Modeling the Determinants to Regulated Nurses' and Allied Health Staff Members' Job Satisfaction in Residential Long-Term Care Facilities

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Abstract

Factors affecting job satisfaction among regulated nurses and allied health workers in long-term care (LTC) facilities remain poorly understood. A secondary analysis using data from the Translating Research in Elder Care program was done to model determinants of job satisfaction. Demographic, individual-level, and context-level variables were assessed. Separate GEE models were constructed for regulated workers (n = 756) and allied health workers (n = 334). Emotional exhaustion and cynicism predicted lower job satisfaction in regulated nurses and allied health workers, respectively. Psychological empowerment and adequate orientation predicted higher job satisfaction in both groups. Work engagement, culture, and organizational slack-space predicted higher job satisfaction in regulated nurses. Social capital, organizational slack-time, and formal interactions predicted higher job satisfaction in allied health workers. These findings provide empirical support for individual-level and context-level variables and identify the importance of adequate orientation in job satisfaction in this population.

Dedication

This thesis is dedicated to my parents, John and Denise Aloisio, who taught me how, with hard work and tenacity, even the largest goals can be accomplished. Their belief in me gave me the courage to try and their love and support provided me with the strength to complete this goal.

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List of Abbreviations

ACT: Alberta Context Tool
APN: Advanced practice nurse
GEE: Generalized estimating equations
LEAP: Learn, empower, achieve, and produce
LPN: Licensed practical nurse
LTC: Long-term care
MBI: Maslach Burnout Scale
MOAQ-JSS-3: Michigan Organizational Assessment Questionnaire Job Satisfaction Subscale
MoHLTC: Ministry of Health and Long-Term Care
RN: Registered nurse
TREC: Translating Research in Elder Care
UWES-9: Utrecht Work Engagement Scale-9

Chapter 1

Introduction

Introduction and Relevance

In Canada, the number of seniors (persons aged 65 years and older) now exceeds the number of children 14 years and younger (1). By 2036, the number of seniors is expected to reach 10.9 million, more than double the number in 2009 (1). According to the 2011 census, approximately 4.5% of all seniors (~224,000 individuals) reside in long-term care (LTC) facilities (2). Residential LTC facilities are regulated institutions that provide nursing and personal care and ensure that older Canadians receive the competent and safe care they deserve.

In residential LTC facilities, regulated nursing staff (registered nurses [RNs] and licensed practical nurses [LPNs]) provide medical services and develop residents' care plans. Allied health staff (e.g., social workers, occupational therapists, dieticians, physiotherapists) work together with regulated nursing staff to meet residents' physical, psychological, and spiritual needs, and to improve the quality of life and care among LTC residents by setting caregiver goals, identifying relevant care practices, ensuring proper monitoring, coordinating services, and supervising staff. Thus, LTC facility regulated staff (nurses and allied health professionals) ensure that residents receive high quality care.

Residential LTC facilities experience high rates of staff turnover (3,4). Staff turnover results in staff shortages (4), which disrupts the continuity of care (5) thereby increasing the risk of adverse health events (6–9) and medical errors (8). High staff

turnover reduces productivity (10) and well-being (8) among staff members, and increases administrative and training costs (11). High turnover rates negatively affect residents' quality of care, and leads to poor resident health outcomes (12,13).

Job satisfaction refers to a person's attitude and feelings toward work. According to Locke (14), job satisfaction is "the pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating the achievement of one's job values" (14, p1342). Among staff of residential LTC facilities, job satisfaction predicts staff turnover, with higher levels of job dissatisfaction associated with high staff turnover (5,15–19). Given the vital role that regulated professionals have in providing high quality care to LTC facility residents, understanding factors affecting staff members' job satisfaction is important for reducing staff turnover.

Personal Impetus

During my clinical placements, I was struck by the level of discontent and dissatisfaction among staff in LTC facilities as compared to staff in other settings. Knowing that the rate of staff turnover in LTC facilities was relatively high and that job satisfaction likely affected this rate, I became interested in examining and identifying modifiable factors that could be altered to promote job satisfaction and possibly reduce turnover rates. When deciding what area of interest and project to pursue for my master's research, I was presented with the opportunity to conduct a secondary analysis on a large, comprehensive dataset to examine job satisfaction among regulated staff in LTC facilities. I was immediately drawn to the project in part because I was interested in examining factors affecting job satisfaction in a setting known to have high rates of

turnover among staff and in part because I wanted to gain skills in quantitative, secondary data analysis, particularly with a large dataset.

My interest in the project was driven by my desire to identify modifiable factors associated with job satisfaction and contribute to the growing body of knowledge on job satisfaction among staff in LTC facilities. Through the project findings, I hope to assist nurse leaders, organizational managers, and policymakers in gaining a deeper understanding of and insight into factors that affect job satisfaction, retention, and turnover.

Study Purpose and Objectives

A recent systematic review of 42 studies examining factors related to job satisfaction in unregulated healthcare staff found that organizational factors such as leadership, culture, social capital, and formal and informal interactions influence staff members' satisfaction within residential LTC facilities (20). Similar factors were identified in a systematic review of 100 studies examining factors related to job satisfaction in regulated nursing staff working in acute care hospitals (21).

Although several systematic reviews of research on job satisfaction within residential LTC facilities have been conducted, limited research has examined job satisfaction among regulated nurses and allied health staff in residential LTC facilities**.** Therefore, it remains unclear whether findings from regular staff in other settings can be generalized to this group. To this end, the purpose of the study was to examine and model the determinants of job among regulated nurses and allied health staff in residential LTC facilities.

TREC is a multi-level, longitudinal research program whose purpose is to develop a comprehensive understanding of the effect of organizational context (i.e., organizational setting and environmental factors) on research utilization, and the subsequent impact of research utilization on resident health outcomes (and secondarily on provider and system outcomes) in LTC facilities. In TREC 2.0 data was collected from healthcare aides (unregulated workers), regulated nurses (RNs and LPNs), allied health staff, physicians, practice specialists, and care managers in 90 LTC facilities in three Western Canadian provinces: British Columbia, Alberta, Manitoba.

The rationale for utilizing TREC data is threefold: (1) the same surveys were administered to regulated nurses and allied health staff within residential LTC facilities in Canada; (2) TREC was designed to assess quality of work-life outcomes, one of which was job satisfaction; and (3) factors from three categories (demographic, individual-level, and context-level) that have been shown to be related to and/or are theoretically important to job satisfaction were captured. Additionally, TREC data was recently successfully used to determine several individual and organizational factors contributing to job satisfaction among healthcare aides in residential LTC facilities (22). Thus, using the TREC data provides a unique opportunity to compare and contrast factors that are empirically or theoretically related to job satisfaction in healthcare aides, RNs, LPNs, and allied health staff in LTC settings.

Significance of Study

This study will make important and unique contributions to the nursing field. It will be the first to evaluate and compare factors affecting job satisfaction among

regulated nurses and allied health staff in diverse LTC settings across three Canadian provinces.

Theoretical Framework

Two theories were used to guide this research study: 1) Kanter's (23) Theory of Structural Empowerment and 2) Spreitzer's (24,25) Theory of Psychological Empowerment. These two theories have been extensively used in studies addressing factors affecting job satisfaction (26–34).

Kanter's Theory of Structural Empowerment in Organizations.

Kanter's (23) Theory of Structural Empowerment focuses on the role of the organizational context and identifies three organizational factors that affect employees' job satisfaction: 1) opportunity, 2) access to resources, and 3) structure of power (23). Opportunity refers to employees' access to professional development and advancement opportunities. Access to resources refers to employees' ability to access resources required for meeting professional and organizational goals. Finally, structure of power includes: access to resources and information; and support, guidance, and feedback from supervisors, peers, and subordinates (23). Kanter (23) asserts that power, which is the ability to effectively complete tasks within the organization, can be further subdivided into individuals' informal and formal power within their place of employment. Specifically, informal power refers to individuals' networks and relationships with others, including peers, superiors, and subordinates. Conversely, formal power refers to individuals' visibility, flexibility, and contribution to the organization. According to Kanter (23), employees who have opportunities for professional development, receive

adequate support, have access to resources, and have higher levels of formal and informal power achieve higher levels of job satisfaction.

Spreitzer's Theory of Psychological Empowerment.

While Kanter's theory focuses on how employees perceive the conditions in their work environment, Spreitzer's (24,25) Theory of Psychological Empowerment focuses on how employees interpret their work environment psychologically. Unlike structural empowerment, which focuses on management practices that can be used to increase employees' power within their organizations, psychological empowerment concerns itself with employees' intrinsic motivations (27). Psychological empowerment refers to a state experienced by employees that is required for employers' interventions to succeed (24,25). There are four components of psychological empowerment: competence, meaning, self-determination, and impact (24,25). Competence refers to an employee's confidence in their ability to do their job (24,25). Meaning pertains to the compatibility between an employee's value, beliefs, and behaviours, and the requirements of the job (24,25). Self-determination refers to an employee's feelings of control over their place of employment (24,25). Finally, impact refers to a sense that one's contributions are important and meaningful to the organization (24,25). According to Spreitzer's theory, high levels of psychological empowerment promote job satisfaction.

Each of the four dimensions of Spreitzer's theoretical framework (competence, meaning, self-determination, impact) have been studied and found to be associated with job satisfaction (24–26,30,32,35,36). In nursing studies, organizational empowerment predicted job satisfaction among nurse educators (32), hospital nursing staff (30), and staff nurses in critical care, med-surgical, and maternal-child units (26). Among nurse

educators, Sarmiento et al. (32) found that opportunity for advancement, access to information, access to resources, support, and formal and informal power were significantly related to overall job satisfaction.

Relationship between psychological & structural empowerment.

Researchers have integrated structural and psychological perspectives of empowerment to better understand how empowerment affects employees' job satisfaction (37). A modified version of Laschinger et al.'s (29) model of factors affecting job satisfaction in nursing settings illustrates the relationship between Kanter's structural empowerment and Spreitzer's psychological empowerment on job satisfaction in nursing settings. Studies have found that structural and psychological empowerment correlated with job satisfaction among employees (38,39), and the combination of both structural and psychological empowerment better predicts job satisfaction in nurses (40). In a cross-sectional study, Laschinger et al. (29) found psychological empowerment mediated the relationship between structural empowerment and job satisfaction among nurses. Specifically, experiencing higher levels of structural empowerment increased psychological empowerment, which in turn promoted work satisfaction among nursing staff (29). Similarly, Seibert et al. (33) found that psychological empowerment mediated the effects of the workplace environment on employees' job satisfaction. These studies suggest that organizational empowerment positively affects employees' workplace satisfaction through psychological empowerment (29,33,38–40). This conclusion was reached in a recent review by Cicolini, Comparcini and Simonetti (41), who found structural empowerment affected job satisfaction through psychological empowerment

among nurses (41). Overall, these findings provide evidence for the role of structural and psychological empowerment in promoting job satisfaction.

Taken together, these studies provide empirical support for Kanter's and Spreitzer's theories regarding factors affecting employees' job satisfaction. For these reasons, Kanter's Theory of Structural Power in Organizations and Spreitzer's Theory of Psychological Empowerment were deemed appropriate to guide this research study.

Thesis Outline

This thesis is composed of seven chapters:

- **Chapter 1** includes the introduction to the thesis, my personal impetus for studying this topic, and the purpose, objectives, and significance of the present study. The chapter concludes with a detailed discussion of the theoretical framework used to guide this research.
- **Chapter 2** provides a comprehensive literature review of the demographic, individual-level, and context-level factors that have been examined in relation to job satisfaction among registered nurses, licensed practical nurses, and allied health professionals.
- **Chapter 3** describes the methodology of this thesis and includes the study design and rationale, study sample, data collection, data measures, and data analysis.
- **Chapter 4** is a draft of the manuscript titled "Modeling the determinants to nurses' job satisfaction in residential long-term care facilities." The manuscript has been submitted to the *Journal of American Medical Directors Association* on March 1, 2018 (under peer review).
- **Chapter 5** is a draft of the manuscript titled "Modeling the determinants to health professionals' job satisfaction in residential long-term care facilities." The manuscript has been submitted to *BMC Health Services* on March 3, 2018 (under peer review).
- **Chapter 6** summarizes the thesis and the specific findings from manuscripts presented in Chapter 4 and Chapter 5. The chapter also provides an integrative

discussion regarding factors associated with job satisfaction among regulated nurses and allied health professionals, focusing mostly but not exclusively on healthcare professionals employed in LTC facilities. The chapter also provides nursing implications for practice, research, education, and policy. It concludes with a summary of the study strengths and limitations and provides suggestions for future directions.

- **Chapter 7** details contributions of collaborators and co-authors.

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Chapter 2

Literature Review

Search Strategy and Results

A search strategy, developed in collaboration with a University of Ottawa librarian, was used to identify factors studied in relation to job satisfaction in nurses and allied health workers in LTC settings. Six online databases (Medline, EMBASE, PsycINFO, CINHAL, Web of Science, PubMed) were searched for RNs and LPNs (Table 2-1) and three online databases (Medline, EMBASE, and PsycINFO) were searched for allied health staff (Table 2-2). A total of 565 studies were identified through the database searches, of which 36 were relevant: N=32 with nurses and N=4 with allied health staff. Figures 2-1 and 2-2 summarize the selection process for nurses and allied health staff, respectively.

Factors Related to Job Satisfaction

In total, across the 36 included studies, 3 demographic, 18 individual-level and 11 contextual variables were investigated in relation to job satisfaction. A summary of the findings is presented next with further details available in Tables 2-3 and 2-4 for nurses and allied health staff, respectively.

Demographic variables.

Nurses. Twelve studies investigated at least one demographic variable in relation to nurses' job satisfaction (1–12). Three demographic variables were investigated: age (10 studies; 1–7,9,10,13), gender (8 studies; 1–3,6,9–11,13), and educational attainment (5 studies; 1,2,4,6,10). Age was a significant factor in 3 (2,6,7) out of 11 studies (1,3–

5,9,10,13). Older staff had higher job satisfaction in two studies (6,7), whereas younger staff had higher job satisfaction in one study (2). Gender was significantly related to job satisfaction in 1 (3) out of 8 studies (1,2,6,9–11,13), with females reporting higher job satisfaction than males. Educational attainment was significant in 2 (1,6) out of 5 studies (2,4,10), with staff with fewer years of education reporting higher levels of job satisfaction. Overall, these studies were equivocal (mixed) with respect to the role of demographic variables in job satisfaction among regulated nurses.

Allied. Two studies investigated demographic variables in relation to allied health staffs' job satisfaction (14,15). Two demographic variables were investigated: age and education. Age was not a significant factor in both studies (14,15). Educational attainment was not a significant factor in one study (14). Overall, these studies suggest that demographic variables are not related to job satisfaction among allied health staff.

Individual-level variables.

Employment characteristics.

Nurses. Ten studies investigated at least one factor pertaining to work experience and status in relation to nurses' job satisfaction (1–3,6,9–11,16–18). Five variables were investigated: 1) duration in current role, 2) time worked on unit, 3) hours worked per week, 4) shift worked, and 5) employment status. Duration in current role was assessed in a single study and was found not to be significantly related to nurses' job satisfaction (17). Time worked on unit was significant in 3 (1,6,11) out of 7 studies (2,3,10,18) with more experience relating to higher job satisfaction in all three studies. Hours worked per week was not significant in 3 of 3 studies (2,6,16). Shift work was significantly associated with job satisfaction in one study (6), with staff working day shift reporting

higher job satisfaction. Employment status was significant in one (3) out of three studies (9,18). Overall, the results were equivocal for the role of employment characteristics in job satisfaction among regulated nurses.

