from registry list of practicing nurses in Ontario. Response rate=30% Final n=420 **Demographics:** Reported- yes Examined/analyzed- yes	Schaufeli & Bakker (2004)	JD-R model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001)	Utrecht Work Engagement Scale (UWES-9) short version (Schaufeli et al., 2002) *Reliability:* 0.89 *Validity:* Confirmatory factor analysis **Work engagement level:** Mean 4.49, SD 1.18	<u>Antecedent factor(s):</u> Areas of Worklife (AWS) control subscale (Leiter & Maslach, 2004) Practice Environment Scale of Nursing Work Index (Lake, 2002) Psychological Capital Questionnaire (PCQ) (Luthans et al., 2007) <u>Outcome factor(s):</u> Turnover Intent (Kelloway et al., 1999)	α=0.75/ Construct α=0.94/ Confirmatory factor analysis α=0.90/ Confirmatory factor analysis α=0.89/ NR	Descriptive statistics Correlations Structural equation modeling

Author(s)/Year Journal/Country	Purpose	Participants/ Sample	Work Engagement	Theoretical/ Conceptual Framework	Measure of Work Engagement/ Instrument	Other Measures/ Instruments	Reliability/ Validity	Analysis
8. Laschinger et al. (2009). Journal of Nursing Management. Canada	Primary: to test the hypothesis that engagement at work may be one mechanism whereby empowering management practices affect work attitudes and performance. Additional purpose: to examine the extent to which the impact of empowering work conditions on staff nurses' engagement in their work and their ability to be effective at work differed based on level of experience in nursing.	Sample drawn from two previous studies of staff registered nurses: First study focused on new graduates (n=282); second study acute care nurses (n=311) all randomly selected from College of Nurses of Ontario (CNO) registry. Response rates were 58% & 69% respectively. This study: 185 nurses from first study & 294 nurses from second study. Final n= 479 **Demographics:** Reported- yes Examined/analyzed- yes	Schaufeli & Bakker (2004)	Integrates Kanter's (1977, 1993) theory of work empowerment with Schaufeli & Bakker's (2004) theory of work engagement.	Utrecht Work Engagement Scale (UWES-9) short version (Schaufeli et al., 2002) *Reliability:* α= 0.87-0.92 *Validity:* Convergent, divergent **Work engagement level:** Overall scale NR	Antecedent factor(s): Global Empowerment Scale (Laschinger et al., 2001c) Outcome factor(s): Conditions of Work Effectiveness II (CWEQ-II) (Laschinger et al., 2001a, 2001b)	α=0.92/NR α=0.85-0.86/ Construct validity in second-order confirmatory factor analysis	Structural equation modeling (multi-group analysis), Sobel tests
9. Lawrence (2011). Nursing Forum. USA	To examine how nurses' education level, moral distress, and critical reflective practice relate to their work engagement.	Convenience sample of 198 intensive care unit registered nurses at one 355-bed southwestern magnet-designated hospital. Response rate=14% Final n=28 **Demographics:** Reported- yes Examined/analyzed- yes (education level only)	Schaufeli et al. (2002)	Theoretical model proposed by author: proposed relationships among RN education level, moral distress, critical reflective practice, and work engagement.	Utrecht Work Engagement Scale (UWES) *Reliability:* 0.83* *Validity:* NR **Work engagement level:** Mean 4.00, SD 0.88	Antecedent factor(s): Moral Distress Scale (MDS)- "Not in the patient's best interest" subscale Critical Reflective Practice Questionnaire (CRPQ) Reflection-Rumination Questionnaire (RRQ)- Reflection subscale	α=0.83*/ NR α=not known/not known α=0.83*/ NR	Descriptive statistics Pearson correlation Stepwise multiple regression, stepwise hierarchical regression, stepwise hierarchical simple linear regression

Author(s)/Year Journal/Country	Purpose	Participants/ Sample	Work Engagement	Theoretical/ Conceptual Framework	Measure of Work Engagement/ Instrument	Other Measures/ Instruments	Reliability/ Validity	Analysis
10. Palmer et al. (2010). Critical Care Nursing Quarterly. USA	To examine the levels and relationships of self-transcendence and work engagement in acute care staff RNs	Convenience sample of registered nurses who attended the annual National Teaching Institute of the American Association of Critical Care Nurses conference 99 participants recruited (15 excluded) Response rate: 85% Final n=84 **Demographics:** Reported- yes Examined/analyzed- yes	Schaufeli et al. (2002)	Reed's (2003) theory of self-transcendence	Utrecht Work Engagement Scale (UWES) (Schaufeli & Bakker, 2003) *Reliability:* 0.90 *Validity:* Construct **Work engagement level:** Mean 4.6, SD 0.62, Range 2.71-6.0	Self-Transcendence Scale (STS) (Reed, 1991)	α=0.78/ Construct, content	Descriptive statistics Correlation
11. Rivera et al. (2011). Journal of Nursing Administration. USA	To investigate the relationship between the RNs' perceptions of the presence of drivers of engagement (3 psychological conditions- meaningfulness, safety, availability) and nurse engagement.	Convenience sample of staff registered nurses from a large urban university hospital on the east coast (USA). Response rate=32% Final n=510 **Demographics:** Reported- yes Examined/analyzed- yes	Advisory Board Company (2007); Kahn (1990)	Conceptual framework developed for this study base on Kahn's (1990) model and Social Exchange Theory (May et al., 2004).	Nurse Engagement Survey (NES) (nurse engagement in workplace section) *Reliability:* 0.84 *Validity:* NR **Work engagement level:** 31% engaged, 46% content, 17% ambivalent, 6% disengaged	Antecedent factor(s): Nurse Engagement Survey (NES)- Presence of drivers of nurse engagement in the workplace section	α=0.97/ Confirmatory factor analysis	Descriptive statistics Correlational analysis (Pearson product-moment correlation) Independent t-tests Logistic regression

Author(s)/Year Journal/Country	Purpose	Participants/ Sample	Work Engagement	Theoretical/ Conceptual Framework	Measure of Work Engagement/ Instrument	Other Measures/ Instruments	Reliability/ Validity	Analysis
12. Sawatzky & Enns (2012). Journal of Nursing Management. Canada	To explore and describe the influencing (personal characteristics; perceived nurse working environment) and intermediary factors (work engagement; job satisfaction; professional quality of life) that predicts the retention of nurses (intention to leave) working in emergency departments.	Convenience sample of 746 registered nurses working in 12 adult emergency departments in Manitoba, Canada. Response rate= 35% Final n=261 **Demographics:** Reported- yes Examined/analyzed- yes	Schaufeli et al. (2006) & Hewitt Engagement model (Hewitt Associates 2008)	Conceptual Framework for Predicting Nurse Retention (CFPNR) (developed for this study by the author).	The Engagement Composite Questionnaire *Reliability:* 0.93* *Validity:* Content **Work engagement level:** NR	Antecedent factor(s): Perceived Nurse Working Environment (PNWE) (Choi et al., 2004) Mediating factor(s): Job Satisfaction Professional Quality of Life (ProQOL) Scale (Stamm, 2005) Outcome factor(s): Intention to Leave (Price & Mueller, 1981)	α=0.56=0.91*/NR α=NR/NR α=>0.80*/ Convergent, discriminant α=NR/NR	Bivariate statistics (contingency table, ANOVA) Regression models (odds logistic regression, ordinary least squares)
13. Simpson (2009). Western Journal of Nursing Research. USA	To test the relationships between four antecedent factors (job satisfaction, turnover cognitions, job search behaviour, nurse demographics) proposed as key influencers of work engagement.	Convenience sample of 479 registered nurses, employed within 6 hospitals and 16 medical and/or surgical units located in one Midwestern state recruited. Response rate: 35% n=167 **Demographics:** Reported- yes Examined/analyzed- yes	Schaufeli & Bakker (2003)/Schaufeli et al. (2002)	Mobley's Model(s) of Turnover (1977; Mobley, Griffith, Hand, & Meglino, 1979).	Utrecht Work Engagement Scale (UWES-9) short version (Schaufeli & Bakker, 2003) *Reliability:* 0.92 *Validity:* Factor analysis **Work engagement level:** Moderate- Mean 38.58, SD 8.58	Antecedent factor(s): Index of Work Satisfaction (Stamps, 1997) Job Search Behaviour Index (JSBI) (Kopelman et al., 1992) Turnover Cognitions Scale (TCS) (Sager et al., 1998)	α=0.89/ Construct α=0.77*/NR α=0.91/ Factor analysis	Correlations- bivariate Regression analyses- multiple regression, analysis of variance