Allied. Two studies investigated duration in current role to allied health staffs' job satisfaction (14,15). Both studies found duration in current role was not significantly related to job satisfaction. Overall, these studies suggest that employment characteristics are not related to job satisfaction among allied health staff.

Burnout.

Burnout refers to a debilitating psychological condition that is characterized by emotional exhaustion, cynicism, and reduced sense of personal efficacy (19).

Nurses. Three studies assessed at least one component of burnout in relation to nurses' job satisfaction. All three found that burnout was negatively associated with job satisfaction (20–22). Specifically, work stress and work-related exhaustion (20), feeling exhausted, powerless, belittled, and invisible (21), and feeling depleted from work (22) were associated with reduced job satisfaction. Overall, these studies support a negative relationship between burnout and job satisfaction among regulated nurses.

Allied. Burnout was not assessed in any of the allied health studies.

Work engagement.

Work engagement refers to a positive, fulfilling work-related state of mind that is characterized by vigor, dedication, and absorption; work engagement is the opposite of burnout (23).

Nurses. Three studies examined at least one component of work engagement. All three studies found that higher work engagement promotes job satisfaction (2,24,25).

Specifically, having a positive attitude toward work (2), viewing one's role with pride (25), and being highly dedicated to one's work (24) was associated with higher job satisfaction. Overall, these studies support a positive relationship between work engagement and job satisfaction among regulated nurses.

Allied. Work engagement was not assessed in any of the allied studies.

Psychological empowerment.

Psychological empowerment is defined as a motivational construct manifested in four cognitions that reflect an active as opposed to passive attitude toward work: competence, meaning, self-determination, and impact. Competence refers to an employee's confidence in their ability to do their job. Meaning pertains to the compatibility between an employee's value, beliefs, and behaviours, and the requirements of the job. Self-determination refers to an employee's feelings of control over their place of employment. Finally, impact refers to a sense that one's contributions are important and meaningful to the organization (27,28).

Nurses. Seventeen studies examined at least one component of psychological empowerment in relation to nurses' job satisfaction (1,4,7,8,10,11,13,16–18,21,22,26,29–31,46). Of these, two studies found that higher competence and impact scores were related to increased job satisfaction (7,8). Four (7,8,13,17) out of five (31) studies found that meaning was associated with job satisfaction. Self-determination and/or decision-making autonomy was associated with increased job satisfaction in 13 (1,4,7,8,11,13,16,21,26,29–31,46) out of 14 studies (22). Two studies (7,8) found that the sense of impact on the organization (unit) increased job satisfaction. Finally, four out of 4

studies found that opportunity to participate in facility affairs, such as policymaking, was associated with greater job satisfaction (4,10,18,30).

Overall, these studies support a positive relationship between work engagement and job satisfaction among regulated nurses.

Allied. Three of four allied studies investigated at least one component of psychological empowerment (14,32,33). All three studies found that elements of psychological empowerment were related to increased job satisfaction as follows: autonomy (14,33), greater job involvement (33), and ability to contribute to decision making (32). Overall, these studies also support a positive relationship between psychological empowerment on job satisfaction among allied health staff.

Problem solving.

Problem solving refers to the cognitive, affective and behavioural processes and to the particular set of skills people employ in order to find solutions for the challenges of everyday life (34).

Nurses. Ability to effectively problem solve was found to be a factor that increased job satisfaction by nurses in one study (17).

Allied. Problem solving was not assessed in any of the allied studies.

Physical and mental health status.

Refers to an individual's perception of their general physical and mental health status, including limitations due to physical and/or mental health problems (35).

Nurses. Two studies examined nurses' physical (22) or mental health status in relation to their job satisfaction (22,36). Both studies found a negative relationship between poorer health status and job satisfaction. Schwendimann (22) found that fewer

physical and mental health problems was associated with higher job satisfaction (22). Similarly, Vondras (36) found that higher levels of stress significantly decreased job satisfaction among regulated nurses (36). Overall, these studies support a positive relationship between physical and mental health status and job satisfaction among regulated nurses.

Allied. One study investigated physical and mental health status in relation to allied health staffs' job satisfaction levels and found that poorer mental health status decreased job satisfaction among allied health staff (33).

Context-level variables.

Definitions for all context-level variables are from Estabrooks et al. (37).

Leadership.

Leadership refers to actions of formal leaders in an organization (unit) to influence change and excellence in practice.

Nurses. Leadership and supervisor support was a significant factor in all seven studies that assessed these factors (4,9,11,16,18,22,38). Specifically, presence of a supportive manager (4,9) and presence of a resonant nursing home administrator (i.e., has an "open ear" and responds to issues raised by the care staff) (22) was associated with higher job satisfaction. Conversely, having poor relationships with administrators was related to lower job satisfaction (16). Overall, these studies support a positive relationship between supportive leadership and job satisfaction among regulated nurses.

Allied. Two studies investigated leadership and supervisor support in relation to allied health staffs' job satisfaction (14,33), with both studies finding significant positive associations between supervisor support with job satisfaction. Overall, these studies also

support a positive relationship between supportive leadership and job satisfaction among allied health staff.

Culture.

Culture refers to the way that "we do things" in our organizations and work units, items generally reflect a supportive work culture.

Nurses. Eleven (1,3,4,6,13,16,20,22,24,29,39) out of 12 studies (40) found culture was significantly associated with job satisfaction. Specifically, the following elements of culture were positively associated with nurses' job satisfaction: 1) being seen as equal members of a team (16), 2) staff recognition and acknowledgement by management (6,16), 3) having an organizational quality environment (6), 4) the perception that high quality of care is delivered to residents (3,22,39), and 5) the existence of managerial support for skills and competence development (20). Overall, these studies support a positive relationship between culture and job satisfaction among regulated nurses.

Allied. Two studies investigated culture in allied health staff. Both studies found that a positive work culture promoted job satisfaction among allied health staff (14,33). Overall, these studies also support a positive relationship between culture and job satisfaction among allied health staff.

Evaluation.

Evaluation refers to the process of using data to assess group/team performance and to achieve outcomes in organizations (units).

Nurses. Evaluation was not assessed in any of the nursing studies.

Allied. Evaluation was not assessed in any of the allied studies.

Social capital.

Social capital refers the stock of active connections among people. These connections are of three types: bonding, bridging, and linking.

Nurses. Seven (4,8,13,16,18,22,41) out of nine (11,38) studies found that social capital factors, such as the presence of supportive colleagues and strong relationships among colleagues, promoted job satisfaction. The presence of supportive colleagues and strong relationships among colleagues (8,13), cohesion among colleagues (18), and teamwork (22) were associated with increased job satisfaction levels among nurses while poor staff cohesiveness (16) was associated with lower job satisfaction levels. These studies provide support for a positive relationship between social capital and regulated nurses' job satisfaction.

Allied. One of the four allied health studies found social capital was associated with job satisfaction (14). Gleasonwynn and Mindel (14) found that peer support, emotional support, and morale enhancement improves job satisfaction.

Organizational slack.

Organizational slack refers to the cushion of actual or potential resources that allows an organization (unit) to adapt successfully to internal pressures for adjustments or to external pressures for changes.

Organizational slack-staffing.

Nurses. Eight studies assessed at least one component of organizational slack-staffing, and all eight found a significant association between organizational slack-staffing and job satisfaction (5,16,22,24,38–40,44). Specifically, four (16,22,24,38,39) out of five (5) studies found that having staffing levels that match residents' needs was

positively associated with job satisfaction. One study found that high staff stability was associated with higher job satisfaction (38). Additionally, four out of four studies found that working short-staffed decreased job satisfaction (5,22,40,44). These studies provide support for a positive relationship between organizational slack-staffing and regulated nurses' job satisfaction.

Allied. Organizational slack-staffing was not assessed in any of the allied studies.

Organizational slack-time.

Nurses. Six out of seven studies found that time-related pressures affected job satisfaction (6,13,16,18,24,26,36). In particular, job satisfaction decreased when time constraints prevented the opportunity for staff to spend time with residents (24,26). These studies provide support for a positive relationship between organizational slack-time and regulated nurses' job satisfaction.

Allied. Organizational slack-time was not assessed in any of the allied studies.

Organizational slack-space.

Nurses. Sufficient organizational space was investigated as a factor in one study and was found to be associated with higher levels of nurse job satisfaction (44).

Allied. Organizational slack-space was not assessed in any of the allied studies.

Formal interactions.

Formal exchanges that occur between individuals working within an organization (unit) through scheduled activities that can promote the transfer of knowledge.

Nurses. Seven studies investigated and found formal interactions was significantly associated with job satisfaction among regulated nurses (4,10,16,18,20,40,44). Specifically, participating in care planning team meetings (10) and involvement in

resident care planning (18) increased nurses' job satisfaction. In addition, presence of internal training opportunities (16,40), opportunities for professional development (44), and staff development programs (20) was associated with higher job satisfaction in four studies. Overall, these studies provide support for a positive relationship between participating in formal interactions and job satisfaction among regulated nurses.

Allied. Formal interactions were not assessed in any of the allied studies.

Informal interactions.

Informal exchanges that occur between individuals working within an organization (unit) that can promote the transfer of knowledge.

Nurses. Two studies investigated and found informal interactions with colleagues regarding resident care were associated with increased nurses' job satisfaction levels (1,39). Overall, there is support for the positive relationship between participating in informal interactions and regulated nurses' job satisfaction.

Allied. Informal interactions were not assessed in any of the allied studies.

Structural and electronic resources.

The structural and electronic elements of an organization (unit) that facilitate the ability to assess and use knowledge.

Nurses. Four studies investigated resources in relation to nurses' job satisfaction (4,7,10,22). All four studies found significant positive relationships between job satisfaction and having access to adequate resources. Overall, these studies provide support for a positive relationship between having adequate resources and job satisfaction among regulated nurses.

Allied. Availability of resources was not assessed in any of the allied studies.

Adequate orientation.

An individual's perception of whether they have had enough orientation to carry out their job effectively and safely.

Nurses. Adequate orientation significantly increased nurses' job satisfaction in 1 (6) out of 4 studies (2,22,40). Overall, these studies do not support a relationship between adequate training/orientation and job satisfaction among regulated nurses.

Allied. Adequate orientation was not assessed in any of the allied studies.

Working with challenging residents.

An individual's experience with violence and difficult behaviours from residents.

Nurses. Two studies assessed and found that working with challenging residents was associated with nurses' job satisfaction (44,45). Prentice (44) found that having to deal with resident conflicts negatively affected nurses' job satisfaction. Isaksson et al. (45) found that staff working in nursing homes characterized by higher levels of violence among residents had lower rates of job satisfaction Overall, these studies lend support for a negative relationship between dealing with challenging residents and regulated nurses' job satisfaction.

Allied. Working with challenging residents was not assessed in any of the allied studies.

Summary of the Literature

A summary of the significant and non-significant studies for potential variables for studies of regulated nurses and allied health professionals is shown in Table 2-5.

Regulated nurses.

Based on the 32 studies located on factors related to nurses' job satisfaction, empirical evidence exists to support the following factors.

Demographic-level variables.

Age (2,6,7), gender (3), and education attainment (1,6).

Individual-level variables.

- time worked on unit (1,6,11), shift worked (6), and employment status (3);
- burnout (20–22);
- work engagement (2,24,25);
- psychological empowerment (1,4,7,8,10,11,13,16–18,21,26,29–31,46);
- problem solving (17); and
- physical and mental health (22,36).

Context-level variables.

- leadership and supervisory support (4,9,11,16,18,22,38);
- culture (1,4,6,13,16,20,22,24,29,39);
- social capital (4,8,13,16,18,22,41);
- organizational slack (5,6,13,16,18,22,24,26,36,38–40,44);
- formal interactions (4,10,16,18,20,40,44);
- informal interactions (1,39);
- adequate resources (4,7,10,22);
- adequate orientation (6); and
- working with challenging residents (44,45).

Allied health professionals.

Research to date on factors important to allied health staffs' job satisfaction is very limited. From the four studies located, empirical evidence exists to support the following factors.

Demographic-level variables.

Demographic factors were not found to be related to allied health staffs' job satisfaction.

Individual-level variables.

Psychological empowerment (14,32,33) and physical and mental health (33).

Context-level variables.

Leadership and supervisory support (14,33); culture (14,33); and social capital (14).

Table 2-1 Search Strategy (All Searches Performed Through February 20, 2017).

Database	Search terms
Medline/ EMBASE/ PsycINFO	Nurses/ OR Licensed practical nurses.mp. OR Registered nurse.mp. OR Registered nurse.ti. OR Registered practical nurse.mp. OR Registered nurse assistant.mp. OR Nursing home administrator.mp. OR Practical nurse.mp. OR Registered nurse*.mp. AND "Nursing home".kw OR Long-Term Care/ OR Nursing home.mp. OR Residential care. Mp. OR Long term facility.mp. OR Long-term care facility.mp. OR Long term residential care.mp. OR Home for the aged/ OR Community care/ OR short stay.mp. Or home for the aged.mp. Or skilled nursing home.mp. AND Job satisfaction/ OR Work satisfaction.mp. OR Employee satisfaction.mp. OR Career satisfaction.mp. OR Job dissatisfaction.mp.
CINAHL	(MH "Practical Nurses") OR (MH "Nurses") MH "Nurse Administrators") OR "nursing home administrator" or "regulated nurse" or "licensed practical nurse" or "registered practical nurse" AND (MH "Nursing Home") OR (MH "Long Term Care") OR MH ("Residential Care") "long term facility" or "long term care facility" or "long term residential care" AND (MH "Job Satisfaction") "work satisfaction" or "employee satisfaction" or "career satisfaction" or "job dissatisfaction"
Web of Science	TS = ("nurse*" or "licensed practical nurse" or "registered nurse" or "registered practical nurse" or "registered nurse assistant" or "practical nurse" or "nursing home administrator" or "regulated nurse*") AND TS = ("nursing home*" or "long term care" or "residential care" or "long term facility" or "long term care facility" or "long term residential care" AND TS = ("job satisfaction" or "work satisfaction" or "employee satisfaction" or "career satisfaction" or "job satisfaction")
PubMed	("nurse administrator") OR "registered nurse") OR "registered practical nurse") OR "registered practical nurses") OR "licensed practical nurses LPNs") OR "licensed practical nurse PN") OR "licensed practical nurses") OR "licensed practical nurse") OR "nurse") OR "regulated nursing staff") OR "regulated nurses") OR Practical nurse) AND ("long term residential care facilities") OR "long term residential care") OR "long term care facility") OR "long term facility") OR "assisted living/nursing") OR "residential care") OR "long term care") OR "nursing home") AND (nursing job dissatisfaction) OR "job dissatisfaction") OR "career satisfaction") OR "employee job satisfaction") OR "employee satisfaction") OR "nursing job satisfaction") OR "work satisfaction/dissatisfaction") OR "work satisfaction") OR "job satisfaction/dissatisfaction") OR "job satisfaction")

Table 2-2 Search Strategy (All Searches Performed Through February 28, 2017).

Database	Search terms
Medline/ EMBASE/ PsycINFO	"Nursing home".kw OR Long-Term Care/ OR Nursing home.mp. OR Residential care. Mp. OR Long term facility.mp. OR Long-term care facility.mp. OR Long term residential care.mp. OR Home for the aged/ OR Community care/ OR short stay.mp. Or home for the aged.mp. Or skilled nursing home.mp. AND Job satisfaction/ OR Work satisfaction.mp. OR Employee satisfaction.mp. OR Career satisfaction.mp. OR Job dissatisfaction.mp. AND Social Worker*.mp. OR Recreation* therap*.mp. OR Rehab* therap*.mp. OR Phys* therap*.mp. OR Occupation* therap*.mp. OR clinical pharmacist*.mp. OR Respiratory therap*.mp. OR dieti?ian*.mp. Speech language patholog*.mp.

Figure 2-1 PRISMA Flow Chart for Regulated Nurses Search Results.

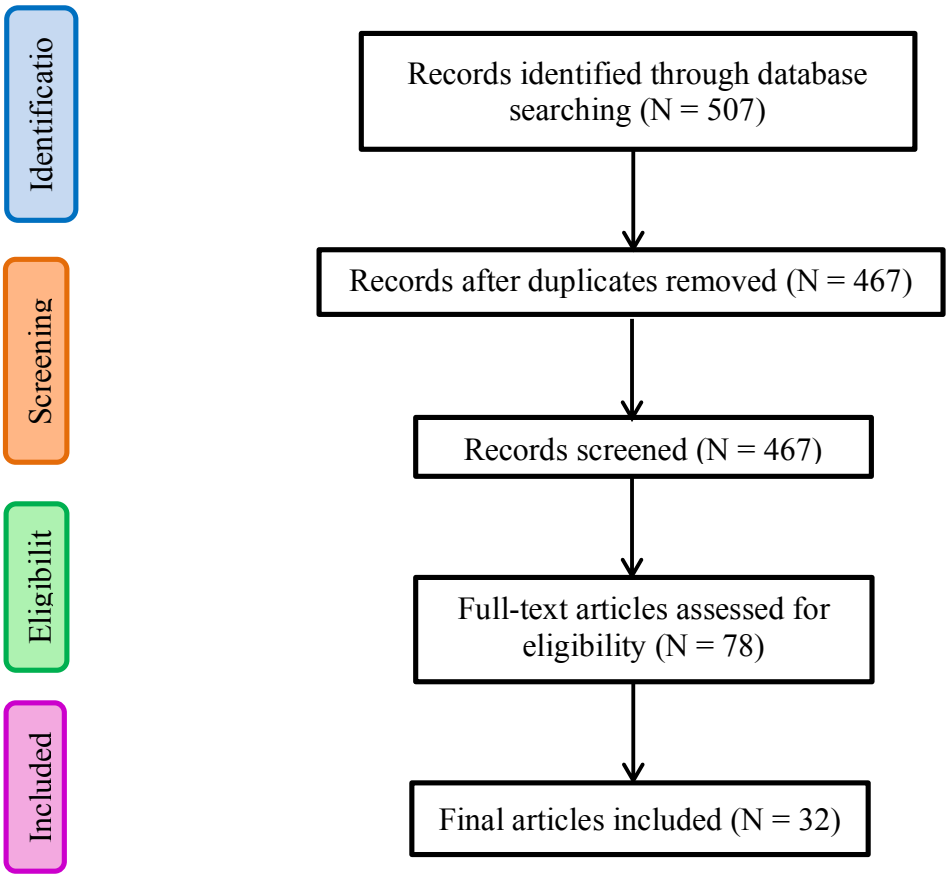

Figure 2-2 PRISMA Flow Chart for Allied Health Staff Search Results.

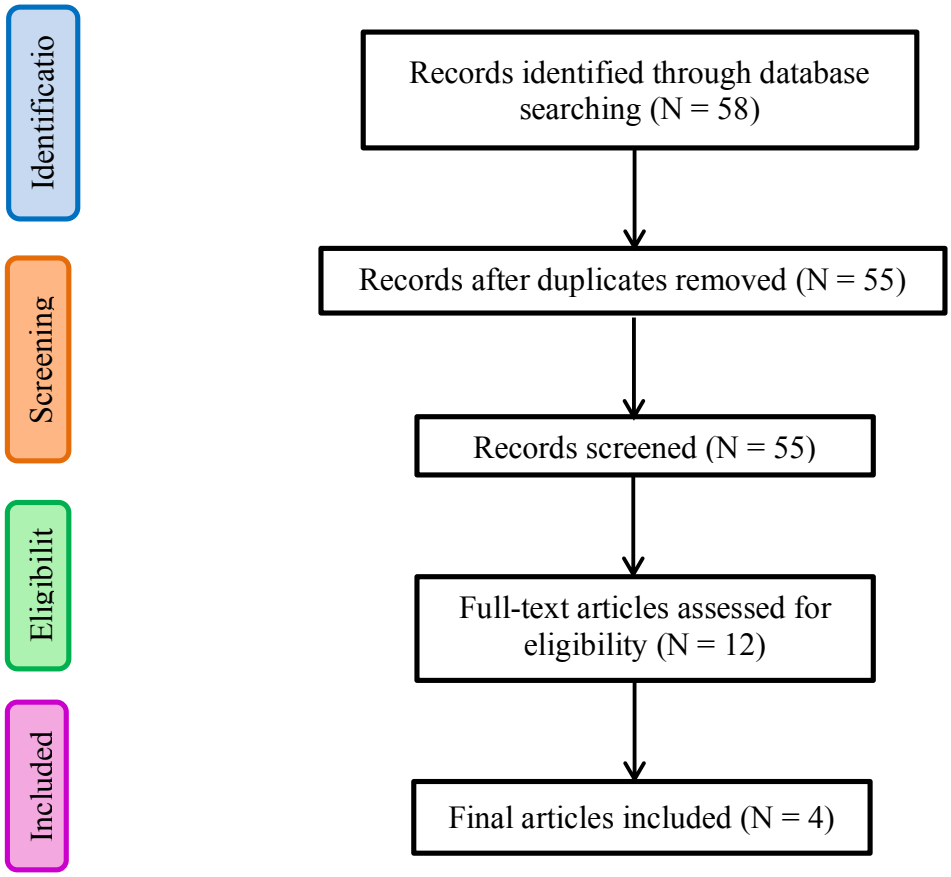

Table 2-3 Characteristics of Studies Included in the Literature Review (Regulated Nurses)

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
Alderson, Canadian Journal of Nursing Research (2008)	CANADA	N=33	POSITION [*n* (%)]: RN: *33* (100) EMPLOYMENT STATUS: PT: not reported FT: not reported OC: not reported YEARS OF EXPERIENCE (range): 2-28 EDUCATION: Diploma: majority BIRTH/LANGUAGE: Quebec/French: majority SHIFT: Day: 8 groups Evening: 1 group OTHER: All but oldest participants were OC nurses before joining regular staff. Youngest participants worked PT and OC.	N=1 TYPE: LTC LOCATION: Greater Montreal, Quebec	THEMES: Responsibility versus Recognition Autonomy, and Power Lack of Recognition by Management, Other Professionals, and Peers Lack of Managerial Support for the Search for Identity The Helping Relationship: A Protective Factor
Bissoondial, Doctorate of Health Administration (2014)	CANADA	N=160	POSITION [*n* (%)]: LTC Nurses: *160* (100) AGE [f (%)]: 20-30: 1 (.6) 31-40: 29 (18.1) 41-50: 30 (18.8) 51-60: 66 (41.3) 61+: 34 (21.3)	N= Not provided # of beds [f (%)]: 0-25: 0 (0) 26-50: 13 (8.1) 51-100: 48 (30.0) 101-150: 40 (25.0) 151-200: 33 (20.6) 200-250: 7 (4.4)	CORRELATIONS: Significant ($p < .01$): β Years as a RN: .31 Years of practice in LTC: .23 Ethnicity: White/Caucasians had higher JS than "other"

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
				> 250: 19 (11.9)	Education: Diploma/certificate had higher JS
			GENDER [f (%)]:		
			Female: 142 (88.8)	TYPE:	
				LTC	Non-significant:
			ETHNICITY [f (%)]:		Age
			White/Caucasian: 124 (77.5)	LOCATION:	Years as a RPN
			African Canadian: 15 (9.4)	Ontario	Gender
			Asian: 0 (0)		
			Hispanic: 1 (.06)		REGRESSION ANALYSIS:
			Native Indian: 0 (0)		Significant ($p < .001$): β
			Other: 20 (12.5)		Autonomy: .86
			SHIFT [f (%)]:		Task requirements: .58
			7am-3pm: 101 (63.1)		
			3pm-11pm: 31 (19.4)		Professional status: .37
			11pm-7am: 14 (8.8)		
			7am-7pm: 0 (0)		Interaction: .70
			7pm-7am: 0 (0)		
			Other: 14 (8.8)		
			YEARS OF EXPERIENCE [f (%)]:		
			0-5: 24 (15.0)		
			6-10: 29 (18.1)		
			11-15: 22 (13.8)		
			16-20: 35 (21.9)		
			21-25: 23 (14.9)		
			>26: 27 (16.9)		
			EDUCATION [f (%)]:		
			Diploma/Certificate: 138 (86.3)		
			Bachelor of Science (Nursing): 22 (13.8)		
			Bachelor in other field: 0 (0)		
			Master of Science (Nursing): 0 (0)		
			Master in other field: 0 (0)		

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
Brodaty, Journal of Advanced Nursing (2003)	AUSTRALIA	N=253	POSITION [*n* (%)]: RN: *77* (38.2) NA: *116* (57.8) EN: *4* (2.0) DT: *4* (2.0) AGE [M (SD)]: 40.43 (11.39) GENDER [*n* (%)]: Female: *205* (91.5) EMPLOYMENT STATUS [SD (range)]: 31.5±10.81 (5-71) YEARS OF EXPERIENCE [Median (range)]: 72 (1-420) DEMENTIA TRAINING [*n* (%)]: Yes: 81 (53.6) No: 70 (46.4)	N=12 SIZE: Small: 60 beds Medium: 60-90 beds Large: 90+ beds LOCATION: Sydney, Australia	CORRELATIONAL ANALYSIS: Significant ($p < .05$): *r* Age: -.147 Attitude: -.192 Strain: .141 Non-significant: Experience in nursing homes Gender Qualifications Hours worked per week (Dementia) training
Brose, Doctor of Philosophy in Psychology (1988)	US	N=385	POSITION [*n* (%)]: Administrators: *19* (4.8) Nurses: *146* (38) Nursing Assts.: *196* (51) Social Workers: *24* (6.2) AGE (M): 33.4 GENDER [*n* (%)]: Female: *329* (86) EMPLOYMENT STATUS [*n* (%)]: Full-time: *317* (83)	N=11 SIZE: Resident capacity: 87-178 TYPE: LTC LOCATION: Minneapolis, Minnesota	ASSOCIATED WITH JS: Working with staff Administrative policies Treatment of residents by staff Pressure to keep beds full

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
			SHIFT [*n* (%)]: Day: *257* (67) Evening: *105* (27) Night: *21* (6) EDUCATION [*n* (%)]: Some high school: *22* High school diploma: *53* Some college or vocational training: *75* Vocational certificate: *109* Undergraduate college degree: *81* Some graduate training: *16* Graduate degree: *4*		
Carr, Journal of Advanced Nursing (1994)	US	N=347	POSITION [*n* (%)]: RN: 314 (90) Other: 33 (10) AGE (M): 44 SETTING [*n* (%)]: LTC: 66 (19) Non-LTC: 281 (81) WORKING PREDOMINANTLY WITH OLDER ADULTS [*n* (%)]: Yes: 157 (45)	Not reported TYPE: LTC Hospitals Community Health LOCATION: New England, USA	COMPARISON B/W NURSES in LTC and NOT LTC: Significant ($p < .05$): Poor staff cohesiveness Poor staffing Tremendous workload Poor working relationships with administrators Non-significant: Lack of recognition Hours worked Lack of autonomy Poor working relations with physicians
Castle, BMC Health Services Research (2006)	US	N=251	POSITION [*n* (%)]: NA: *154* (61.4) AGE (M): 38.8 GENDER [*n* (%)]:	N=2 No further facility-related information reported	Significant ($p < .05$): B Gender: -.250 Job category: .350 Job status: .190

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
			Male: *26* (10.4) RACE [*n* (%)]: African American: *118* (47.0) EMPLOYMENT STATUS [*n* (%)]: Full-time: *190* (75.7) YEARS OF EXPERIENCE [*n* (%)]: <1 Year: *131*(52.2) 1-5 Years: *61* (24.3) >5 Years: *59* (23.5) MARITAL STATUS [*n* (%)]: Married: *93* (37.1)		Not significant: Job tenure Age
Cherry, Geriatric Nursing (2007)	US	N=38	Demographic information was not collected from participants to maximize confidentiality and address concerns about disclosing information that could jeopardize job status.	N=5 SIZE: range 42-160 beds LOCATION: West Texas (Urban: 3; Rural: 2)	THEMES: State regulations Survey process Commitment to quality of care Care-related stressors Communication between staff Paperwork Staffing

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
Choi, The Gerontologist (2010)	US	N=863	POSITION [*n* (%)]: RN: *863* (100) AGE (M): 51.25 GENDER [*n* (%)]: Female: *82* (94.8) EMPLOYMENT STATUS [*n* (%)]: Full-time: *385* (44.6) EDUCATION [*n* (%)]: Bachelor's or higher: *307* (35.6)	N=282 SIZE [SD (range)]: 171±95.1 (17-547) OWNERSHIP [*n* (%)]: For-profit: *182* (64.5) Not-for-profit: *100* (35.5)	HEIRARCHICAL LINEAR MODEL (level 1): Significant ($p < .05$): β Supportive manager: .183 Adequate resources: .119, Non-significant: Participation in facility affairs Education Age RN-MD relationships HEIRARCHICAL LINEAR MODEL (level 2): Significant ($p < .001$): β For-profit facility: -.182 Non-significant: Bed size RN minutes of care/resident/day
Prentice, Doctor of Philosophy (2004)	CANADA	N=9	POSITION [*n* (%)]: RN (DOC at each facility): *9* (100)	N=9	Attracting RNs to remain in practice: out of 9 Caring for residents: 9 Organizational commitment to professional development: 9 Supportive colleagues: 7 Flexible scheduling: 6 Leadership: 6 Recognition: 4 Access to clinical resource nurse: 4 Compensation: 2 Factors contributing to job dissatisfaction: out of 9 Heavy Workload: 4 Supervisory role of RN: 3

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
					Resources (budget cutbacks): 2 Insufficient compensation: 2 OTHER THEMES: Culture of LTC Coping with Residents Behaviours
Hasson, Journal of Clinical Nursing (2006)	SWEDEN	N=564	POSITION [*n* (%)]: RN: Municipality 2 nursing homes (M2NH): *24* (7) LPN: Municipality 1 nursing homes M1NH: *118* (62) M2NH: *236* (63) NA: M1NH: *74* (38) M2NH: *113* (30) AGE [*n* (%)]: <39: M1NH: *52* (28) M2NH: *129* (35) 40-49: M1NH: *67* (35) M2NH: *98* (27) 50>: M1NH: *71* (37) M2NH: *142* (38) EMPLOYMENT STATUS [*n* (%)]: Not reported YEARS OF EXPERIENCE [*n* (%)]: 0-5: M1NH: *59* (31) M2NH: *176* (47) 6+:	N=2 SIZE (M): 2200 TYPE: Elder care/nursing home LOCATION: Two Municipalities, Sweden	CORRELATIONAL ANALYSIS: Significant ($p < .001$): *r* Skills' development: .50 Mental energy: .4 Work stress: -.49 Work-related exhaustion: -.60 The above predictors of JS explained 46% variance in JS.