Author(s)/Year Journal/Country	Purpose	Participants/ Sample	Work Engagement	Theoretical/ Conceptual Framework	Measure of Work Engagement/ Instrument	Other Measures/ Instruments	Reliability/ Validity	Analysis
14. Sullivan Havens et al. (2013). Journal of Nursing Management. USA	To describe staff nurse work engagement, identify predictors (decisional involvement, relational coordination, nursing practice environment) by generational cohort (age, tenure), present implications for nurse managers and suggest future research.	Convenience sample of direct-care staff registered nurses from 5 acute-care, rural hospitals in Pennsylvania (4 acute care & 1 critical access) (all not-for-profit, non-religious, 75-179 beds) Response rate: 64% Final n=747 **Demographics:** Reported- yes Examined/analyzed- yes	Schaufeli & Bakker (2010)	None stated	Utrecht Work Engagement Scale (UWES-9) (Schaufeli et al., 2002; Schaufeli et al., 2006) *Reliability:* 0.90* *Validity:* Reported elsewhere **Work engagement level:** Mean 3.97, SD 1.32	<u>Antecedent factor(s):</u> Decisional Involvement Scale (DIS) (Havens & Vasey, 2003; 2005) Relational Coordination for Patient Care (RCS) (adapted from Gittell et al., 2000) Practice Environment Scale of Nursing Work Index (Lake, 2002)	α=0.91-0.95*/ Reported elsewhere α=0.93*/ Reported elsewhere α=0.93*/ Reported elsewhere	Descriptive statistics Correlational analysis Regression analysis
15. Walker & Campbell (2013). Nurse Education Today. Australia	To extend the research of Walker et al. (2013) and Caballero et al. (2011) by quantitatively investigating the relationship between work readiness and variables that capture the work experiences of graduate nurses during their first year of practice: job satisfaction, work engagement, and intention to remain. Also explores whether job satisfaction and work engagement mediate the relationship between work readiness and intention to remain.	Convenience sample of graduate registered nurses across 2 hospitals in Victoria, Australia. Recruited during graduate nurse study days at their place of work. Final n=96 **Demographics:** Reported- yes Examined/analyzed- yes	None stated	None stated	Utrecht Work Engagement Scale (UWES) 14-item version (Schaufeli & Bakker, 2003) *Reliability:* 0.84 *Validity:* NR **Work engagement level:** Mean 68.19, SD 11.04	<u>Antecedent factor(s):</u> Revised Work Readiness Scale (WRS) (Caballero et al., 2011) <u>Outcome factor(s):</u> Intention to Remain (Robinson, 1996)	α=0.889/ NR α=0.76/ NR	Descriptive statistics Correlations Multiple regression, mediation analysis

Author(s)/Year Journal/Country	Purpose	Participants/ Sample	Work Engagement	Theoretical/ Conceptual Framework	Measure of Work Engagement/ Instrument	Other Measures/ Instruments	Reliability/ Validity	Analysis
16. Wang & Liu (2013). Journal of Nursing Management. China	To examine the influence of the professional nursing practice environment and psychological empowerment on nurse work engagement, and to test whether psychological empowerment mediates professional nursing practice environment and work engagement.	300 full-time registered nurses randomly selected from the nurse registration list of two hospitals. Response rate=72.67% Final n=218 **Demographics:** Reported- yes Examined/analyzed- no	Schaufeli et al. (2002)	None stated	Utrecht Work Engagement Scale- Chinese version (Zhang & Gan, 2005) *Reliability:* 0.94 *Validity:* NR **Work engagement level:** Moderate- Mean 4.20, SD 1.19	Antecedent factor(s): Practice Environment Scale of Nursing Work Index (Lake, 2002) Mediating factor(s): Psychological Empowerment Scale-Chinese version (Li et al., 2006)	α=0.92/ Pilot-tested, experts checked α=0.82/ NR	Descriptive statistics t-tests, one way ANOVA, Pearson's correlations Structural equation modeling Maximum likelihood estimation methods, absolute and relative indices

Characteristics of Included Studies: Intervention

Author(s)/Year/ Journal/Country	Purpose	Participants/ Sample	Work Engagement	Theoretical Framework	Measure of Work Engagement/ Instrument	Intervention Measurement	Analysis
17. Bishop (2013). Journal of Nursing Management. USA	To measure the impact of a caring-based intervention on the level of work engagement in older nurses.	Voluntary sample of registered nurses, age 45 or older, who have been actively practicing at the bedside for more than 5 years at a non-profit community medical center. 141 RNs approached to participate. Final n=19 **Demographics:** Reported- yes Examined/analyzed- no	Schaufeli & Bakker (2003) **Work engagement level:** Mean score pre-retreat= 75.1	Integrates Schaufeli & Bakker's theory on work engagement with Boykin & Schoenhofer's (2001) theory of Nursing as Caring: A model for transforming practice.	Utrecht Work Engagement Scale (UWES) (Schaufeli et al., 2002) *Reliability:* 0.90* *Validity:* Reported elsewhere; factorial validity **Work engagement level:** Pre-intervention overall mean 75.10, post-intervention overall mean 80.80	Work engagement was measured pre-intervention and 30 days post-intervention.	Paired t-tests to measure changes in subscales.

Characteristics of Included Studies: Qualitative

Author(s)/Year/ Journal/Country	Purpose	Participants/ Sample	Work Engagement	Theoretical Framework	Data Collection	Rigour	Analysis	Findings: Perceptions of Work Engagement
18. Wu (2010). Dissertation-University of Texas. Taiwan.	To determine the perceptions of work engagement of Taiwanese nurses with 3 aims: 1. understand Taiwanese nurses' perceptions of work engagement; 2. explore the factors influencing work engagement; 3. examine how work engagement impacts nursing care for patients.	Purposive sampling - 28 formal interviews with registered nurses who provided direct patient care, had at least 3 months nursing experience in nursing, and were full-time employees. Setting: Conducted in highest and lowest nurse turnover medical units at a regional teaching Christian hospital in southwestern Taiwan.	Author defined	Person-environment (P-E) fit concept (Kristof, 1996) Model of person-environment interaction (Neufeld et al., 2006).	Ethnographic approach Participant observation Semi-structured interviews	Data triangulation of fieldwork and in-depth semi-structured interviews. Peer debriefing with nursing scholars. Bilingual nursing scholar reviewed 2 interviews verbatim against preliminary analysis schema. Self-reflective remarks recorded and reflected upon. Consistency of interviewing and analysis through single researcher. Discussion with dissertation committee to ensure accuracy and consistency of data analysis.	Field notes and audio-recorded semi-structured interviews were analyzed using qualitative thematic analytic techniques	Domains: Whole-hearted care for patients. A positive work attitude toward work. A sense of fulfillment and happiness. Positive relationship with colleagues.

Note. Reliability alpha coefficient reported is based on the current study, unless indicated with *
NR=not reported

Table 6

Impact of Influencing Factors on Work Engagement

Influencing factors:	Significant	Not significant	Qualitative Theme
A. Organizational Climate			
1. Leadership			Wu (2010)
• Authentic leadership (direct)	Giallonardo et al. (2010)	Bamford et al. (2013)	
• Authentic leadership (indirect)	Bamford et al. (2013) (Fully mediated by six areas of worklife: workload, control, values, community, rewards, fairness) Wong et al. (2010)		
• Transformational leadership	Hayati (2014)*		
• Nursing management	Sawatzky (2012)		
• Manager action		Rivera (2011)	
2. Structural empowerment			
• Structural empowerment (direct)	Laschinger et al. (2009)		
• Structural empowerment (indirect)	Laschinger (2010) (Mediated by control, rewards, fairness, value congruence)		
B. Job Resources			
1. Organizational			
• Areas of worklife (workload, control, values, community, rewards, fairness)	Bamford et al. (2013)		
• Value congruence	Laschinger (2010)		
• Work environment		Rivera (2011)	Wu (2010)
• Salary/pay and benefits (satisfaction with)		Rivera (2011); Simpson (2009)	Wu (2010)
• Organizational policies (satisfaction with)		Simpson (2009)	
2. Interpersonal and social relations			Wu (2010)
• Social identification with work unit	Wong et al. (2010)		Wu (2010)
• Satisfaction with interaction	Simpson (2009)		
• Relational coordination	Sullivan Havens (2013)		
• Community		Laschinger (2010)	
• Relationship with nurse peers			Wu (2010)
• Nurse teamwork		Rivera (2011)	
• Non-nurse teamwork		Rivera (2011)	
• Collaboration with physicians	Sawatzky (2012)		Wu (2010)
• Relationship with patients & their families			Wu (2010)
• Support from peers, family, manager			Wu (2010)