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
			M1NH: *133* (69) M2NH: *195* (53)		
Havig, Journal of Clinical Nursing (2011)	NORWAY	N=444	POSITION [*n* (%)]: RN: Not reported Aux Nurse: Not reported Unskilled NA: Not reported	N=22 SIZE [M (range)]: 63 (20-152 beds) TYPE: Nursing Homes LOCATION: 7 counties in Norway OWNERSHIP: Public	FINDINGS: Significant: Leadership (task-and relationship-oriented) Staff stability Non-significant: Use of teams Workload
Heponiemi, International Journal of Nursing Studies (2011)	FINLAND	N=1047	POSITION & EDUCATION [*n* (%)]: ★ PNs with Vocational Ed: *680* (65) RNs with Intermediate Ed: *196* (19) RNs with University applied sciences Ed: *92* (9) AGE (M): 42.8 GENDER [*n* (%)]: Female: *1047* (100) EMPLOYMENT STATUS [*n* (%)]: ★ Full-time: *954* (92) Part-time: *59* (6) Part-time retirement: *23* (2) EMPLOYMENT CONTRACT [*n* (%)]: ★ Permanent: *888* (86)	N=179 TYPE: Sheltered Homes Nursing Homes LOCATION: Finland OWNERSHIP: For-profit Not-for-profit sheltered homes Public sheltered homes Not-for-profit nursing homes	COVARIANCE ANALYSIS: Significant: Age Not significant: Ownership Case-mix Staffing level

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
			Temporary (> .5 year): *103* (10) Temporary (< .5 year): *34* (3) Other: *11* (1) EDUCATION [*n* (%)]: ★ None or Vocational courses: *53* (5) University: *19* (2) SHIFT [*n* (%)]: ★ Day shift: *109* (10.5) Two Shifts: *528* (51) Three Shifts: *302* (29) Night Work: *80* (8) Other: *16* (1.5)		
Isaksson, Journal of Clinical Nursing (2008)	SWEDEN	N=364	POSITION [*n* (%)]: NA: not reported EN: not reported RN: not reported YEARS OF EXPERIENCE (SD)*:* 13.62±3.26	N=10 SIZE: Range 8-32 Beds TYPE: Nursing Home	COMPARISON B/W CAREGIVERS IN LOW PREVALENCE WARD (LPW) AND HIGH PREVALENCE WARD (HPW) Significant ($p < .05$): Competence: higher in LPW Initiative: higher in LPW Relation: higher in HPW Non-significant: Emotions (positive emotions regarding the work)

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
Karlsson, Scandinavian Journal of Caring Sciences (2009)	SWEDEN	N=12	POSITION [*n* (%)]: RN: *12* (100) GENDER [*n* (%)]: Female: *12* (100) MINIMUM YEARS OF EXPERIENCE IN RESIDENTIAL CARE: 2 AGE [M (range)]: 53.5 (42-57 years) YEARS OF EXPERIENCE [M (range)]: 23 (5-37 years) YEARS OF EXPERIENCE WITH OLDER PEOPLE [M (range)]: 9.5 (2-22 years) SHIFT [*n* (%)]: Dayshift: *12* (100)	No facility-related information reported	THEMES: Being confirmed to have an autonomous knowledge in caring Being able to provide trust and support to others Feeling boundless and invisible Having no authority and Feeling powerless Feeling belittled Feeling exhausted Being a lonely invisible fixer
Karsh, Ergonomics (2007)	US	N=6584	POSITION [*n* (%)]: CNA: *2211* (33.6) RN/LPN (not supervisors): *1055* (16.0) RN/LPN (supervisors): *304* (4.6) Other Care staff (not supervisors): *815* (12.4) Other Care staff (supervisors): *95* (1.4) Non-care staff (not supervisors: *1773* (26.9) Non-care staff (supervisors): *331* (5.0) AGE [*n* (%)]:	N=76 TYPE: LTC LOCATION: Midwestern state, USA	Significant ($p < .05$): β English native language: -.04 Shift (nights): -.04 Feedback: .07 Role conflict: -.03 Role ambiguity: -.13 Task control: .09

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
			<25: *708* (10.8) 25-34: *1191* (18.1) 35-44: *1794* (27.2) >45: *2853* (43.3) GENDER [*n* (%)]: Female: *5909* (89.7) YEARS OF EXPERIENCE [*n* (%)]: <1.33: *1294* (19.7) 1.34-3.5: *1256* (19.1) 3.51-8.0: *1317* (20.0) 8.01-14.5: *1286* (19.5) >14.5: *1290* (19.6) EDUCATION [*n* (%)]: Up to High School: *1751* (26.6) High School/Some College: *3604* (54.7) College: *1166* (17.7) SHIFT [*n* (%)]: Days: *4468* (67.9) Evenings: *1464* (22.2) Nights: *624* (9.5) HOURS [*n* (%)]: <40: *2666* (40.5) 40: *3045* (46.2) >40: *757* (11.5) BIRTH/LANGUAGE [*n* (%)]: English as native language: *6330* (96.1%) ETHNICITY [*n* (%)]: American Indian/Alaskan Native: *60* (0.9)		Work schedule meets needs: .10 I feel physically safe at work: .07 Able to do job independently: .09 Involved in quality improvement activities: .03 Work pressure: -.03 Task clarity: .06 Innovation: .05 Quality improvement environment: .30 Perceived caring (very): .10 Education: high school: -.02 Tenure at facility: -.03 to -.05 Quantitative workload: -.08 Employees get training needed: .05 Task orientation: .09 Age Role Non-significant: Gender White vs other

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
			Asian/Pacific Islander: *61* (0.9) Black, not Hispanic: *269* (4.1) Hispanic: *63* (1.0) White: *6019* (91.4)		Normal hours per week Paperwork interferes with care
Knecht, The Pennsylvania State University (2014)	US	N=37	POSITION [*n* (%)]: LPN: *37* (100) AGE [*n* (%)]: 18-24: *3* (8.1) 25-32: *3* (8.1) 33-48: *19* (51.4) 49-67: *12* (32.4) GENDER [*n* (%)]: Female: *36* (97.3) RACE [*n* (%)]: White: *31* (83.8) Black: *6* (16.2) EMPLOYMENT STATUS [*n* (%)]: Full-time: *31* (83.8) YEARS LICENSED AS LPN [*n* (%)]: 0-2: *3* (8.1) 3-5: *7* (18.9) 6-10: *7* (18.9) 11-20: *14* (37.8) 21-30: *3* (8.1) >31: *3* (8.1) YEARS EMPLOYED [*n* (%)]: 0-2: *7* (18.9) 3-5: *9* (24.3) 6-10: *7* (18.9) 11-20: *12* (32.4)	N=6 SIZE [*n* (%)]: 100-200 beds: *4* (66.7) 201-300 beds: *1* (16.7) 301-500 beds: *1* (16.7) LOCATION [*n* (%)]: Urban: *1* (16.7) Suburban: *3* (50.0) Rural: *2* (33.3) OWNERSHIP [*n* (%)]: Government-County: *2* (33.3) Corporation-Non-Profit: *4* (66.7)	THEMES: Promotes Job Satisfaction: Value (sub-themes: value of the "work" itself and recognition) Real connection Empowerment (sub-themes: role identity and voice) Growth contributed Promotes Job Dissatisfaction: Working conditions (sub-themes: unrealistic workload and equipment)

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
			21-30: *2* (5.4) ENROLLED IN RN PROGRAM [*n* (%)]: Yes: *9* (24.3)		
Li, Journal of Clinical Nursing (2008)	TAIWAN	N=178	POSITION [*n* (%)]: RN: *178* (100) AGE [*n* (%)]: <20: *1* (.6) 21-30: *79* (44.4) 31-40: *28* (15.7) 41-50: *32* (18.0) >50: *27* (15.2) Missing: *11* (6.1) GENDER [*n* (%)]: Female: *178* (100) YEARS OF EXPERIENCE IN FACILITY [SD (range)]*:* 27.1 ± 29.5 (3-198 months) EDUCATION [*n* (%)]: High School: *46* (25.8) College: *100* (56.2) University: *30* (16.9) Graduate School: *2* (1.1)	N=127 SIZE: range 12-49 beds TYPE: Community-based LTC facilities LOCATION: Taipei City OWNERSHIP: Public	CORRELATION WITH WORK STRESS: Significant ($p < .001$): β Psychological empowerment Meaningful work: -.34 Competence: -.39 Self-efficacy: -.38 Impact: -.41 Structural empowerment Opportunity: -.33 Information: -.35 Support: -.39 Resources: -.46 STEPWISE REGRESSION OF WORK STRESS Significant ($p <.001$): β Age: -.1
Li, The Graduate School (2013)	TAIWAN	N=65	POSITION [*n* (%)]: RN: *65* (100) AGE (SD)*:* 34.4±11.5 GENDER [*n* (%)]:	N=38 SIZE: range 12-49 beds TYPE:	CORRELATIONAL ANALYSIS: Significant ($p < .05$): β Psychological empowerment: .36 Meaning: .32

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
			Female: *65* (100%) MONTHS OF EXPERIENCE IN FACILITY [*n* (%)]: <6: *17* (26.2) 7-12: *9* (13.8) 13-36: *22* (33.8) >37-60: *10* (15.4) More than 61: *7* (10.8) PREVIOUS WORK EXPERIENCE [*n* (%)]: No: *8* (12.3) Yes: *57* (87.7) EDUCATION [*n* (%)]: High School or Vocational: *19* (29.2) College: *31* (47.7) University: *13* (20.0) Above Graduate School: *2* (3.1) PARTICIPATING IN CONTINUING EDUCATION [*n* (%)]: No: *57* (87.7) Yes: *8* (12.3)	LTC LOCATION: Taipei City OWNERSHIP: Public	Self-determination: .40 Impact: .37 Structural empowerment: .46 Information: .36 Support: .56 Resources .40 Not significant: Competency Opportunity
McGilton, Journal of Applied Gerontology (2009)	CANADA	N=16	POSITION [*n* (%)]: RN: *16* (100) AGE [SD (range)]*:* 46.29±13.23 (23-64) GENDER [*n* (%)]: Female: *13* (92.9%) EMPLOYMENT STATUS [*n* (%)]: Full-time: *12* (85.7) Part-time: *2* (14.3)	N=8 TYPE: LTC	THEMES: Against all odds, getting through the day: - Attending to multiple responsibilities embedded in the role - Developing strategies to compensate for the workload Stepping in work (lacking control --> job dissatisfaction): - Filling in the gaps - Being available in the moment Leading and supporting

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
			YEARS IN POSITION [SD (range)]*:* 20.14±11.33 (3-41) YEARS IN THIS SETTING [SD (range)]*:* 9.96±6.98 (1-23) YEARS IN LTC [SD (range)]*:* 6.54±5.29 (1-17)		unregulated workers - Providing essential information - Developing relationships with staff
McGilton, Nursing Research (2007)	CANADA	N=71	POSITION [*n* (%)]: RPN: *23* (33) RN: *48* (67) AGE: M 44.2 GENDER [*n* (%)]: Female: *67* (94.4) EMPLOYMENT STATUS [*n* (%)]: Full-time: *56* (78.9) YEARS AT CURRENT FACILITY: <1: *7* (9.9) 1-3: *15* (21.1) 4-10: *16* (22.5) 11-16: *19* (26.8) 17-25: *9* (12.7) >26: *5* (7.0) PLACE OF BIRTH [*n* (%)]: Canada: *26* (36.6)	N=10 SIZE [*n* (%)]: >150 beds: *6* (60) <150 beds: *4* (40) LOCATION [*n* (%)]: Urban: *5* (50) Rural: *5* (50) OWNERSHIP [*n* (%)]: For-profit: *6* (60%) Not-for-profit: *4* (40%)	MULTIPLE LINEAR REGRESSION: Significant ($p < .05$): β Supervisory support: 1.11 Job stress: -.17 Job category: 18.17 Non-significant: Age Gender Employment status Length of experience

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
McGilton, Research in Nursing & Health (1999)	CANADA	N=113	AGE [*n* (%)]: <25: *4* (3) 25-34: *33* (29) 35-44: *37* (33) 45-54: *29* (26) >55: *10* (9) GENDER [*n* (%)]: Female: *102* (90) EMPLOYMENT STATUS [*n* (%)]: Full-time: *81* (72) EDUCATION [*n* (%)]: Diploma: *81* (72) Some university: *17* (15) Bachelor's degree: *14* (12) Master's degree: *1* (1) YEARS OF EXPERIENCE [*n* (%)]: <1: *8* (7) 1-2: *27* (24) 3-4: *21*(19) >5: *57* (50)	N=13 TYPE [*n* (%)]: Community LTC: *4* (31%) Teaching hospital LTC: *9* (69%)	CORRELATIONAL ANALYSIS: Significant ($p < .01$): *r* Perceived organizational control: .31 Preferred clinical control: -.29 Non-significant Preferred organizational control Perceived clinical control MULTIPLE REGRESSION: Organizational control explained 9% ($p = .002$) of variance in job satisfaction Clinical and organizational control accounted for 11% ($p = .003$) of variance in job satisfaction

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
Montoro-Rodriguez, Journal of Aging and Health (2006)	US, CANADA	N=161	POSITION [*n* (%)]: RN: *161* (100) AGE: M 40 GENDER [*n* (%)]: Female: *161* (100) YEARS OF EXPERIENCE: Minimum 2 years ETHNICITY [*n* (%)]: White: *88* (55) Black: *45* (28) Asian American: *19* (12)	N=7 TYPE: Nursing Facilities LOCATION [*n* (%)]: Greater Cleveland: *5* (71) Vancouver: *2* (29)	Significant ($p < .05$): β Nurse aide category: .18 Frequency of shift rotation: -.15 Facility supplies: .27 Care planning team meetings: .22 Non-significant: Age Gender Minority status Educational level Length of employment at facility Negative views about residents Assigned residents per shift Care/intensive assigned residents Frequency residents change shift Facility observed conflict Staff training
Moyle, Journal of Clinical Nursing (2003)	AUSTRALIA	N=27	POSITION [*n* (%)]: RN: *9* (33) EN: *5* (19) AIN: *13* (48) YEARS OF EXPERIENCE (M): RN: 16 EN: 23 AIN: 11	N=2 SIZE: 73 & 185 bed homes TYPE: LTC LOCATION: Brisbane, Australia	THEMES: Job satisfaction: Workplace flexibility Residents Working within a team environment Dedication to the service of optimal resident care Job dissatisfaction: Working with unskilled or inappropriately trained staff Laborious tasks such as documentation Staffing levels Tension within role expectations Increasing need to be available for overtime

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
Robison, The Journal of Applied Gerontology (2007)	US	N=892	POSITION [*n* (%)]: Special Care Unit (SCU): LPN/RN: *94* (27.1) CNA: *253* (72.9) Traditional Unit (TU): LPN/RN: *179* (32.9) CNA: *365* (67.1) AGE (SD)*:* SCU: 42.69±12.08 TU: 38.28±10.55 YEARS OF EXPERIENCE (SD)*:* SCU: Years in this Nursing Home (NH): 7.47±7.07 Years in any NH: 11.25±8.57 TU Years in this NH: 5.26±5.52 Years in any NH: 8.58±7.15 RACE [*n* (%)]: SCU: White: *125* (36.2) Non-White: *220* (63.8) TU: White: *420* (77.3) Non-White: *123* (22.7)	N=20 SIZE: range 80-150 TYPE: LTC LOCATION: New York Region OWNERSHIP: Public (New York Association of Homes and Services for the Aging)	Significant *($p < .05$)*: Time pressure Care plan involvement Conflict with families Family behaviours Close to coworkers Get along with supervisors Non-significant: Non-White Years worked in any NH CNA (vs. RN/LPN) Facility size (no. of beds) Unionized facility

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
Rodwell, Journal of Nursing Scholarship (2009)	AUSTRALIA	N=168	POSITION [*n* (%)]: RN: *168* (100) AGE: M 40 GENDER [*n* (%)]: Female: *157* (93.5) EMPLOYMENT STATUS: Part-time: majority EDUCATION [*n* (%)]: Postgraduate studies: *not reported* (38.3)	SIZE: Medium to Large LOCATION: Australia OWNERSHIP [*n* (%)]: Private: not reported Not-for-profit: not reported	Significant ($p < .05$): Tenure (< 9 years) Tenure (10-14 years) Tenure (15-19 years) Supervisor support Distributive justice Non-significant: Gender Demands Coworker support
Rondeau, Journal of Nursing Management (2006)	CANADA	N=Not reported	No demographic information reported	N=125 SIZE: SD 121.7±104.3 TYPE: LTC LOCATION [*n* (%)]: BC: *49* (39.2) Alberta: *33* (26.4) Saskatchewan: *29* (23.2) Manitoba: *14* (11.2) OWNERSHIP [*n* (%)]: Private (for-profit): *87* (67)	ORDINARY LEAST SQUARES REGRESSION: Significant ($p < .05$): β Nursing vacancy rate: -.237 Non-significant: Size (in beds) For-profit status High involvement work practices Progressive decision-making Culture Nursing training
Schwendimann, Gerontology (2016)	SWITZERLAND	N=4145	POSITION[*n* (%)]: RN: *1069* (25.8) LPN: *916* (22.1) CNA: *796* (19.2)	N=162 SIZE [*n* (%)]: <50: *63* (38.9)	BINARY LOGISTIC REGRESSION WITH GEE: Significant ($p < .001$): Leadership

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
			NA: *1227* (29.6) Other: 137 (3.2) AGE (M): 42.9 GENDER [*n* (%)]: Female: *3834* (92.5) LANGUAGE [*n* (%)]: German: *3146* (75.9) French: *767* (18.5) Italian: *232* (5.6)	50-99: *75* (46.3) 100+: *24* (14.8) TYPE: LTC LOCATION: Switzerland OWNERSHIP [*n* (%)]: Public: *60* (37) Public subsidized: *43* (26.5) Private: *59* (36.5)	Staffing and resources adequacy Teamwork and safety climate Resonant nursing home administrator Conflict and lack of recognition Health complaints/Physical health Depleted from work Not significant: Job autonomy Shared decision making Advancement opportunities Available director of nursing Workload Job Preparation
Tyler, Health Care Management Review (2006)	US	N=1146	POSITION [*n* (%)]: CNA: *829* (72.3) RN: *317* (27.7) AGE [*n* (%)]: CNA 18–24: *78* (9.4) 25–34: *219* (26.4) 35–44: *277* (33.5) 45–54: *175* (21.1) 55–64: *70* (8.4) >64: *10* (1.2) RN 18–24: *8* (2.6) 25–34: *64* (20.1) 35–44: *112* (35.5) 45–54: *87* (27.5) 55–64: *38* (12.1) >64: *8* (2.6)	N=20 SIZE: range 75-200 beds LOCATION: Massachusetts OWNERSHIP [*n* (%)]: For-profit: *11* Not-for-profit: *9*	MIXED EFFECTS MODEL (RNs): Significant ($p < .001$): Intrinsic feedback Non-significant: Task significance Skills variety Autonomy Task identity

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
			RACE/ETHNICITY [*n* (%)]: CNA Black: *564* (68) Hispanic: *75* (9) White: *150* (18) Other: *40* (5) RN Black: *106* (33) Hispanic: *7* (2) White: *197* (62) Other: *7* (2) HOURS PER WEEK [*n* (%)]: CNA <20: *33* (4) 20–29: *91* (11) 30–40: *481* (58) >40: *224* (27) RN <20: *25* (8) 20–29: *54* (17) 30–40: *133* (44) >40: *105* (34)		
Van den Berg, International Journal of Nursing Studies (2008)	NETHERLANDS	N=1204	POSITION [*n* (%)]: RN: Nursing Home Caregiver: Diabetes Specialist Nurse: AGE (SD)*:* Hospital Nurses: 35.7±8.6 Nursing Home Caregivers: 35.8±9.7 Diabetes Specialist Nurse: 42.9±7.9 GENDER: (% female) Hospital Nurses: 85 Nursing Home Caregivers: 94 Diabetes Specialist Nurse: 93	Setting [*n* (%)]: Hospitals: *15* (52) Nursing Homes: *14* (48)	Significant ($p < .001$): β Workload: - .16 Autonomy: .11 Social support: .36 Role ambiguity: -.22 Role conflict: -.16 Environmental uncertainty: .12 Non-significant:

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
			YEARS OF EXPERIENCE IN JOB (SD)*:* Hospital Nurses: 15.5±8.6 Nursing Home Caregivers: 12.6±8.4 Diabetes Specialist Nurse: 5.82±4.6 YEARS OF EXPERIENCE ON UNIT: SD Hospital Nurses: 6.8±6.2 Nursing Home Caregivers: 4.6±4.8		Gender Age
Venturato, International Journal of Nursing Practice (2006)	AUSTRALIA	N=14	POSITION [*n* (%)]: RN: *14* (100%) AGE: middle aged SEX: predominantly female MARITAL STATUS: married with children YEARS OF EXPERIENCE: 5-30 years	N= Not reported TYPE: LTC LOCATION: A metropolitan region of Australia OWNERSHIP: Public & Charitable	THEMES: Feeling valued & feeling devalued Relationships with residents and their families Relationships with work and professional colleagues Recognition of aging as a shared human condition and thus inherently valuable Ability to directly contribute to resident's quality of life Ability to engage in creative and skilful practice in relation to the first three aspects
Venturato, Journal of Nursing Management (2007)	AUSTRALIA	N=14	POSITION [*n* (%)]: Nurse Managers: *6* (43) Director of Nursing: *1* (7) RN: *4* (29) Assistant Director of Nursing: *1* (7) Clinical Nurse: *2* (14) YEARS OF EXPERIENCE (range): 5-30	N=6 TYPE: LTC (nursing homes [high care] and hostels [low care]) LOCATION: Queensland, Australia OWNERSHIP: Public & Charitable	THEMES: Searching for value: Viewed their role with pride and personal satisfaction Enjoyed the variety and scope of practice, focus on QoL, diversity of work Practice required diverse skills (physical, psychological, behavioural, emotional, etc.) Dealing with change:

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
					Dislike having to do more management tasks Dislike having to manage themselves + unregulated staff; Increased workload No time to talk to residents lowers QoC Miss doing clinical care Dividing practices - conflicts in caring: Caught in the middle of various stakeholders Little autonomy and control over issues that affect their ability to meet responsibilities of various stakeholders Limited time/time as a valuable resource Stress over reforms which were seen as reducing overall quality of car provided Limited autonomy, control in decision making contributed to JS Felt their expertise as RNs in residential aged care was diminished/ignored
VonDras, Educational Gerontology (2009)	US	N=44	POSITION [*n* (%)]: CNA: *33* (75) LPN: *4* (9) RN: *7* (16) AGE (M): 31.82 RACE/ETHNICITY [*n* (%)]: White: *42* (95)	N=1 SIZE: 95 beds LOCATION: Northeast Wisconsin OWNERSHIP: Not-for-profit	CORRELATIONAL ANALYSES: Significant ($p < .01$): *r* Psychological aspects of stress: -.36 Non-significant: Shortcut pressures affect job Number of workplace stressors

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
			Native Americans: *2* (5) GENDER [*n* (%)]: Female: *40* (91) YEARS OF EDUCATION (M): 12.50 HOURS WORKED/WEEK (M): 33.81		

★Values from proportion who answered question

Table 2-4 Characteristics of Studies Included in the Literature Review (Allied Health Staff)

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
Gleasonwynn, Journal of Gerontological Social Work (1999)	US	N=326	POSITION [*n* (%)]: Social Worker: *326* (100) AGE [M (range)]: 37.2 (22-75) GENDER [*n* (%)]: Female: *277* (85) RACE [*n* (%)]: White: *284* (87) EMPLOYMENT STATUS: Full-time: *224* (68.7) YEARS OF EXPERIENCE IN FACILITY: M 2.08 EDUCATION [*n* (%)]: Bachelor's degree: *250* (77) Master's: *43* (13) Doctorate: *33* (10)	TYPE: LTC LOCATION: Texas	Significant: β Supervisor Support: .284 Satisfaction with clients: .238 Autonomy: .358 Coworkers support: .158 Non-significant: Age Race Educational level Length of time on job
Kalkhoff, Language, Speech, and Hearing Services in Schools (2012)	US	N=98	POSITION [*n* (%)]: School SLP: *59* (60) Medical SLP: *39* (40) AGE [*n* (%)]: School SLP <35: *27* (45.8) 35-44: *10* (16.9) 45-54: *7* (11.9) 55-64: *13* (22.0) >64: *0* (0) Medical SLP <35: *9* (23.1) 35-44: *11*(28.2)	LOCATION: Minnesota	SIMPLE LINEAR REGRESSION: Non-significant: Age Caseload Years-at-position

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
			45-54: *13* (33.3) 55-64: *5* (12.8) >64: *0* (0) GENDER [*n* (%)]: School SLP Female: *56* (95.0) Male: *2* (3.0) Medical SLP Female: (95.0), 37 Male: *2* (5.0) YEARS OF EXPERIENCE IN POSITION [SD (range)]*:* School SLP Mean: 10±10 (1-44) Medical SLP 9±7 (1-25) EDUCATION [*n* (%)]: School SLP Masters: *59* (100) Doctorate: *0* (0) Medical SLP Masters: *38* (97.9) Doctorate: *1* (3)		

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
Ryrie, British Journal of Occupational Therapy (2000)	UK	N=3	POSITION [*n* (%)]: Occupational Therapist: *3* (100) GENDER [*n* (%)]: Female: *2* (66.7) Male: *1* (33.3) MONTHS OF EXPERIENCE IN FACILITY (M): 18	TYPE: LTC	THEMES: Low status of occupational therapy profession Conflict between my and others' expectation of my role Justifying value of OT to other professions Transition from student to therapist Being 'bottom of the pile' Staff shortage Limited resources for patient/client care Limited resources for additional training Low pay Too much work to do in a limited time Insufficient supervision Feelings of inadequacy Limited opportunity to contribute to decision making Too much paperwork Inadequate physical working environment Lack of improvement in client/patient Taking risks Making mistakes Nature of client/patient problems
Simons, Administration In Social Work (2008)	US	N=299	POSITION [*n* (%)]: Possesses license or registration: *138* (47.40) Receiving clinical supervision: *45* (15.20) AGE [SD (range)]: 42.38±11.57 (23-79) GENDER [*n* (%)]: Female: *265* (83.60) RACE [*n* (%)]: White: *249* (83.60) MARITAL STATUS [*n* (%)]:	N=675 SIZE: 120+ beds Bed size [SD (range)]: 165.93±58.14 (120-527) TYPE: LTC OWNERSHIP (n, %):	Significant ($p < .01$): β Negative Affect: -.20 Job involvement: .25 Job stress: -.21 Autonomy: .20 Distributive Justice: .25 Promotional changes: .17 Routinization: -.18 Coworkers support: .22 Supervisor support: .37 Organizational commitment: .72 Non-significant: Intent to quit Search behaviour

First Author, Journal (Year)	Country	Sample	Demographics	Facility	Results
			209 (70.40) YEARS OF EXPERIENCE IN FACILITY [SD (range)]*:* 4.41±5.34 (0-28.50) YEARS OF EXPERIENCE IN NH [SD (range)]: 7.59±6.52 (.08-29.75) YEARS OF EXPERIENCE IN SOCIAL SERVICES [SD (range)]: 11.98±8.43 (.17-40.00) EDUCATION [*n* (%)]: Less than Bachelors: *8* (2.70) Bachelors: *184* (62.00) Masters: *103* (34.70) Doctorate: *2* (.70)	Corporate: *211* (70.80) Government: *20* (6.70) Nonprofit: *67* (22.50) Chain affiliation: *171* (57.40) LOCATION: Urban: 70 (24%); Suburban: 118 (40.4%); Rural: 104 (35.60%)	Organizational commitment Positive affect

Table 2-5 Summary of Significant and Non-Significant Studies for Potential Variables

Variable	Nurses /Allied	Total	S:NS	Significant	Non-Significant
Demographic Variables					
Age	Nurses	10	3:7	(Brodaty et al., 2003; Karsh et al., 2005; Li et al., 2008)	(Bissoondial, 2014; Castle et al., 2006; Choi et al., 2012; Heponiemi et al., 2011; McGilton et al., 2007; Montoro-Rodriguez, 2006; van den Berg et al., 2008).
	Allied	2	0:2		(Gleasonwynn & Mindel, 1999; Kalkhoff & Collins, 2012)
Gender	Nurses	8	1:7	(Castle, 2007)	(Bissoondial, 2014; Brodaty et al., 2003; Karsh et al., 2005; McGilton et al., 2007; Montoro-Rodriguez, 2006; Rodwell et al., 2009; van den Berg et al., 2008)
	Allied	0	0		
Highest education	Nurses	5	2:3	(Bissoondial, 2014; Karsh et al., 2005)	(Brodaty et al., 2003; Choi et al., 2012; Montoro-Rodriguez, 2006)
	Allied	1	0:1		(Gleasonwynn & Mindel, 1999)
Current enrolment	Nurses	0	0		
	Allied	0	0		
Duration in current role	Nurses	1	0:1		(Knecht, 2014)
	Allied	2	0:2		(Gleasonwynn & Mindel, 1999; Kalkhoff & Collins, 2012)
Time worked on unit	Nurses	7	3:4	(Bissoondial, 2014; Karsh et al., 2005; Rodwell et al., 2009)	(Brodaty et al., 2003; Castle et al., 2006; Montoro-Rodriguez, 2006; Robison & Pillemer, 2007)
	Allied	0	0		
Hours worked per week	Nurses	3	0:3		(Brodaty et al., 2003; Carr & Kazanowski, 1994; Karsh et al., 2005)
	Allied	0	0		
Shift worked	Nurses	1	1:0	(Karsh et al., 2005)	
	Allied	0	0		
Employment status	Nurses	3	1:2	(Castle et al., 2006)	(McGilton et al., 2007; Robison & Pillemer, 2007)
	Allied	0	0		
Years of licensure	Nurses	0	0		
	Allied	0	0		