Influencing factors:	Significant	Not significant	Qualitative Theme
• Caring-based *intervention* (purpose: to create a supportive environment for older RNs to reflect, share stories, and dialogue about the true meaning of caring)	Bishop (2013)*		
3. Organization of work and tasks			
• Rewards	Laschinger (2010)		
• Recognition		Rivera (2011)	
• Fairness	Laschinger (2010)		
• Staffing resources	Sawatzky (2012)		
C. Professional Resources			
1. Professional practice environment			
• Professional practice environment (direct)	Laschinger et al. (2012); Sawatzky (2012); Sullivan Havens (2013); Wang (2013)		
• Professional practice environment (indirect)	Wang (2013) (partially mediated by psychological empowerment)		
2. Autonomy			
• Autonomy		Rivera (2011); Simpson (2009)	Wu (2010)
• Control (direct)	Laschinger (2010); Laschinger et al. (2012)		
• Control (indirect)	Laschinger (2010) (Mediated by rewards, fairness, value congruence)		
• Decisional involvement	Sullivan Havens (2013)		
• Decisional dissonance		Sullivan Havens (2013)	
3. Role and identity			
• Professional status (satisfaction with)	Simpson (2009)		
• Professional respect			Wu (2010)
• Discovery of the core value of nursing			Wu (2010)
• Passion for nursing	Rivera (2011)		
• Interest in nursing			Wu (2010)
4. Professional practice and development			
• Critical reflective practice (affective, moral, behavioral, cognitive, and political dimensions)	Lawrence (2011)		
• Reflection (cognitive)		Lawrence (2011)*	
• Core self-evaluation	Cadiz (2010)		
• Professional accomplishment			Wu (2010)
• Professional performance			Wu (2010)
• Challenge and professional growth			Wu (2010)

Influencing factors:	Significant	Not significant	Qualitative Theme
D. Personal Resources			
1. Psychological			
• Psychological capital	Laschinger et al. (2012)		
• Psychological empowerment	Wang (2013)		
• Self-transcendence	Palmer (2010)		
• Turnover cognition: Thinking of quitting	Simpson (2009)[a]		
• Turnover cognition: job search behavior, intent to quit, intent to search		Simpson (2009)	
2. Relational			
• Trust in manager	Wong et al. (2010)		
• Personality			Wu (2010)
• Social intelligence	Walker (2013)		
3. Skill			
• Clinical competence		Walker (2013)	
• Organizational acumen		Walker (2013)	
• Personal growth		Rivera (2011)	
E. Job Demands			
1. Work pressure			
• Workload		Laschinger (2010)	Wu (2010)
• Indirect patient care ("trivial work")			Wu (2010)
• Adjustment to nursing work			Wu (2010)
• Task requirements		Simpson (2009)	
2. Physical and mental demands			
• Shiftwork	Sawatzky (2012)[a]		
• Day shift vs. night shift	Rivera (2011)*	Simpson (2009)*	
• Length of work shift		Simpson (2009)*	
• Hours worked per week	Simpson (2009)*		
• Recovery & rest			Wu (2010)
• No occupational care provision	Sawatzky (2012)		
3. Emotional demands			
• Moral distress	Lawrence (2011)*[a]		
4. Adverse environment			
• General ageism climate	Cadiz (2010)[a]		
F. Demographic Factors			
• Age	Cadiz (2010)*; Palmer (2010)*; Rivera (2011); Simpson (2009)*	Giallonardo et al. (2010)*; Laschinger et al. (2012)*; Sullivan Havens (2013); Walker (2013)*	
• Generational cohort		Sullivan Havens (2013)	
• Sex		Cadiz (2010)*; Giallonardo et al. (2010)*; Rivera (2011)	
• Years of nursing experience	Bamford et al. (2013); Palmer (2010)*; Rivera	Simpson (2009)*	

Influencing factors:	Significant	Not significant	Qualitative Theme
	(2011)		
• Years in acute care	Palmer (2010)*		
• Tenure at hospital		Rivera (2011)	
• Years in current unit	Sullivan Havens (2013)[a]		
• Length of time at research site		Rivera (2011)	
• Education level/highest degree		Lawerence (2011)*; Laschinger et al. (2012)*; Rivera (2011)/Palmer (2010)*	
• Rural (vs. urban) work location	Cadiz (2010)*; Sawatzky (2012)		
• Unit specialty		Laschinger et al. (2012)*	

Note. * indicates that results were based on correlational analysis or t-tests. All other results were determined by stronger statistical analyses (multiple regression, hierarchical regression, logistic regression, structural equation modeling).

All significant results have a positive relationship with work engagement, unless indicated by superscript "a", which indicates that the variable has a negative relationship with work engagement.

Table 7

Impact of Work Engagement on Outcomes

Outcomes:	**Significant**	**Not significant**	**Qualitative Theme**
A. Performance & Care			
• Voice behavior	Wong et al. (2010)		
• Perceived care quality	Wong et al. (2010)		
• Quality care			Wu (2010)
• Work effectiveness	Laschinger et al. (2009)		
• Patient satisfaction			Wu (2010)
• Adverse events			Wu (2010)
• Productivity			Wu (2010)
B. Professional			
• Intent to leave nursing	Laschinger (2012)[a]		Wu (2010)
C. Personal			
• Job satisfaction	Giallonardo (2010); Sawatzky (2012)	Laschinger (2012)	Wu (2010)
• Career satisfaction	Laschinger (2012)		
• Compassion satisfaction	Sawatzky (2012)		
• Compassion fatigue	Sawatzky (2012)		
• Burnout	Sawatzky (2012)[a]		
• Well-being			Wu (2010)
• Job turnover intent	Laschinger (2012)[a]; Laschinger et al. (2012)[a]		
• Intention to leave current position	Sawatzky (2012)[a]		Wu (2010)
• Intention to remain		Walker (2013)*	

Note. * indicates that results were based on correlational analysis or t-tests. All other results were determined by stronger statistical analyses (multiple regression, hierarchical regression, logistic regression, structural equation modeling).
All significant results have a positive relationship with work engagement, unless indicated by superscript "a", which indicates that the variable has a negative relationship with work engagement.