Variable	Nurses /Allied	Total	S:NS	Significant	Non-Significant
Individual-Level Variables					
Burnout: Exhaustion	Nurses	2	2:0	(Hasson & Arnetz, 2007; Schwendimann et al., 2016)	
	Allied	0	0		
Burnout: Cynicism	Nurses	0	0		
	Allied	0	0		
Burnout: Efficacy	Nurses	1	1:0	(I. Karlsson et al., 2009)	
	Allied	0	0		
Work Engagement: Vigor	Nurses	1	1:0	(Brodaty et al., 2003)	
	Allied	0	0		
Work Engagement: Dedication	Nurses	1	1:0	(Brodaty et al., 2003)	
	Allied	0	0		
Work Engagement: Absorption	Nurses	2	2:0	(Moyle et al., 2003; Venturato et al., 2006)	
	Allied	0	0		
Psychological Empowerment: Competence	Nurses	2	2:0	(Li et al., 2008; 2013)	
	Allied	0	0		
Psychological Empowerment: Meaning	Nurses	5	4:1	(Li et al., 2008; 2013; Knecht, 2014; van den Berg et al., 2008)	(Tyler et al., 2006)
	Allied	0	0		
Psychological Empowerment: Self-Determination	Nurses	14	13:1	(Alderson, 2008; Bissoondial, 2014; Carr & Kazanowski, 1994; Choi et al., 2012; I. Karlsson et al., 2009; Li et al., 2008; 2013; McGilton et al., 2009; McGilton & Pringle, 1999; Rodwell et al., 2009; Tyler et al., 2006; van den Berg et al., 2008; Venturato et al., 2007)	(Schwendimann et al., 2016)
	Allied	3	3:0	(Gleasonwynn & Mindel, 1999; Ryrie et al., 2000; Simons & Jankowski, 2007)	
Psychological Empowerment: Impact	Nurses	2	2:0	(Li et al., 2008; 2013)	
	Allied	0	0		
Problem Solving	Nurses	1	1:0	(Knecht, 2014)	
	Allied	0	0		
Physical and Mental Health	Nurses	2	2:0	(Schwendimann et al., 2016; VonDras et al., 2009)	
	Allied	1	1:0	(Simons & Jankowski, 2007)	
Context-Level Variables					
Leadership	Nurses	7	7:0	(Carr & Kazanowski, 1994; Choi et al., 2012; Havig et al., 2011; McGilton et al., 2007; Robison & Pillemer, 2007; Rodwell et al., 2009; Schwendimann et al., 2016)	

Variable	Nurses /Allied	Total	S:NS	Significant	Non-Significant
	Allied	2	2:0	(Gleasonwynn & Mindel, 1999; Simons & Jankowski, 2007)	
Culture	Nurses	12	11:1	(Alderson, 2008; Bissoondial, 2014; Carr & Kazanowski, 1994; Castle et al., 2006; Cherry et al., 2007; Choi et al., 2012; Hasson & Arnetz, 2007; Karsh et al., 2005; Moyle et al., 2003; Schwendimann et al., 2016; van den Berg et al., 2008)	(Rondeau & Wagar, 2006)
	Allied	2	2:0	(Gleasonwynn & Mindel, 1999; Simons & Jankowski, 2007)	
Evaluation	Nurses	0	0		
	Allied	0	0		
Social Capital	Nurses	9	7:2	(Brose, 1988; Carr & Kazanowski, 1994; Choi et al., 2012; Li et al., 2013; Robison & Pillemer, 2007; Schwendimann et al., 2016; van den Berg et al., 2008)	(Havig et al., 2011; Rodwell et al., 2009)
	Allied	1	1:0	(Gleasonwynn & Mindel, 1999)	
Organizational Slack-Staffing	Nurses	8	8:0	(Carr & Kazanowski, 1994; Cherry et al., 2007; Havig et al., 2011; Heponiemi et al., 2011; Moyle et al., 2003; Prentice, 2004; Rondeau & Wagar, 2006; Schwendimann et al., 2016)	
	Allied	0	0		
Organizational Slack-Space	Nurses	1	1:0	(Prentice, 2004)	
	Allied	0	0		
Organizational Slack-Time	Nurses	7	6:1	(Carr & Kazanowski, 1994; Karsh et al., 2005; Moyle et al., 2003; Robison & Pillemer, 2007; van den Berg et al., 2008; Venturato et al., 2007)	(VonDras et al., 2009)
	Allied	0	0		
Formal Interactions	Nurses	7	7:0	(Carr & Kazanowski, 1994; Choi et al., 2012; Hasson & Arnetz, 2007; Montoro-Rodriguez, 2006; Prentice, 2004; Robison & Pillemer, 2007; Rondeau & Wagar, 2006)	
	Allied	0	0		
Informal Interactions	Nurses	2	2:0	(Bissoondial, 2014; Cherry et al., 2007)	
	Allied	0	0		
Structural and Electronic Resources	Nurses	4	4:0	(Choi et al., 2012; Li et al., 2008; Montoro-Rodriguez, 2006; Schwendimann et al., 2016)	
	Allied	0	0		

Variable	Nurses /Allied	Total	S:NS	Significant	Non-Significant
Adequate Orientation	Nurses	4	1:3	(Karsh et al., 2005)	(Brodaty et al., 2003; Rondeau & Wagar, 2006; Schwendimann et al., 2016)
	Allied	0	0		
Working with Challenging Residents	Nurses	2	2:0	(Isaksson et al., 2009; Prentice, 2004)	
	Allied	0	0		

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Chapter 3

Methods

Study Design and Rationale

Analysis was performed on data collected from the second phase of the TREC program. TREC is a multi-level, longitudinal research program that aims to develop a comprehensive understanding of the effects of organizational context (i.e., organizational setting and environmental factors) on research utilization, and the subsequent impact of research utilization on resident health outcomes (and secondarily on provider and system outcomes) in LTC facilities in Canada. The breadth and depth of the TREC data makes secondary analyses possible to ask a specific research question about a subset of the TREC data.

Study Sample

This thesis utilized survey data from regulated nurses (RNs and LPNs) and allied health professionals in the second phase of the TREC program (TREC 2.0; Wave 1: September 2014 – May 2015). In TREC 2.0 data was collected from 90 LTC facilities in three Western Canadian provinces: British Columbia, Alberta, Manitoba. Facilities were selected using stratified random sampling by healthcare region (within province), owner-operator model (public, private, voluntary), and size (small: ≤ 79 beds; medium: 80-120 beds; large: > 120 beds). Specific facility inclusion criteria are listed in Table 3-1.

Data Collection

Each province had a local team, led by a site investigator, responsible for recruitment and data collection. TREC survey data was collected from healthcare aides

(unregulated workers), regulated nurses (RNs and LPNs), allied health staff, physicians, practice specialists, and care managers. Web-based surveys administered online using a vendor (NORO) were used to collect data from nurses and allied health staff. The vendor was responsible for secure, accurate, and reliable data capture with appropriate linkages, and secure data transfer to the central study server at the University of Alberta. Participants were recruited using a volunteer, census-like sampling technique. Potential participants were informed about the study through diverse communication strategies. All regulated staff in the selected LTC facilities who met the inclusion criteria and could be contacted (personally or through mail) were invited to participate. Eligible participants were asked to complete the TREC survey. The survey contains 141 to 167 items, depending on the target staff group. The survey has instruments to measure organizational context, research use, individual factors believed to impact research use, and staff outcomes believed to be sensitive to both organizational context and research use. The secondary analysis for this research study will use data collected from RNs (n = 308), LPNs (n = 448), and allied health staff (n = 334). Inclusion criteria for RNs, LPNs, and allied health staff are provided in Table 3-2.

Data Measures

Dependent variable. The dependent variable in this research study was job satisfaction. Job satisfaction was defined as a holistic measure of a person's attitude and feelings toward work. Job satisfaction is "the pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating the achievement of one's job values" (1, p1342). In TREC, job satisfaction was measured using the Michigan Organizational Assessment Questionnaire Job Satisfaction Subscale (MOAQ-JSS-3) (2).

The MAOQ-JSS-3 is composed of three items on a five-point Likert scale (1, strongly disagree; 5, strongly agree). The items were: "All in all, I am satisfied with my job," "In general I like my work," and "In general, I like working in this nursing home." An overall score for job satisfaction is derived by taking a mean of the three items (score range 1-5), with lower values representing lower job satisfaction. The reliability of the MAOQ-JSS-3 for regulated nurses and allied health professionals is in Table 3-4.

Independent variables. The independent variables for this study were chosen based on their availability in the TREC staff survey balanced with the presence of empirical and/or theoretical support in relation to the dependent variable of job satisfaction (Table 3-3). We assessed demographic variables, individual-level variables, and context-level variables. The complete list of the independent variables chosen, along with the definition, measurement and their reliability in the TREC data can be found in Table 3-4.

Demographic variables.

Demographic variables included were age, gender, highest education, primary role, current educational program enrolment, years worked in current position, years employed in facility, hours worked in past two weeks, shift worked, and employment status.

Individual-level variables.

Individual-level variables were three dimensions of burnout (exhaustion, cynicism, efficacy) measured using the Maslach Burnout Inventory-Short Form (3); three dimensions of work engagement (vigor, dedication, absorption) measured using the Utrecht Work Engagement Scale (UWES) (4); four dimensions of psychological

empowerment (competence, meaning, self-determination, impact) measured using Spreitzer's Psychological Empowerment Scale (5); problem solving measured using an abbreviated version of Heppner's Problem Solving Inventory (6); and physical and mental health measured using the SF-8 Health Survey (7).

Context-level variables.

Context was measured using the Alberta Context Tool (ACT), a survey designed to measure organizational context (8). The ACT has been adapted for and tested in the LTC setting (9). ACT is comprised of 8 dimensions tapping 10 concepts as follows: 1) leadership, 2) culture, 3) evaluation, 4) social capital, 5) organizational slack (composed of 3 concepts: staff, time, space), 6) formal interactions, 7) informal interactions, and 8) structural and electronic resources. Two additional context variables, not included in the ACT but part of the TREC survey, were also included: adequate orientation (single item on the TREC survey), and aggression toward staff, which contained six questions about violence and difficult behaviours from residents.

Data Analysis & Modeling Approach

Descriptive statistics were used to determine the level of job satisfaction among LPNs, RNs, and allied health staff, as well as to create a profile of the sample, including demographic, individual, and context variables. Given that there were few differences between variables predicting job satisfaction among RNs and LPNs (Table 3-5 to 3-6), a single model was tested for all nurses.

TREC data has a natural hierarchical structure: professional nurses and allied health staff are nested within facilities, which are nested within regions and provinces. Each facility may have a unique work context that is shared by the staff in that facility,

and thus staff responses within a facility may be correlated. Thus, generalized estimating equations (GEE) modeling was used to assess clustered data (10). GEE is an extension of the generalized linear model that can be used to test main effects, interactions, and categorical and continuous independent variables (11,12). GEE allows one to model similarities between regulated nurses and allied health staff that are due to similarities in measured individual staff characteristics, similarities in measured facility-level characteristics, and similarities in unmeasured facility-level characteristics.

First, a theoretical and empirical approach was used to determine a preliminary list of all possible variables for inclusion (Table 3-3). Second, I applied a statistical approach to reduce the number of variables entered into the models. I conducted bivariate analysis for all independent variables and job satisfaction (Table 3-6). Third, I generated two models for job satisfaction, one for each group: 1) regulated nurses and 2) allied health staff. Variables that were significantly associated with job satisfaction from the bivariate analyses ($p \leq .05$) were entered into a GEE model. The GEE model was run with listwise deletion of missing cases. The significance level was set to $p < .05$ for all analyses. All analyses were performed using IBM SPSS Statistics for Mac, v21.0 software (Chicago, IL, USA).

Ethics Statement

All data is centrally held at the University of Alberta on secure dedicated servers as per the Canadian Tri-Council guidelines (13). All data is confidential and all master files that can be linked to facilities and units are locked with restricted approval at the University of Alberta. Data was accessed remotely through the Health Research Data

Repository. I received training on how to access and use the data securely and remotely. My supervisor, Dr. Janet E. Squires, TREC investigator, had access to the data as well.

Approval for this project was obtained from the University of Ottawa Research Ethics Board (H08-17-07). Consent to participate was not required for this study. This study had consent from the TREC principal investigator, Dr. Carole Estabrooks.

Table 3-1 Facility Inclusion and Exclusion Criteria

Facility Inclusion Criteria	1. Registered by the provincial government 2. 90% of residents over 65 3. Conduct RAI-MDS 2.0 assessment since September 2007 4. Facility operation conducted in the English language 5. Urban facilities must be within designated health regions (i.e., Alberta – Edmonton, Calgary, or East Central; Manitoba – Winnipeg) 6. Stable or minimal level of organizational flux
Facility Exclusion Criteria	1. Facilities integrated with acute care 2. Facilities with a sub-acute service 3. Rural facilities within the Capital Health Region (Edmonton, AB), Calgary Health Region (Calgary, AB), and Winnipeg Regional Health Authority (Winnipeg, MB) that reside in places with populations of 10,000 people or less 4. Facilities with less than 35 long-term care beds 5. Dementia special needs facilities 6. Facilities undergoing (or expected to undergo) a degree of organizational flux within the proposed five-year lifespan of the TREC program

Note. Adapted from "Study protocol for the translating research in elder care (TREC): building context – an organizational monitoring program in long-term care project (project one)," by C. A. Estabrooks, J. E. Squires, G. G. Cummings, G. F. Teare, and P. G. Norton, 2009, *Implementation Science, 4*, 52. Copyright 2009 Estabrooks et al. Adapted with permission.

Table 3-2 Provider (Staff) Inclusion and Exclusion Criteria

Nurses (Registered Nurses [RNs] and Licensed Practical Nurses [LPNs])	**Inclusion Criteria:** 1. Identify a unit within a facility where they have worked for at least three months and are now working 2. Work a minimum of six shifts per month on this unit **Exclusion Criteria:** 1. Licensed Practical Nurse/Registered Nurse Student 2. Nursing instructors whose primary role is supervising students
Allied Healthcare Staff	**Inclusion Criteria:** 1. Identify a facility in which they provide at least one third (i.e., at least 6 days a month) of their long-term care services **Exclusion Criteria:** 1. Allied Healthcare Student 2. Allied instructors whose primary role is supervising students

Note. Adapted from "Study protocol for the translating research in elder care (TREC): building context – an organizational monitoring program in long-term care project (project one)," by C. A. Estabrooks, J. E. Squires, G. G. Cummings, G. F. Teare, and P. G. Norton, 2009, *Implementation Science, 4*, 52. Copyright 2009 Estabrooks et al. Adapted with permission.