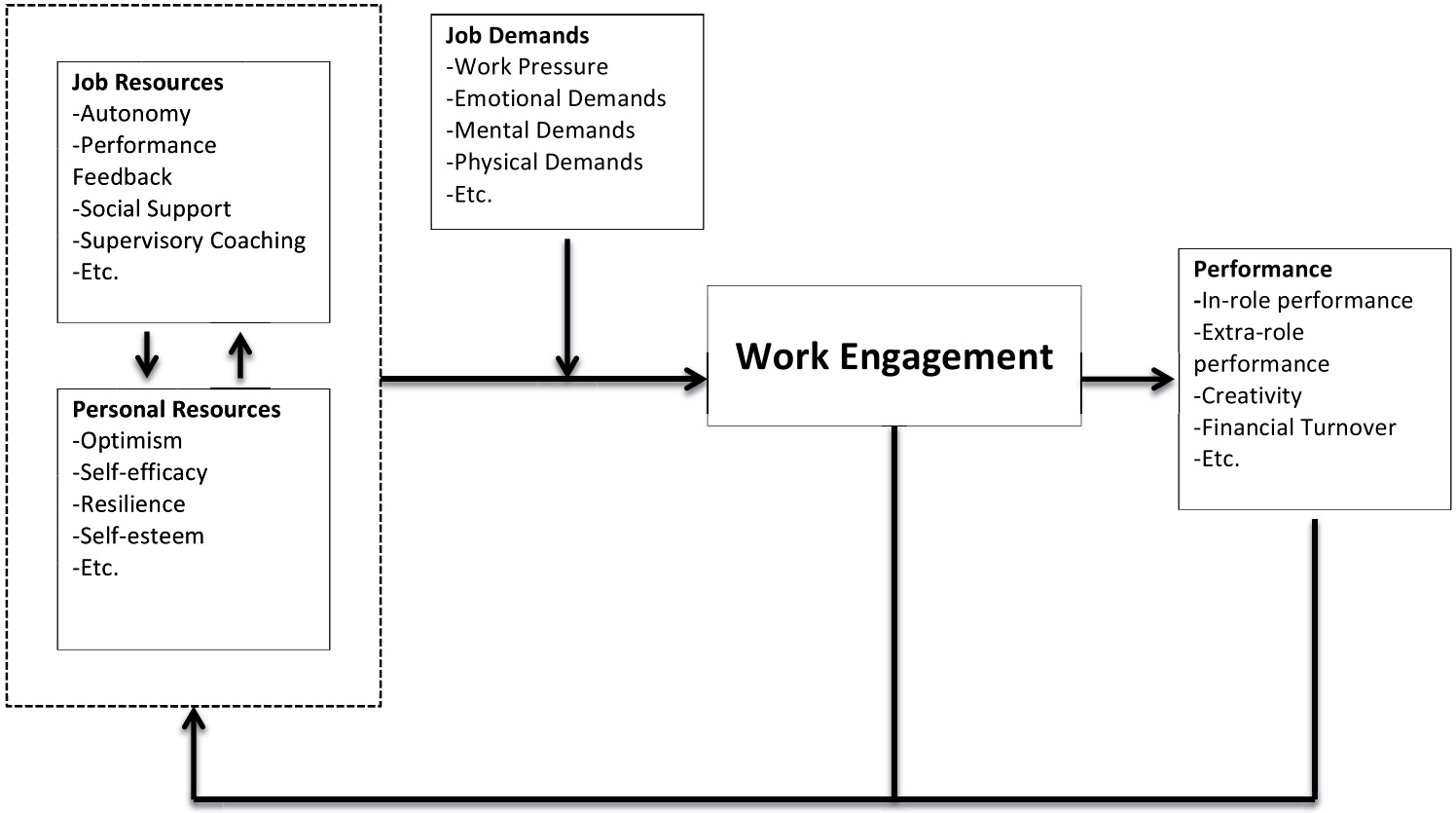

Figure 1. The JD-R model of work engagement (Bakker & Demerouti, 2007; Bakker & Demerouti, 2008)