Table 3-3 Potential Variables for Inclusion in the Model and Appropriate Bivariate Test

Variable	Theoretical (T) Empirical (E) Other (O)	References/ Reason for Inclusion	Measurement Type	Bivariate Test
Individual-level variables				
Age	E	(Brodaty et al., 2003; Heponiemi et al., 2011; Karsh et al., 2005; Li et al., 2008)	Ordinal	One-way ANOVA
Gender	E	(Castle et al., 2006)	Nominal	Independent Group t-test
Highest education	E	(Bissoondial, 2014; Karsh et al., 2005)	Ordinal (Reordered to highest level)	One-way ANOVA
Current enrolment status	O	Employees' level of education/involvement in education may affect their job satisfaction.	Nominal	Independent Group t-test
Duration in current role	O	Inexperienced and very experienced employees may have lower job satisfaction due to low perception of competence/efficacy and burnout, respectively.	Ratio	Pearson's *r*
Time worked on unit	E	(Bissoondial, 2014; Karsh et al., 2005; Rodwell et al., 2009)	Ratio	Pearson's *r*
Hours worked per week	O	Employees working more/less hours than typical for their employment status (full-time, part-time, casual) may have lower job satisfaction.	Ratio	Pearson's *r*
Shift worked	E	(Karsh et al., 2005; Montoro-Rodriguez, 2006)	Nominal	One-way ANOVA
Employment status	E	(Castle et al., 2006)	Nominal	One-way ANOVA
Years of licensure	O	Employees' level of experience may affect their JS	Ratio	Pearson's *r*
Maslach Burnout Inventory	E	(Hasson & Arnetz, 2007; I. Karlsson et al., 2009; Schwendimann et al., 2016)	Interval	Pearson's *r*
Work Engagement	E	(Brodaty et al., 2003; Moyle et al., 2003; Venturato et al., 2006)	Interval	Pearson's *r*
Psychological Empowerment	E	(Alderson, 2008; Bissoondial, 2014; Carr & Kazanowski, 1994; Choi et al., 2012; Gleasonwynn & Mindel, 1999; I. Karlsson et al., 2009; Li et al., 2008; 2013; McGilton et al., 2009; McGilton & Pringle, 1999; Rodwell et al., 2009; Ryrie et al., 2000; Simons & Jankowski, 2007; Tyler et al., 2006; van den Berg et al., 2008; Venturato et al., 2007)	Interval	Pearson's *r*
Problem Solving	E	(Knecht, 2014)	Interval	Pearson's *r*
Physical & Mental Health Status	E		Interval	Pearson's *r*

Variable	Theoretical (T) Empirical (E) Other (O)	References/ Reason for Inclusion	Measurement Type	Bivariate Test
Context-level variables				
ACT: Leadership	E	(Carr & Kazanowski, 1994; Choi et al., 2012; Gleasonwynn & Mindel, 1999; Havig et al., 2011; McGilton et al., 2007; Robison & Pillemer, 2007; Rodwell et al., 2009; Schwendimann et al., 2016; Simons & Jankowski, 2007)	Interval	Pearson's *r*
ACT: Culture	E	(Alderson, 2008; Bissoondial, 2014; Carr & Kazanowski, 1994; Castle et al., 2006; Cherry et al., 2007; Choi et al., 2012; Gleasonwynn & Mindel, 1999; Hasson & Arnetz, 2007; Karsh et al., 2005; Moyle et al., 2003; Schwendimann et al., 2016; Simons & Jankowski, 2007; van den Berg et al., 2008)	Interval	Pearson's *r*
ACT: Evaluation	O	Frequency of evaluations may affect job satisfaction	Interval	Pearson's *r*
ACT: Social Capital	E	(Brose, 1988; Carr & Kazanowski, 1994; Choi et al., 2012; Gleasonwynn & Mindel, 1999; Li et al., 2013; Robison & Pillemer, 2007; Schwendimann et al., 2016; van den Berg et al., 2008)	Interval	Pearson's *r*
ACT: Organizational Slack-Staffing	E	(Carr & Kazanowski, 1994; Cherry et al., 2007; Havig et al., 2011; Heponiemi et al., 2011; Moyle et al., 2003; Prentice, 2004; Rondeau & Wagar, 2006; Schwendimann et al., 2016)	Interval	Pearson's *r*
ACT: Organizational Slack-Space	O	(Prentice, 2004)	Interval	Pearson's *r*
ACT: Organizational Slack-Time	E	(Carr & Kazanowski, 1994; Karsh et al., 2005; Moyle et al., 2003; Robison & Pillemer, 2007; van den Berg et al., 2008; Venturato et al., 2007)	Interval	Pearson's *r*
ACT: Formal Interactions	E	(Carr & Kazanowski, 1994; Choi et al., 2012; Hasson & Arnetz, 2007; Montoro-Rodriguez, 2006; Prentice, 2004; Robison & Pillemer, 2007; Rondeau & Wagar, 2006)	Interval	Spearman's *rho*
ACT: Informal Interactions	E	(Bissoondial, 2014; Cherry et al., 2007)	Interval	Spearman's *rho*
ACT-Structural and Electronic Resources	E	(Choi et al., 2012; Li et al., 2008; Montoro-Rodriguez, 2006; Schwendimann et al., 2016)	Interval	Spearman's *rho*
Adequate Orientation	E	(Karsh et al., 2005)	Interval	Pearson's *r*
Working with Challenging Residents	E	(Isaksson et al., 2009; Prentice, 2004)	Interval	Spearman's *rho*

Note. Abbreviations: ACT, Alberta Context Tool.

Table 3-4 Descriptions and Psychometrics of Variables in TREC 2.0 Relevant to Present Study

Variable	Definition	Measurement	Cronbach's Alpha RN/LPN/Allied
Individual-Level Variables			
Age	An individual's age group	Asked to indicate age group according to a category (e.g., <20 years, 20-24, etc.)	N/A
Gender	An individual's gender	Asked for their gender: male or female	N/A
Highest education	Level of education obtained	Asked if completed diploma/certificate, bachelor's degree, master's degree, or PhD/PharmD	N/A
Current enrolment status	Current enrolment in an educational program	Asked to answer: yes or no	N/A
Duration in current role	Total years in current role	Asked for number of years and months worked in current role	N/A
Time worked on unit	Total years worked on unit	Asked for number of years and months worked on the unit	N/A
Hours worked per week	Average hours worked per week during a two-week period	Asked for number of hours in last typical two weeks period	N/A
Shift worked	Shift worked most of the time	Asked to indicate the shift they work most of the time: day, evening, or night	N/A
Employment status	An individual's employment status on the unit	Asked to answer: full-time, part-time, or casual	N/A
Year of licensure	Year the individual became licensed	Asked to indicate year of licensure	N/A
MBI (Total)	A debilitating psychological condition brought about by unrelieved work stress.	3 items per subscale scored on a 7-point Likert frequency scale (never to daily). An overall score is derived by taking the mean of the 3 items	.673/.628/.630
MBI: Exhaustion			.799/.800/.804
MBI: Cynicism			.766/.696/.672
MBI: Efficacy			.649/.627/.676
Job satisfaction*	A holistic measure of a person's attitude and feelings toward work and whether they are satisfied with their job.	3 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 3 items	.897/.838/.828
Work Engagement (WE)	Work engagement refers to positive, fulfilling work-related state of mind that is characterized by vigor, dedication, and absorption.	3 items per subscale scored on a 7-point frequency rating scale ranging from 0 (never) to 6 (daily). An overall score is derived by taking the mean of the 9 items	.909/.904/.912
WE: Vigor			.880/.887/.825
WE: Dedication			.873/.812/.883
WE: Absorption			.800/.768/.756

Variable	Definition	Measurement	Cronbach's Alpha RN/LPN/Allied
Psychological Empowerment (PE)	Empowerment is defined as a motivational construct manifested in four cognitions: meaning, competence, self-determination, and impact, which reflects an active as opposed to passive attitude toward work	3 items per subscale scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 12 items	.923/.892/.865
PE: Competence			.886/.864/.846
PE: Meaning			.938/.898/.884
PE: Self-Determination			.914/.881/.932
PE: Impact			.838/.800/.734
Problem Solving	The cognitive, affective and behavioural processes and to the particular set of skills people employ in order to find solutions for the challenges of everyday life	10 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 10 items	.786/.743/.791
SF-8: Physical Health Status Mental Health Status	An individual's perception of their health status over past 4 weeks	8 items scored on 5- or 6-point scales depending on the item. Scoring is done using a proprietary algorithm obtained when permission to use the scale is granted to produce a summary mental and physical health score (0%-100%)	 .746/.735/.744 .444/.473/.462
Context-Level Variables			
ACT: Leadership	The actions of formal leaders in an organization (unit) to influence change and excellence in practice, items generally reflect emotionally intelligent leadership	6 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 6 items	.922/.926/.931
ACT: Culture	The way that "we do things" in our organizations and work units, items generally reflect a supportive work culture	6 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 6 items	.865/.849/.830
ACT: Evaluation	The process of using data to assess group/team performance and to achieve outcomes in organizations or units	6 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 6 items	.915/.913/.920
ACT: Social Capital	The stock of active connections among people. These connections are of 3 types: bonding, bridging, and linking	6 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 6 items	.877/.829/.813

Variable	Definition	Measurement	Cronbach's Alpha RN/LPN/Allied
ACT: Organizational Slack-Staffing	The cushion of actual or potential resources which allows an organization (unit) to adapt successfully to internal pressures for adjustments or to external pressures for changes	3 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 3 items	.944/.930/.792
ACT: Organizational Slack-Time		4 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 4 items	.811/.813/.755
ACT: Organizational Slack-Space		2 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall is derived by taking the mean of the 2 items	.874/.839/.804
ACT: Formal Interactions	Formal exchanges that occur between individuals working within an organization (unit) through scheduled activities that can promote the transfer of knowledge	4 items scored on a 5-point Likert frequency scale (never to almost always). Recode each of the 4 item scores to "0" (no interaction) and "1" (interaction). An overall score is derived by taking a count of the 4 recoded items	.689/.682/.757
ACT: Informal Interactions	Informal exchanges that occur between individuals working within an organization (unit) that can promote the transfer of knowledge	9 items scored on a 5-point Likert frequency scale (never to almost always)/ Recode each of the 9 item scores to "0" (no interaction) and "1" (interaction). An overall score is derived by taking a count of the 9 recoded items	.818/.778/.807
ACT: Structural and Electronic Resources	The structural and electronic elements of an organization (unit) that facilitate the ability to assess and use knowledge	7 items scored on a 5-point Likert frequency scale (never to almost always). Recode each of the 7 item scores to 0 (no resource) or 1 (resource). An overall score is derived by taking a count of the 7 recoded items	.814/.791/.721
Adequate Orientation	An individual's perception of whether they have had enough orientation to carry out their job effectively and safely.	A single item scored on a 5-point Likert agreement scale (strongly disagree to strongly agree)	N/A
Working with Challenging Residents	An individual's experience with violence and difficult behaviours from residents.	5 yes/no questions. An overall score is derived by taking a count of the 5 items	N/A

*Independent variable.

ACT, Alberta Context Tool; MBI, Maslach Burnout Inventory; PE, Psychological Empowerment; SF-8, SF-8 Health Survey; WE, Work Engagement

Note. Adapted from "The Influence of Organizational Context on Best Practice Use by Care Aides in Residential Long-Term Care Setting" by C. A. Estabrooks, J. E. Squires, L. Hayduk, D. Morgan, G. G. Cummings, L. Ginsburg ... P. G. Norton, 2015, *JAMDA, 16,* 537e1-537e10. Copyright 2009 AMDA. Adapted with permission.

Table 3-5 Comparison of Demographic Characteristics among Regulated Nurses by Role (RN vs LPN) (N=756)

		Nursing Role			χ^2 / t-Test
		RN ***n=308***	**LPN** ***n=448***	**Total** ***n=756***	***p* value**[1]
Owner-operator model [n (%)]	Public not-for-profit	65 (21.1)	77 (17.2)	142 (18.8)	**.028**[2]
	Private for-profit	111 (36.0)	205 (45.8)	316 (41.8)	
	Voluntary not-for-profit	132 (42.9)	166 (37.1)	298 (39.4)	
	Missing	0 (0.0)	0 (0.0)	0 (0.0)	
Facility size [n (%)]	Small (≤79 beds)	43 (14.0)	55 (12.3)	98 (13.0)	.793
	Medium (80-120 beds)	99 (32.1)	148 (33.0)	247 (32.7)	
	Large (>120 beds)	166 (53.9)	245 (54.7)	411 (54.4)	
Gender [n (%)]	Female	272 (88.3)	388 (86.6)	660 (87.3)	.714
	Male	30 (9.7)	52 (11.6)	82 (10.8)	
	Missing	6 (1.9)	8 (1.8)	14 (1.9)	
Age [n (%)]	<20 years	1 (0.3)	2 (0.4)	3 (0.4)	**< .001**[3]
	20-29 years	26 (8.4)	85 (19.0)	111 (14.7)	
	30-39 years	53 (17.2)	103 (23.0)	156 (20.6)	
	40-49 years	99 (32.1)	133 (29.7)	232 (30.7)	
	50-59 years	74 (24.0)	95 (21.2)	169 (22.4)	
	60-70 years	49 (15.9)	30 (6.7)	79 (10.4)	
	>70 years	6 (1.9)	0 (0.0)	6 (0.8)	
	Missing	0 (0.0)	0 (0.0)	0 (0.0)	
Highest education [n (%)]	Diploma/certificate	128 (41.6)	363 (81.0)	491 (64.9)	**< .001**[4]
	Bachelor's degree	169 (54.9)	75 (16.7)	244 (32.3)	
	Graduate degree	10 (3.2)	8 (1.8)	18 (2.4)	
	Missing	1 (0.3)	2 (0.4)	3 (0.4)	
Current enrolment [n (%)]	Yes	14 (4.5)	45 (10.0)	59 (7.8)	.420
	Missing	2 (0.6)	3 (0.7)	5 (0.7)	
Shift worked most of the time [n (%)]	Day Shift	144 (46.8)	230 (51.3)	374 (49.5)	**< .001**[5]
	Evening Shift	107 (34.7)	171 (38.2)	278 (36.8)	
	Night Shift	55 (17.9)	39 (8.7)	94 (12.4)	
	Missing	2 (0.6)	8 (1.8)	10 (1.3)	
Employment status [n (%)]	Full-Time	121 (39.3)	228 (50.9)	349 (46.2)	**< .001**[6]
	Part-Time	166 (53.9)	177 (39.5)	343 (45.4)	
	Casual	21 (6.8)	42 (9.4)	63 (8.3)	
	Missing	0 (0.0)	1 (0.2)	1 (0.1)	
Hours worked in 2 weeks [Mean (SD)]		59.603 (17.843)	63.092 (20.466)	61.707 (19.528)	**.017**[7]
Years worked in current role [Mean (SD)]		11.540 (11.388)	6.905 (7.163)	8.753 (9.358)	**< .001**[7]
Years worked in facility [Mean (SD)]		5.534 (6.171)	4.297 (4.382)	4.798 (5.212)	**.002**[7]

[1] Chi-square test was used to test statistical differences in categorical variables (owner-operator model, facility size, gender,, age, education, current enrolment status, shift, employment status) and t-Test was used for quantitative (interval and ratio level variables – hours worked, years worked as nurse, years worked in home)
[2] Post-hoc test used was Bonferroni correction. No significant differences were found
[3] Post-hoc test used was Bonferroni correction. No significant differences were found
[4] Post-hoc test used was Bonferroni correction. Significant difference was for diploma/certificate
[5] Post-hoc test used was Bonferroni correction. Significant difference was for night shift
[6] Post-hoc test used was Bonferroni correction. Significant difference was for part-time
[7] Post-hoc test used was Bonferroni correction.