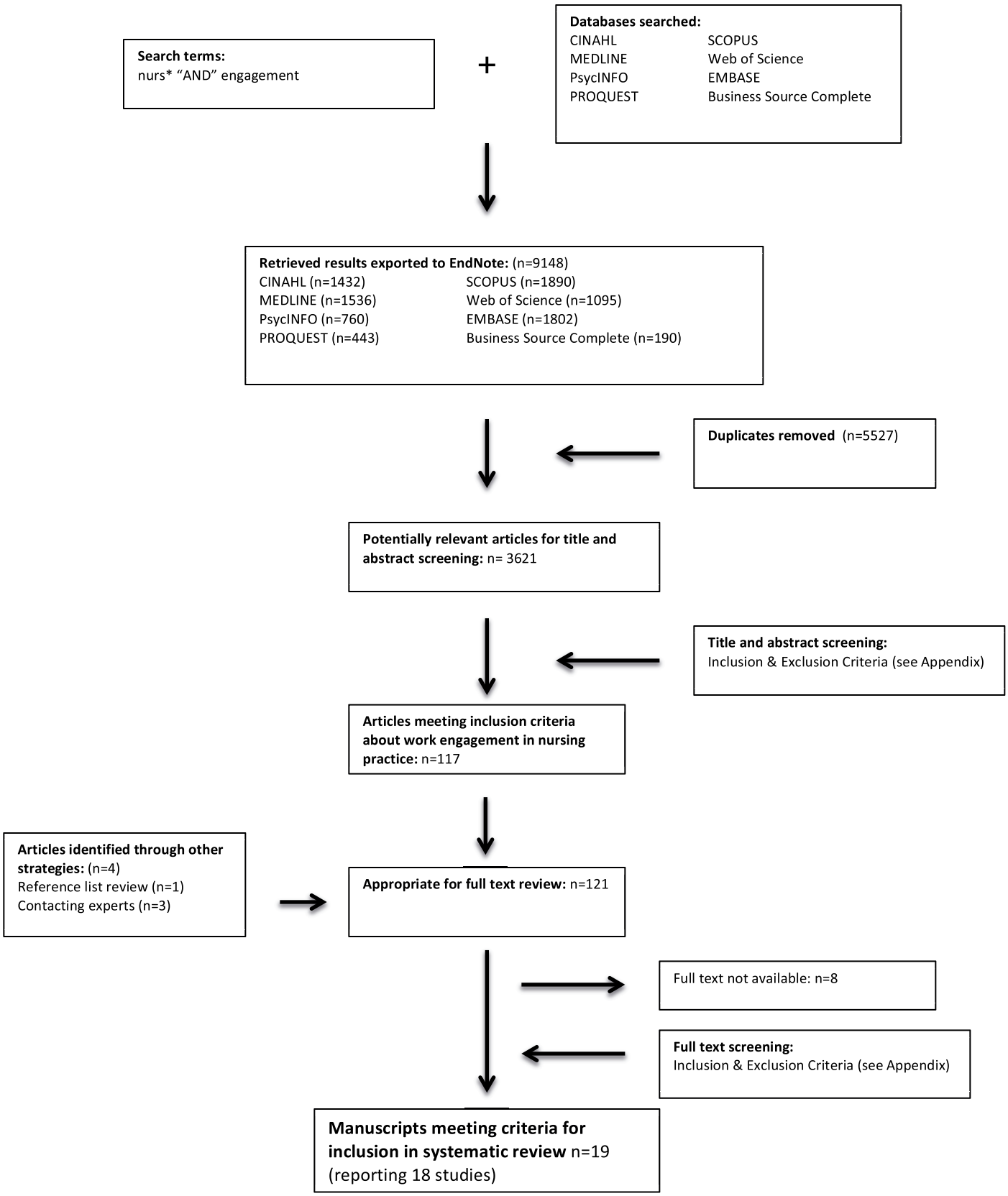

Figure 2. Systematic Review Search Strategy

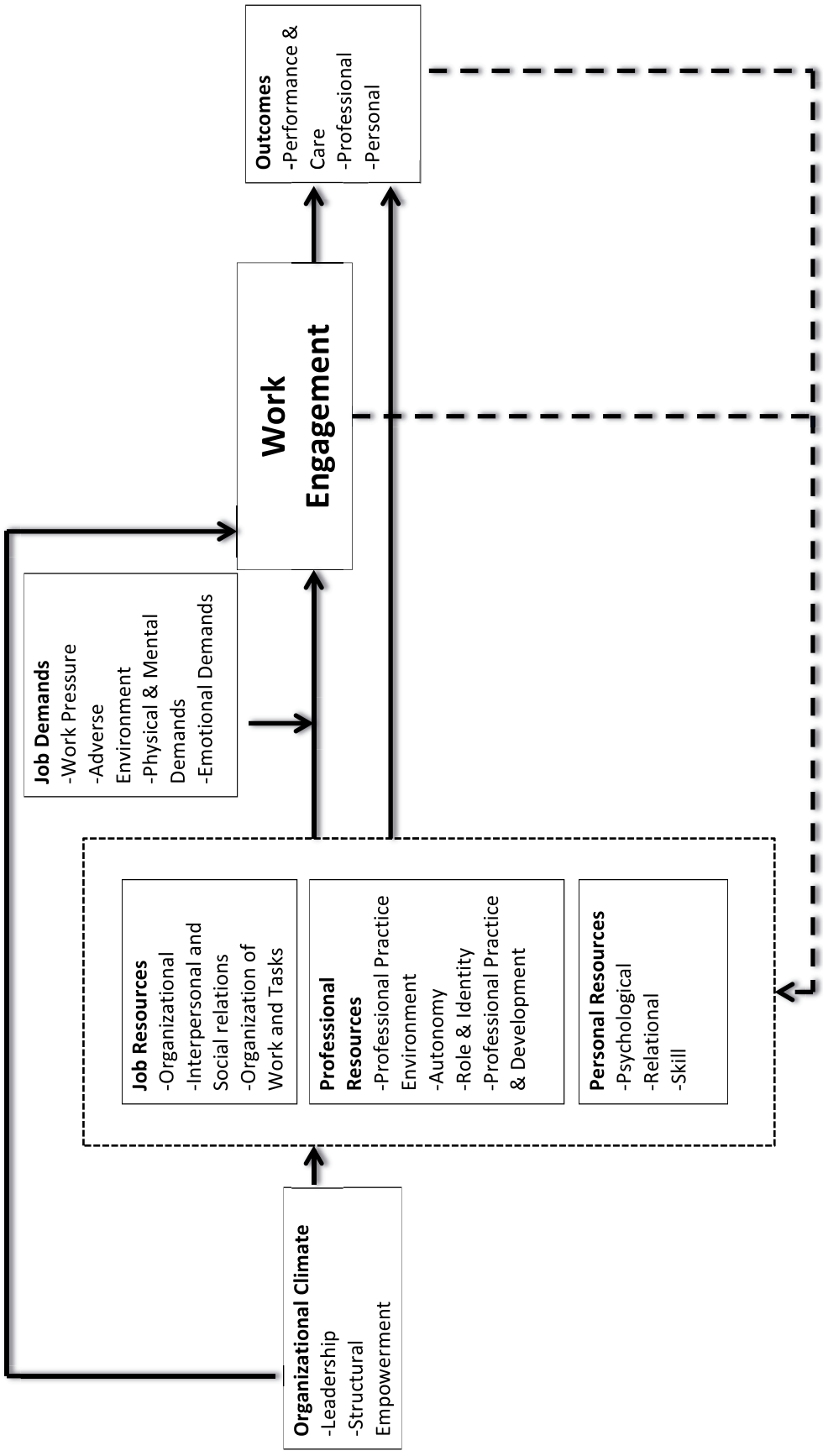

Figure 3. Adapted JD-R model of engagement in professional nursing practice
A solid line indicates that the findings from the systematic review support the demonstrated relationships. A broken line indicates that no research evidence in nursing has demonstrated the relationships yet.

References: Complete Thesis

Advisory Board Company (2007). *Engaging the nurse workforce: Best practices for promoting exceptional staff performance.* Washington, DC: Advisory Board Company.

Aiken, L. H., Clarke, S. P., Sloane, D. M. et al. (2001). Nurses' reports on hospital care in five countries. Health Affairs 20(3), 43-53.

Aiken, L. H., Sloan, D. M., Bruyneel, L., Van den Heede, K., Griffiths, P., Busse, R.,…Sermeus, W. (2014). Nurse staffing and education and hospital mortality in nine European countries. Lancet 383 (9931), 1824-1830. doi: 10.1016/S0140-6736(13)62631-8

Austin, W. J. (2011). The incommensurability of nursing as a practice and the customer service model: an evolutionary threat to the discipline. *Nursing Philosophy, 12*(3), 158-166. doi: http://dx.doi.org/10.1111/j.1466-769X.2011.00492.x

Austin, W. (2007). The Ethics of Everyday Practice: Healthcare Environments as Moral Communities. Advances in Nursing Science State of the Science January/March, 30(1), 81-88.

Austin, W., Bergum, V., & Dossetor, J. (2003). Relational ethics: An action ethic as a foundation for health care. In Tschudin, V. (Ed.), *Approaches to ethics: Nursing beyond boundaries* (pp. 45-52). London: Butterworth Heinemann

Avolio, B., Bass, B. M., & Jung, D. I. (1999). Reexamining the components of transformational leadership theory and transactional leadership using the multifactor leadership questionnaire. *Journal of Occupational Organizational Psychology 72,* 441-462.

Avolio, B., Gardner, W., Walumbwa, F. (2007). Authentic leadership questionnaire. Retrieved from http://www.mindgarden.com/products/alq.htm, accessed 1 July, 2014.

Avolio, B. J., Gardner, W. L., Walumbwa, F. O., Luthans, F., & May, D. R. (2004). Unlocking the mask: A look at the process by which authentic leaders impact follower attitudes and behaviors. Leadership Quarterly, 15(6), 801-823. doi: 10.1016/j.leaqua.2004.09.003

Bakker, A. B., Albrecht, S. L., & Leiter, M. P. (2011). Key questions regarding work engagement. European Journal of Work and Organizational Psychology 20(1), 4-28. doi: 10.1080/1359432x.2010.485352

Bakker, A. B., & Bal, P. M. (2010). Weekly work engagement and performance: A study among starting teachers. Journal of Occupational and Organizational Psychology 83,189-206. doi: 10.1348/096317909X402596

Bakker, A. B. & Demerouti, E. (2007). The job demands-resources model: State of the art. Journal of Managerial Psychology 22(3), 309-328. doi: 10.1108/02683940710733115.

Bakker, A. B. & Demerouti, E. (2008). Towards a model of work engagement. Career Development International 13(3), 209-223. doi: 10.1108/13620430810870476

Bakker, A. B. & Leiter M. P. (2010). Where to go from here: Integration and future research on work engagement. In A. B. Bakker & M. P. Leiter (Eds.), Work engagement: A handbook of essential theory and research (pp. 181-196). New York, NY: Psychology Press.

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. doi: 10.1111/j.1365-2834.2012.01399.x

Bargagliotti, A. L. (2012). Work engagement in nursing: a concept analysis. Journal of Advanced Nursing, 68(6), 1414-1428. doi: http://dx.doi.org/10.1111/j.1365-2648.2011.05859.x

Bass, B. (1999). Two decades of research and development in transformational leadership. European Journal of Work Organizational Psychology 8(1), 9-32.

Bass, B. M. & Avolio, B. J. (1997). Full range leadership development: Manual for the multifactor leadership questionnaire. Mind Garden Inc, Palo Alto, USA.

Bishop, M. (2013). Work engagement of older registered nurses: The impact of a caring-based intervention. Journal of Nursing Management 21, 941-949. doi: 10.1111/jonm.12182

Bergum, V. (2013). Relational ethics for health care. In Storch, J. L., Rodney, P., & Starzomski, R. (Eds.), *Towards a moral horizon: Nursing ethics for leadership and practice* (pp. 127-142). Toronto, Canada: Pearson.

Bergum, V. & Dossetor, J. (2005). Relational ethics: The full meaning of respect. Hagerstown, Maryland: University Publishing Group.

Blizzard, R. (2005). Nursing engagement key to reducing medical errors: People more important than technology. Retrieved from http://www.gallup.com/poll/20629/Nurse-Engagement-Key-Reducing-Medical-Errors.aspx

Boykin, A. & Schoenhofer, S. O. (2011). Nursing as caring: A model for transforming practice. Jones and Bartlett Publishers, Sudbury: MA.

Brown, T. (2013, March 13). A lesson in empathy [Web log post]. Retrieved from http://designthinking.ideo.com/?p=1008

Caballero, C. L., Walker, A., & Fuller-Tyszkiewicz, M. (2011). The work readiness scale (WRS): Developing a measure to assess work readiness in college graduates. Journal of Teaching and Learning for Graduate Employability 2, 41-54.

Cadiz, D. M. (2011). The effects of ageism climates and core self-evaluations on nurses' turnover intentions, organizational commitment, and work engagement. Dissertation. Portland State University.

Canadian Institute for Health Information (CIHI). Health care cost drivers: The facts. Retrieved from https://secure.cihi.ca/free_products/health_care_cost_drivers_the_facts_en.pdf

Canadian Nurses Association (2008). Code of ethics for Registered Nurses. Retrieved from http://www2.cna-aiic.ca/cna/documents/pdf/publications/Code_of_Ethics_2008_e.pdf

Centre for Reviews and Dissemination (CRD) (2009). Systematic reviews: CRD's guidance for undertaking reviews in health care. Layerthorpe, York: CRD, University of York.

Choi, J., Bakken, S., Larson, E., Du, Y., & Stone, P. W. (2004). Perceived nursing work environment of critical care nurses. Nursing Research 53(6), 370-376.

Cleveland Clinic Media Production (Producer) (2013). Empathy: Exploring human connection [Video]. Available from http://health.clevelandclinic.org/2013/03/empathy-exploring-human-connection-video/

Cowden, T., Cummings, G., & Profetto-McGrath, J. (2011). Leadership practices and staff nurses' intent to stay: A systematic review. Journal of Nursing Management 19, 461-477. doi: 10.1111/j.1365-2834.2011.01209.x

Cummings, G. G. (2013). Nursing leadership and patient outcomes. Journal of Nursing Management 21, 707-708. doi: 10.1111/jonm.12152.

Cummings, G., Hayduk, L., & Estabrooks, C. (2005). Mitigating the impact of hospital restructuring on nurses: The responsibility of emotionally intelligent leadership. *Nursing Research 54*(1), 2-12.

Cummings, G., Lee, H., MacGregor, T., Davey, M., Wong, C., Paul. L., & Stafford, E. (2008). Factors contributing to nursing leadership: A systematic review. Journal of Health Services Research & Policy 13(4), 240-248. doi: 10.1258/jhsrp.2008.007154.

Cummings, G., MacGregor, T., Davey, M., Lee, H., Wong, C. A., Lo, E., Muise, M., & Stafford, E. (2010). Leadership styles and outcome patterns for the nursing workforce and work environment: A systematic review. International Journal of Nursing Studies 47, 363-385. doi: 10.1016/j.ijnurstu.2009.08.006

Critical Appraisal Skills Programme (CASP) (2010). 10 questions to help you make sense of qualitative research. Retrieved from http://www.caspinternational.org/mod_product/uploads/CASP%20Qualitative%20Research%20Checklist%2031.05.13.pdf

Demerouti, E., Bakker, A. B., De Jonge, J., Janssen, P. P. M., & Schaufeli, W. B. (2001). Burnout and engagement at work as a function of demands and control. Scandinavian Journal of Work, Environment, and Health 27, 279-286.

Demerouti, E., Mostert, K., & Bakker, A. B. (2010). Burnout and work engagement: A thorough investigation of the independency of both constructs. Journal of Occupational Health Psychology, 15(3), 209-222. doi: 10.1037/a0019408

Doane, G. H. & Varcoe, C. (2013). Relational practice and nursing obligations. In Stroch, J. L., Rodney, P., & Starzomski, R. (Eds.), Toward a moral horizon: Nursing ethics for leadership and practice (2nd edition) (pp. 143-159). Toronto: Pearson.

Fasoli, D. R. (2010). The culture of nursing engagement: a historical perspective. Nursing Administration Quarterly, 34(1), 18-29. doi: 10.1097/NAQ.0b013e3181c95e7a

Germain, P. B., & Cummings, G. (2010). The influence of nursing leadership on nurse performance: A systematic review. Journal of Nursing Management 18, 425-439. doi: 10.1111/j.1365-2834.2010.01100.x

Giallonardo, L. M., Wong, C. A., & Iwasiw, C. L. (2010). Authentic leadership of preceptors: predictor of new graduate nurses' work engagement and job satisfaction. Journal of Nursing Management, 18(8), 993-1003. doi: http://dx.doi.org/10.1111/j.1365-2834.2010.01126.x

Gittell, J. H., Fairfield, K., Bierbaum, B. et al. (2000). Impact of relational coordination on quality of care post-operative pain and function, and length of stay: A nine hospital study of surgical patients. *Medical Care 38*(8), 807-819.

Greco, P., Spence Laschinger, H. K., & Wong, C. (2006). Leader empowering behaviours, staff nurse empowerment and work engagement/burnout. Nursing Leadership, 19(4), 41-56.

Hackman, J. R. & Oldman, G. R. (1975). Development of the Job Diagnostic Survey. Journal of Applied Psychology 60(2), 159-170.

Hakanen, J. J. & Roodt, G. (2010). Using the job demands-resources model to predict engagement: Analyzing a conceptual model. In A. B. Bakker & M. P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research* (pp. 85-101). New York, NY: Psychology Press.

Halbesleben, J. R. B. (2010). A meta-analysis of work engagement: Relationships with burnout, demands, resources, and consequences. In A. B. Bakker & M. P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research* (pp. 102-117). New York, NY: Psychology Press.

Halbesleben, J. R. B., & Wheeler, A. R. (2008). The relative role of engagement and embeddedness in predicting job performance and turnover intention. Work and Stress 22, 242-256.

Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. Journal of Applied Psychology, 87(2), 268-279. doi: http://dx.doi.org/10.1037/0021-9010.87.2.268

Havens, D. S., & Vasey, J. (2003). Measuring staff nurse decisional involvement: The decisional involvement scale (DIS). Journal of Nursing Administration 33(6), 331-336.

Havens, D. S., & Vasey, J. (2005). The staff nurse decisional involvement scale: Report of psychometric assessments. Nursing Resarch 54(6), 376-383.

Hayati, D, Charkhabi, M., & Naami, A. (2014). The relationship between transformational leadership and work engagement in governmental hospitals nurses: A survey study. SpringerPlus 3(25). doi: 10.1186/2193-1801-3-25

Hewitt Associates (2008). *The Hewitt engagement model.*

Hobfall, S. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist 44,* 513-524.

International Council of Nurses (ICN) (2005). Summary: The global shortage of registered nurses: An overview of issues and actions. Retrieved from http://www.icn.ch/images/stories/documents/publications/GNRI/Global_Shortage_of_Registered_Nurses_Executive_summary.pdf

Judge, T., Erez, A., Bono, J., & Thoresen, C. (2003). The core self-evaluations scale: Development of a measure. Personnel Psychology, 56, 303-331.

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. Academy of Management Journal, 33(4), 692-724. doi: 10.2307/256287

Kanter, R. M. (1993). *Men and women of the corporation* (2nd ed.). New York: Basic Books.

Kark, R. (2001). Gender differences in transformational leadership, followers' identifications, and effects on followers; perceptions. Unpublished PhD dissertation, Hebrew University of Jerusalem, Jerusalem.

Kark, R., Shamir, B., & Chen, G. (2003). The two faces of transformational leadership: Dependence and empowerment. *Journal of Applied Psychology 88*(2), 243-255.

Kelloway, E. K., Gottlieb, B. H., & Barham, L. (1999). The source, nature, and direction of work and family conflict: A longitudinal investigation. Journal of Occupational Health Psychology 4, 337-346.

Keyko, K. (2014). Work engagement in nursing practice: A relational ethics perspective. Nursing Ethics. doi: 10.1177/0969733014523167

Keyko, K., Yonge, O., Wong, C., & Cummings, G. (2014). *Work engagement in professional nursing practice: A systematic review*. Manuscript in preparation.

Kopelman, R. E., Rovenpor, J. L., & Millsap, R. E. (1992). Rationale and construct validity evidence for the job search behaviour index: Because intentions (and New Year's resolutions) often come to naught. Journal of Vocational Behaviour 40, 269-287.

Kouzes, J. & Posner, B. (2012). The leadership challenge: How to make extraordinary thing happen in organizations (5th ed.). San Franscisco, CA: Jossey-Bass.

Kristof, A. L. (1996). Person-organization fit: An integrative review of its conceptualizations, measurements, and implications. Personnel Psychology 49, 1-8.

Kunyk, D. & Austin, W. (2012). Nursing under the influence: A relational ethics perspective. Nursing Ethics, 19(3), 380-389. doi: 10.1177/0969733011406767

McHugh, M. D., Kelly, L. A., Smith, H. L., Wu, E. S., Vanak, J. M., & Aiken, L. H. (2012). Lower mortality in Magnet hospitals. Medical Care 51(5), 382-388.

Lake, E. T. (2002). Devleopment of the practice environment scale of the nursing work index. *Research in Nursing & Health, 25*(3), 176-188.

Laschinger, H. K. S. (2010). Staff nurse work engagement in Canadian hosptial settings: The influence of workplace empowerment and six areas of worklife. In S. L. Albrecht (Ed.) *Handbook of Employee Engagement: Perspectives, Issues, Research, and Practice*. (pp. 309-322). Glos: UK: Edward Elgar Publishing Limited.

Laschinger, H. K. S. (2012). Job and career satisfaction and turnover intentions of newly graduated nurses. Journal of Nursing Management 20, 472-484.

Laschinger, H. K. S., Finegan, J., & Shamian, J. (2001a). Promoting nurses' health: The effect of empowerment on job strain and work satisfaction. Nursing Economics 19, 42-52.

Laschinger, H. K. S., Finegan, J., & Shamian, J. (2001b). The impact of workplace empowerment and organizational trust on staff nurses' work satisfaction and organizational commitment. Health Care Management Review 26(3), 7-23.

Laschinger, H. K. S., Finegan, J., Shamian, J., & Wilk, P. (2001c). Impact of structural and psychological empowerment on job strain in nursing work settings: Expanding Kanter's Model. Journal of Nursing Administration 31, 260-272.

Laschinger, H. K. S., Grau, A. L., Finegan, J., & Wilk, P. (2012). Predictors of new graduate nurses' workplace well-being: Testing the job demands-resources model. Health Care Management Review 37(2), 175-186. doi: 10.1097.HMR.0b013e31822aa456,

Laschinger, H. K. S., Wilk, P., Cho, J., & Greco, P. (2009). Empowerment, engagement and perceived effectiveness in nursing work environments: Does exerience matter? Journal of Nursing Management 17, 636-646. doi: 10.1111/j.1365-2834.2008.00907.x

Lawrence, L. A. (2011). Work engagement, moral distress, education level, and critical reflective practice in intensive care nurses. Nursing Forum 46(4), 256-268.

Leiter, M. P., & Bakker, A. B. (2010). Work engagement: Introduction. In A. B. Bakker & M. P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research* (pp. 10-24). New York, NY: Psychology Press.

Leiter, M. P. & Maslach, C. (2004). Areas of worklife: A structured approach to organizational predictorsof job burnout. In P. Perrewe & D. C. Ganster (Eds.), *Research in occupational stress and well being* (Vol. 3, pp. 91-134). Oxford, UK: Elsevier.

Leiter, M. & Maslach, C. (2002). *Areas of worklife scale manual.* Wolfville, NS: Centre for Organizational Research and Development, Acadia University.

Li, C. P., Li, X. X., & Shi, K. (2006). The measurement of empowerment and its relationship with employee work attitude. Acta Psychologica Sinica 38, 99-106 (In Chinese).

Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. Personal Psychology 60, 541-572.

Maslach, C. & Leiter, M. P. (1997). The truth about burnout. San Franscisco: Jossey-Bass Publishers.

May, D., Gilson, R., & Harter, L. (2004). The psychological condition of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of Occupational Organizational Psychology 77,* 11-37.

Mayer, R. C. & Gavin, M. B. (2005). Trust in management and performance: Who minds the shop while employees watch the boss? *Academy of Mnaagement Journal 48*(5), 874-888.

Mobley, W. (1977). Intermediate linkages between job satisfaction and employee turnover. Journal of Applied Psychology, 63, 237-240.

Mobley, W., Griffeth, R., Hand, H., & Meglino, B. (1979). Review and conceptual analysis of employee turnover process. *Psychological Bulletin 86,* 493-522.

National Expert Commission (2012). A nursing call to action: The health of our nation, the future of our health system. Retrieved from http://www2.cna-aiic.ca/CNA/documents/pdf/publications/nec/NEC_Report_e.pdf

Needleman, J., Buerhaus, P., Pankratz, V. S., Leibson, C. L., Stevens, S. R., & Harris, M. (2011). Nursing staffing and inpatient hospital mortality. New England Journal of Medicine 364, 1037-1045.

Neufeld, J. E., Rasmussen, H. N., Lopez, S. J., Ryder, J. A., Magyar-Moe, J. L., Ford, A. I.,…Bouwkamp, J. C. (2006). The engagement model of person-environment interaction. The Counseling Psychologist 34, 245-259.

Palmer, B., Quinn Griffin, M. T., Reed, P., Fitzpatrick, J. J. (2010). Self-transcendence and work engagement in acute care staff registered nurses. Critical Care Nursing Quarterly 33(2), 138-147.

Peng, J. C., Lee, Y. L., & Tseng, M. M. (2014). Person-organization fit and turnover intention: Exploring the mediating effect of work engagement and the moderating effect of demand-ability fit. The Journal of Nursing Research 22(1), 1-11. doi: 10. 1097/jnr.0000000000000019

Peter, E. & Liaschenko J. (2013). Moral distress reexamined: A feminist interpretation of nurses' identities, relationships, and responsibilities. Bioethical Inquiry 10, 337-345.

Price, J. L. & Mueller, C. W. (1981). A causal model of turnover for nurses. Academy of Management Journal 24(3), 543-565.

Reed, P. (1991). Self-transcendence and mental health in oldest-old adults. Nursing Research 40, 1-7.

Reed, P. (2003). The theory of self-transcendence. In M. Smith & P. Liehr, P. (Eds.), *Middle range theory for nursing.* New York, NY: Springer Publishing Company Inc.

Rivera, R. R., Fitzpatrick, J. J., Boyle, S. M. (2011). Closing the RN engagement gap: Which drivers of engagement matter? Journal of Nursing Administration 41(6), 265-272. doi: 10.1097/NNA.0b013e31821c476c

Robinson, S. (1996). Trust and breach of psychological contract. Administrative Science Quarterly 41, 574-599.

Sager, J. K., Griffeth, R. W., & Hom, P. W. (1998). A comparison of structural models representing turnover cognitions. Journal of Vocational Behaviour 53, 254-273.

Salanova, M., Lorente, L., Chambel, M. J., & Martinez, I. M. (2011). Linking transformational leadership to nurses' extra-role performance: the mediating role of self-efficacy and work engagement. Journal of Advanced Nursing, 67(10), 2256-2266. doi: http://dx.doi.org/10.1111/j.1365-2648.2011.05652.x

Salanova, M., Schaufeli, W. B., Xanthopoulou, D., & Bakker, A. (2010). The gain spiral of resources and work engagement: Sustaining a postive worklife. In A. B. Bakker & M. P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research* (pp. 10-24). New York, NY: Psychology Press.

Sawatzky, J. V. & Enns, C. L. (2012). Exploring the key predictors of retention in emergency nurses. Journal of Nursing Management 20, 696-707. doi: 10.1111/j.1365-2834.2012.01355.x

Schaufeli, W. B. & Bakker, A. B. (2003). *Utrecht work engagement scale (UWES): Preliminary manual.* Utrecht University, ND: Occupational Health Psychology Unit.

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, 25(3), 293-315. doi: 10.1002/job.248

Schaufeli, W. B. & Bakker, A. B. (2010). Defining and measuring work engagement: Bringing clarity to the concept. In A. B. Bakker & M. P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research* (pp. 10-24). New York, NY: Psychology Press.

Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionairre: A cross-sectional study. Educational and Psychological Measurement 66, 701-716.

Schaufeli, W. B., Bakker, A. B., & Van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. Journal of Organizational Behavior, 30(7), 893-917. doi: 10.1002/job.595

Schaufeli, W. B., Leiter, M. P., & Maslach, C. (2009). Burnout: 35 years of research and practice. The Career Development International, 14(3), 204-220. doi: http://dx.doi.org/10.1108/13620430910966406

Schaufeli, W. B., Salanova, M., González-romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. Journal of Happiness Studies, 3(1), 71-92.

Schaufeli, W. B. & Taris, T. W. (2014). A critical review of the job demands-resources model: Implications for improving work and health. In G. F. Bauer & O. Hammig (Eds.), *Bridging occupational, organizational, and public health: A transdiciplinary approach.* (pp. 43-68). Dordrecht: Springer Science and Business Media. doi: 10.1007/978-94-007-5640-3_4,

Schultz, D. S., & Carnevale, F. A. (1996). Engagement and suffering in responsible caregiving: On overcoming maleficience in health care. Theoretical Medicine, 17(3), 189-207. doi: 10.1007/BF00489445

Seligman, M. E. P. & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. American Psychologist 55, 5-14.

Simpson, M. R. (2009). Engagement at work: A review of the literature. International Journal of Nursing Studies, 46(7), 1012-1024. doi: 10.1016/j.ijnurstu.2008.05.003

Simpson, M. R. (2009a). Engagement at work: A review of the literature. International Journal of Nursing Studies, 46(7), 1012-1024. doi: 10.1016/j.ijnurstu.2008.05.003

Simpson, M. (2009b). Predictors of work engagement among medical-surgical registered nurses. Western Journal of Nursing Research 31(1), 44-65. doi: 10.1177/0193945908319993

Sullivan Havens, D., Warshawsky, N. E., Vasey, J. (2013). RN work engagement in generational cohorts: The view from rural US hosptials. Journal of Nursing Management 21, 927-940. doi: 10.1111/jonm.12171

Stamm, B. H. (2005). The Professional Quality of Life Scale. Idaho State University, Pocatello, Idaho.

Stamps, P. L. (1997). Nurses and work satisfaction: An index for measurement (2nd edition). Chicago, IL: Health Administration Press

Tett, R. P., & Burnett, D. D. (2003). A personality trait-based interactionist model of job performance. Journal of Applied Psychology, 88, 500-517.

VanDyne, L. & LePine, J. A. (1998). Helping and extra-role behaviours: Evidence of construct and predictive validity. Academy of Management Journal 41(1), 108-119.

Vinje, H. F., & Mittelmark, M. B. (2008). Community nurses who thrive: the critical role of job engagement in the face of adversity. Journal for Nurses in Staff Development, 24(5), 195-202.

Walker, A. & Campbell, K. (2013). Work readiness of graduate nurses and the impact on job satisfaction, work engagement, and intention to remain. Nurse Education Today 33, 1490-1495. doi: 10.1016/j.nedt.2013.05.008

Wang, S. & Liu, Y. (2013). Impact of professional nursing practice environment and psychological empowerment on nurses' work engagement: Test of structural equation modelling. Journal of Nursing Management. doi: 10.1111/jonm.12124

Willoughby, C. M. (2011). A critical literature review exploring work engagement in the nursing profession (Doctoral dissertation). Retrieved from PROQUEST database. (UMI No. 3480027).

Wonder, A. H. (2013). Work engagement in Magnet-designated hospitals: Exploring social and institutional demographics of RNs to optimize improvement efforts. Journal of Nursing Administration 43(12), 667-672.

Wong, C. A., & Cummings, G. (2007). The relationship between nursing leadership and patient outcomes: A systematic review. Journal of Nursing Management 15, 508-521.

Wong, C. A., Cummings, G. G., & Ducharme, L. (2013). The relationship between nursing leadership and patient outcomes: A systematic review update. Journal of Nursing Management 21, 709-724.

Wong, C. A., Laschinger, H. K. S., & Cummings, G. G. (2010). Authentic leadership and nurses' voice behaviour and perceptions of care quality. Journal of Nursing Management, 18(8), 889-900. doi: 10.1111/j.1365-2834.2010.01113.

Wood, M. J. & Ross-Kerr, J. C. (2011). Basic steps in planning nursing research. Mississauga, Ontario: Jones and Bartlett Publishers.

Wu, M. (2010). Perceptions of work engagement of nurses in Taiwan. Dissertation. University of Texas School of Nursing.

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2007). The role of personal resources in the job demands-resources model. Interventional Journal of Stress Management 14, 121-141.

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009). Work engagement and financial returns: A diary study on the role of job and personal resources. Journal of Occupational and Organizational Psychology 82, 183-200. doi:10.1348/096317908X285633

Zhang, Y. W. & Gan, Y. Q. (2005) (Chinese). The Chinese version of Utrecht work engagement scale: An examination of reliability and validity. *Chinese Journal of Clinical Psychology 13,* 268-281.

Appendix A

Systematic Review Inclusion and Exclusion Criteria

PICOS Elements*	Inclusion Criteria	Exclusion Criteria
Population	• Articles that consider the engagement of nurses (solely, or as a distinguishable part of the sample) • Must be able to extract findings/results from just the nursing portion of the sample if other disciplines or participants are included as participants	• Articles that discuss the engagement of clients, patients, or other professionals, and not nurses. • Findings/results from nurses are not distinguishable.
	• Professional registered nurses working in practice settings	• Other classifications of "nurses" (including, but not limited to, licensed practical nurses, nursing aides, health care aides) • Nurse managers or nurses in management roles • Nurses working in academic settings and/or education • Nursing students
Interventions/ Comparators	• Studies examining the relationship between any antecedent factors, predictors, influencing factors and work engagement. • Studies examining the factors associated with work engagement	
Outcomes	• Articles that look at engagement related to work, employee, or profession	• Articles that look at engagement related to things other than work, employee, or profession (For example: therapeutic engagement, clinical engagement, engagement in a specific activity or initiative).
	• Any conceptualization or definition of engagement related to work, employee, or profession • Engagement measured using a direct measure of engagement	• Studies where engagement is measured by an indirect measurement (such as the opposite of burnout)
	• Studies where work engagement of nurses is examined as an outcome • Studies where the outcomes of work engagement are examined • Studies examining the relationship between work engagement and outcomes with work engagement as the independent variable	• Work engagement of nurses only mentioned in discussion, implications, or other portions of the article or study and not specifically examined or measured in the study
Study Design	• Peer-reviewed research studies (quantitative & qualitative) • Dissertations, and theses • Published in English with full text available. • Published in any time period	• Full text not available • English full text not available • No publication dates excluded • Articles that are not research articles or studies • Articles, which do not report results of the completed research

Note. *PICOS elements adapted from:
Centre for Reviews and Dissemination (CRD) (2009). *Systematic reviews: CRD's guidance for undertaking reviews in health care.* Layerthorpe, York: CRD, University of York.

Appendix B

Quality Assessment Tool for Correlational Studies

Factors Associated with Work Engagement in Nursing Practice: A Systematic Review Quality Assessment and Validity Tool for Correlational Studies*		
Study: First Author: Publication Date: Journal:		
Design:	**No**	**Yes**
3. Was the study prospective?	☐	☐
4. Was probability sampling used?	☐	☐
Sample:		
5. Was the sample size justified?	☐	☐
6. Was the sample drawn from more than one site?	☐	☐
7. Was anonymity protected?	☐	☐
8. Response rate more than 60%?	☐	☐
Measurement: **Factors Associated with Work Engagement (IVs):** (assess for IVs correlated with DV only)		
3. Was the factor measured reliably?	☐	☐
4. Was the factor measured using a valid instrument?	☐	☐
Work Engagement (DV):		
4. Are the effects observed rather than self-reported? (2 points)	☐	☐
5. Did the scale used for measuring work engagement as an outcome have an internal consistency ≥ 0.70?	☐	☐
6. Was a theoretical model/framework used for guidance?	☐	☐
Statistical Analysis:		
3. If multiple factors were studied, are correlations analyzed?	☐	☐
4. Are outliers managed?	☐	☐
Overall Study Validity Rating: (0-4=LOW; 5-9=MED; 10-14=HIGH)	Total: _____ LO MED HIGH	

*Adapted from Cummings et al. (2010) and Germain & Cummings (2010).

Appendix C

Quality Assessment Tool for Intervention Studies

Factors Associated with Work Engagement in Nursing Practice: A Systematic Review Quality Assessment and Validity Tool for Pre/Post Intervention Design*		
Study: First Author: Publication Date: Journal:		
Sampling: 3. Was probability sampling used? 4. Was sample size justified to obtain appropriate power? **Subtotal (out of 2): ____**	**No** ☐ ☐	**Yes** ☐ ☐
Design: 3. One pre-test or baseline and several post-test measures? 4. Simple before-and-after study **Subtotal (out of 2): ____**	 ☐ ☐	 ☐ ☐
Control of Confounders: Does the study employ a comparison strategy? An attempt to create or assess equivalence of groups at baseline by: a) Matching group participants? b) Statistical control? c) None The group comparisons were the same for all occasions (pre, baseline, and post evaluations) **Subtotal (out of 2): ____**	 ☐ ☐ ☐ ☐	 ☐ ☐ ☐ ☐
Data Collection and Outcome Measurement: 5. Was the DV directly measured by an assessor? 6. Was the DV either: a) Directly measured? b) Self-reported? 7. Was the DV measured reliably? 8. Was the DV measured validity? **Subtotal (out of 5): ____**	 ☐ ☐ ☐ ☐ ☐	 ☐ ☐ ☐ ☐ ☐
Statistical Analysis and Conclusions: 5. Were the statistical tests used appropriate for the main outcome? 6. Were the p values and confidence intervals reported appropriately? 7. If multiple factors were studied, were correlations analyzed? 8. Were missing data managed appropriately? **Subtotal (out of 4): ____**	 ☐ ☐ ☐ ☐	 ☐ ☐ ☐ ☐
Drop-outs: Is attrition rate <30%? (If no attrition, code 1)		
Total: Total number of points (out of 16 points)		
Overall Study Validity Rating: (<9=LOW; 9-13=MED; 14-16=HIGH)	Total: _____ LO MED HIGH	

*Adapted from Cummings et al. (2008)

Appendix D

Quality Assessment Tool for Qualitative Studies

CASP Qualitative Criteria:*	Study: First Author: Publication Date: Journal:		
	No	**Yes**	**Explanation of answer:**
1. Was there a clear statement of the aims of the research?	☐	☐	
2. Is a qualitative methodology appropriate?	☐	☐	
3. Was the research design appropriate to address the aims of the research?	☐	☐	
4. Was the recruitment strategy appropriate to the aims of the research?	☐	☐	
5. Were the data collected in a way that addressed the research issue?	☐	☐	
6. Has the relationship between researcher and participants been adequately considered?	☐	☐	
7. Have the ethical issues been taken into consideration?	☐	☐	
8. Was the data analysis sufficiently rigorous?	☐	☐	
9. Is there a clear statement of the findings?	☐	☐	
10. How valuable is the research?			
Total Score: ____/9 possible yes answers			

*Adapted from: Critical Appraisal Skills Programme (CASP) (2010).