Table 3-6 Bivariate Analysis – Nurses (RNs and LPNs) (N=756)

		RNs (N=308)			LPNs (N=448)		
Category	**Variable**	**Correlation Coefficient**	***p* value**	**Sample Size (*n*)**	**correlation coefficient**	***p* value**	**Sample Size (*n*)**
Demographic Characteristics	Gender		.322	293		**0.025***	424
	Age		.126	299		.161	431
	Highest Education		.411	299		.749	431
	Current Enrolment		.707	297		.139	428
	Shift worked most of the time		.538	299		.611	431
	Employment Status		.672	299		.325	431
	Hours worked in 2 weeks	.157**	**.010**	270	.075	.129	408
	Time worked in current role	.090	.138	271	-.036	.473	406
	Time worked in unit/nursing home	.067	.264	278	-.050	.425	405
	Year licensed	.001	.996	272	.053	.289	410
Individual-Level Variables	Burnout: Emotional Exhaustion	-.475**	**< .001**	292	-.502**	**< .001**	427
	Burnout: Cynicism	-.407**	**< .001**	288	-.473**	**< .001**	419
	Burnout: Efficacy	.280**	**< .001**	290	.305**	**< .001**	424
	Work Engagement: Vigor	.616**	**< .001**	297	.594**	**< .001**	428
	Work Engagement: Dedication	.689**	**< .001**	294	564**	**< .001**	427
	Work Engagement: Absorption	.518**	**< .001**	292	.355**	**< .001**	426
	Empowerment: Competence	.412**	**< .001**	297	.286**	**< .001**	428
	Empowerment: Meaning	.567**	**< .001**	294	.351**	**< .001**	430
	Empowerment: Self-Determination	.496**	**< .001**	293	494**	**< .001**	429
	Empowerment: Impact	.476**	**< .001**	289	.371**	**< .001**	427
	Problem Solving	.346**	**< .001**	286	.190**	**< .001**	422
	Physical Health Status	.195**	**.001**	287	.186**	**< .001**	433
	Mental Health Status	.309**	**< .001**	287	.360**	**< .001**	422
Context-Level Variables	Leadership	.433**	**< .001**	294	.376**	**< .001**	423
	Culture	.614**	**< .001**	295	.500**	**< .001**	426
	Evaluation	.477**	**< .001**	295	.345**	**< .001**	426
	Social Capital	.479**	**< .001**	295	.407**	**< .001**	430
	Organizational Slack-Staffing	.467**	**< .001**	297	.386**	**< .001**	430
	Organizational Slack-Space	.401**	**< .001**	294	.286**	**< .001**	428
	Organizational Slack-Time	.505**	**< .001**	294	.344**	**< .001**	430
	Formal Interactions	.377**	**< .001**	293	.176**	**< .001**	427
	Informal Interactions	.201*	**.001**	288	.145**	**.003**	421
	Structure and Electronic Resources	.304**	**< .001**	286	.237**	**< .001**	424
	Adequate Orientation	.514**	**< .001**	299	.421**	**< .001**	431
	Aggression Toward Staff	-.127*	**.034**	293	-.198**	**< .001**	428

**. Mean difference is significant at the .01 level (2-tailed).

*. Mean difference is significant at the .05 level (2-tailed).
[1] Independent samples t-test was used to test statistical differences
[2] One-way ANOVA was used to test statistical differences
[3] Pearson's *r* was used to test statistical differences
[4] Spearman *rho* was used to test statistical differences

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Chapter 4

Modeling the determinants to nurses' job satisfaction in residential long-term care facilities

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Abstract

Objectives: We examined the importance of demographic characteristics, individual factors, and organizational context, to regulated nurses' job satisfaction in residential long-term care (LTC). Job satisfaction has implications for turnover, staff health, and quality of care.

Design: A cross-sectional analysis of survey data collected in the Translating Research in Elder Care program.

Setting and Participants: N=756 nurses (n=308 registered nurses, n=448 licensed practical nurses) from 90 residential LTC settings in three Western Canadian provinces.

Measures: We used generalized estimating equation models to assess demographic, individual and organizational context predictors of nurse job satisfaction. We measured job satisfaction using the Michigan Organizational Assessment Questionnaire Job Satisfaction Scale.

Results: We found that several individual and organizational context factors predicted job satisfaction among regulated nurses in residential LTC settings. At the individual level, emotional exhaustion-burnout ($\beta = -.600$, $p = .03$) predicted lower job satisfaction, while higher scores on empowerment (meaning) ($\beta = .134$, $p = .019$), work engagement (vigor) ($\beta = .094$, $p = .02$), and work engagement (dedication) ($\beta = .132$, $p = .001$) predicted higher job satisfaction. With respect to context, culture ($\beta = .182$, $p < .001$), organizational slack-space (availability and use of adequate space; $\beta = .043$, $p = .043$), and adequate orientation ($\beta = .096$, $p < .001$) were predictive of higher job satisfaction. Demographic and residential LTC variables did not predict regulated nurses' job satisfaction.

Conclusions/Implications: This study suggests that both individual nurse factors and organization context features are predictive of LTC nurses' job satisfaction. These factors are potentially modifiable, and therefore amenable to intervention. Our findings support future efforts to improve job satisfaction through improvements in: organizational culture, the availability and use of adequate organizational space, and provision of comprehensive job orientation training.

Key words: job satisfaction, regulated nurses, registered nurses, licensed practical nurses, long-term care, work environment

Introduction

In the United States, approximately 1.4 million seniors reside in 15,600 long-term care (LTC) settings (1). In Canada, approximately 4.5% of seniors reside in LTC settings (2). Within LTC, regulated nursing staff (registered nurses [RNs] and licensed practical nurses [LPNs]) play critical roles in ensuring optimal resident care; they set caregiver goals, identify relevant care practices, ensure proper monitoring, coordinate services, and supervise unregulated (care aide) staff who provide a majority of the direct resident care. Among regulated nurses in LTC, job dissatisfaction is high (3), which adversely affects the quality of resident care (4); reduces productivity (5); and increases staff shortages (4), medical errors, and adverse health events among residents (6). Given LTC nurses' roles in contributing to high quality care, it is important to understand the factors affecting their job satisfaction.

The impact of demographic variables on job satisfaction is unclear. For example, age group has been shown to be both positively (7) and negatively correlated with LTC nurses' job satisfaction (8). Among individual-level factors, low burnout (9), high work engagement (10), high psychological empowerment (8,11–13), and good physical and mental health (14) have been consistently associated with higher job satisfaction. Elements of organizational context have also been associated with higher job satisfaction, for example: effective leadership and supervisory support (15,16), positive work culture (7,9,11), high social capital (11,12), presence of organizational slack (7,11,15,17), and participation in formal interactions (9,11,17). Most of these studies have investigated small subsets of factors and have not used robust multivariate analyses. Additionally, no large studies have examined predictors of nurse job satisfaction in the Canadian

residential LTC setting. Therefore, our research objective was to conduct the first, large-scale analysis of nurse job satisfaction in Canada. We investigated nurse demographic, individual, and context-level predictors of job satisfaction in nurses working in LTC.

Theoretical Framework

Kanter's (18) Theory of Structural Empowerment and Spreitzer's (19) Theory of Psychological Empowerment were used to guide this study, as the combination of both better predicts job satisfaction in nurses (20). These theories were used to guide the identification of factors to be included in the analysis and interpret the final models (21).

Methods

Design.

An analysis was performed on data collected from phase 2 of the Translating Research in Elder Care (TREC) program. TREC is a multi-level, longitudinal research program that aims to develop a comprehensive understanding of the effects of organizational context on the use of best practices, staff, and resident health outcomes in residential LTC (22,23).

Sampling.

The TREC 2.0 database contains information collected from 89 residential LTC settings in three Canadian provinces: British Columbia, Alberta, and Manitoba. Residential LTC locations were selected using stratified random sampling by region (n=5 health regions across the 3 provinces), owner-operator model (public not-for-profit, private for-profit, or voluntary not-for-profit), and size (small: ≤79 beds, medium: 80-120 beds, large: >120 beds) (23).

Data collection.

TREC data reported in this paper were collected from September 2014 to May 2015. Regulated nurses were recruited using a volunteer, census-like sampling technique. All nurses who met eligibility criteria and could be contacted (through mail or personally) were invited to self-complete the TREC nurse survey online. Eligibility criteria included working at the residential LTC setting in their current nursing role for at least 3 months and working a minimum of six shifts per month.

Measures.

The TREC nurse survey measured: demographics (e.g. age), individual factors (including nurse health outcomes, e.g. burnout and work life outcomes e.g. empowerment), and, organizational context (e.g. culture). The TREC facility survey included three variables: owner-operator model, size, and province. All TREC survey variables used in the analysis along with their definitions, measurement, and reliability are listed in Table 1.

Dependent variable.

Job satisfaction was defined as a holistic measure of a person's attitude and feelings toward work and was measured using the Michigan Organizational Assessment Questionnaire Job Satisfaction Scale (24), a three-item scale using a five-point Likert agreement scale. An overall score for job satisfaction was derived by taking the mean of the three items (score range 1-5), with lower values representing lower job satisfaction.

Independent variables.

Independent variables were chosen based on their availability in the TREC staff survey and the presence of empirical and/or theoretical support for their role in job satisfaction. We assessed demographic, individual-level, and context-level variables.

Demographic variables.

Demographic variables included: gender, age, highest education, primary role, current enrolment, employment status, shift worked, hours worked in two weeks, years worked in current role, and years worked in residential LTC settings.

Individual-level variables.

Individual-level variables included: three dimensions of burnout (exhaustion, cynicism, efficacy) measured using the Maslach Burnout Inventory-Short Form (25); three dimensions of work engagement (vigor, dedication, absorption) measured with the Utrecht Work Engagement Scale (26); four dimensions of empowerment (competence, meaning, self-determination, impact) measured using Spreitzer's Psychological Empowerment Scale (19); problem solving measured using an abbreviated version of Heppner's Problem Solving Inventory (27); and physical and mental health using the SF-8 Health Survey (28).

Context-level variables.

Contextual variables included: adequate orientation (single item on TREC survey), working with challenging residents (six items on the TREC survey), and the 53-item Alberta Context Tool (ACT) (23). The ACT's 53 items tap 10 concepts: leadership, culture, evaluation (feedback of data), social capital, organizational slack (composed of 3 concepts: staff, time, space), formal interactions, informal interactions, and structural and

electronic resources. The ACT has acceptable reliability and validity for use in residential LTC settings (29).

Statistical analysis.

Descriptive statistics were used to determine the level of job satisfaction among participants and to create a profile of the sample, including demographic, individual, and context variables. Variables that were associated with job satisfaction from the bivariate analyses ($p \leq .05$) were selected for the multivariate analysis. Since TREC data have a hierarchical structure, nurses' survey responses within an LTC location had potential to be correlated. Therefore, we used generalized estimating equations (GEE) modeling to account for any clustering (30). The GEE model was run using listwise deletion of missing cases and a significance level of $p < .05$.

Ethics approval.

We obtained ethics approval from the Research Ethics Boards at the University of Ottawa (File # H08-17-07).

Results

Demographic characteristics.

A total of 756 regulated nurses (n=308 RNs and n=448 LPNs) completed the TREC survey (Table 2). Most participants were female (n = 660, 87.3%), less than 50 years old (n = 502, 69%), and had a diploma-based education (n = 491, 65%). Most nurses worked in larger (n = 411, 54.5%) private for-profit or voluntary not-for-profit (n = 614, 81%). Statistically significant differences between provinces were found for owner-operator model, LTC setting size, and employment status (Table 2).

Bivariate and multivariate analysis.

There were no statistically significant differences in job satisfaction scores by role (RNs: $M = 4.16$, $SD = .71$, LPNs: $M = 4.12$, $SD = .67$, $p = .372$). Therefore, a single analysis combining all nurses was undertaken. Mean scores for all study variables in the combined RN and LPN sample can be found in Table 3. The bivariate analysis showed that 28 of 36 (78%) independent variables identified as potentially important based on previous empirical work and/or theory were significantly associated with job satisfaction among regulated nurses (Table 4). This included all individual and organizational context variables. While primary role (RN or LPN) was not significantly associated with job satisfaction in the bivariate analysis, it was included in the multivariate analysis. Thus, a total of 29 variables were entered into the GEE model.

The final model showed seven variables to be predictors of job satisfaction among regulated nurses (Table 5). No demographic variables were predictors of job satisfaction. Four individual variables predicted job satisfaction. Higher burnout (emotional exhaustion) ($\beta = -.060$, $p = .002$) predicted lower job satisfaction among regulated nurses. Higher empowerment (meaning) ($\beta = .124$, $p = .027$), work engagement (vigor) ($\beta = .102$, $p = .001$), and work engagement (dedication) ($\beta = .135$, $p = .001$) were all predictive of higher job satisfaction. Three organizational context variables were also predictors of job satisfaction: culture, organizational slack-space, and adequate orientation. Higher scores in each of these variables predicted higher levels of job satisfaction among nurses: culture ($\beta = .182$, $p = < .001$); organizational slack-space ($\beta = .043$, $p = .043$); and adequate orientation ($\beta = .096$, $p = < .001$). Bed size and owner-operator model were not predictive of nurses' job satisfaction.

Discussion

This study sought to identify factors affecting job satisfaction among regulated nurses in residential LTC. Multivariate analysis revealed that four individual-level variables, and three organizational context variables predicted nurse job satisfaction in residential LTC. Consistent with previous studies, demographic variables (7,11,16,31) did not predict nurse job satisfaction. Individual-level variables that predicted nurse job satisfaction included: burnout-emotional exhaustion (9), vigor and dedication dimensions of work engagement (10), and the meaning dimension of psychological empowerment (8,11–13). To the best of our knowledge, this study is the first to show that the organizational context features of adequate orientation and organizational slack-space (perceived availability and use of adequate space) predict job satisfaction among regulated nursing staff in LTC settings.

Individual-level variables.

Burnout.

Consistent with previous research (9), emotional exhaustion negatively affected job satisfaction among regulated nurses in our study. Individuals in care giving professions such as nursing often experience high levels of emotional exhaustion because their jobs require them to regulate their emotions (32). For example, emotional labour, which refers to inducing or suppressing feelings "to sustain the outward countenance that produces in others the sense of being cared for" (33, p7), contributes to emotional exhaustion and job dissatisfaction (34). Regulated nurses in LTC may experience more emotional exhaustion compared to nurses in other settings due to the increased demands for emotional regulation. This is supported by Tourangeau, Widger, Cranley, Bookey-

Bassett and Pachis (35), who found that unlicensed aides working in LTC had similar levels of job satisfaction but significantly lower levels of emotional exhaustion than regulated nurses.

Work engagement.

We found that vigor and dedication components of work engagement were important to regulated nurses' job satisfaction. In a qualitative study, Venturato et al. (10) found that among nurses employed in LTC, engagement with residents, families, and colleagues, and ability to engage in skillful practice were important for their sense of value and contributed to job satisfaction. In the present study, it is possible that participants' dedication to their work contributed to feeling valued by their organization (not measured) and led to high levels of job satisfaction.

Psychological empowerment.

Consistent with previous studies (8,11–13), we identified the meaning subscale of psychological empowerment as important to regulated nurses' job satisfaction. Psychological empowerment refers to a state experienced by employees that is required for employers' interventions to succeed (19); the meaning component pertains to the compatibility between an employee's value, beliefs, and behaviours, and the requirements of the job. Our findings are consistent with Spreitzer's (19) theory that high levels of psychological empowerment promote job satisfaction. To promote job satisfaction, organizational managers must support the creation of supportive cultures, provide information about the organization's mission to foster a sense of purpose and meaning, and provide information about performance to reinforce individuals' sense of competence and value (19). LTC management should acknowledge and support personal

competencies and incentivize individuals to partake in decision-making processes, as this empowers employees and promotes job satisfaction (19).

Context-level variables.

Organizational slack-space.

To the best of our knowledge, this is the first study to directly show a relationship between nurses' perception of the availability and use of organizational space and their job satisfaction. This is consistent with Kanter's (18) Theory of Structural Empowerment, which posits that availability of organizational resources (e.g., time, materials, equipment) necessary to accomplish organizational goals is important for job satisfaction. It is likely that regulated nurses' lack of access to private spaces to discuss confidential information hinders their ability to fulfill their responsibilities, reducing job satisfaction. It is also possible that in environments with limited space, frequency of resident-resident and resident-staff conflicts increases. Resolving these conflicts may increase job strain among nurses (36), further reducing job satisfaction. Given that job strain negatively affects job satisfaction, it is possible that limited organizational slack-space decreases job satisfaction by increasing conflict frequency and thus job strain. An important implication of these findings is that residential LTC settings need private spaces for regulated staff to discuss confidential information.

Adequate orientation.

Adequate job orientation, which refers to an individual's perception of whether they have had enough on-the-job training to carry out their job safely and effectively, was predictive of job satisfaction. Kanter (18) posits that access to information (e.g., technical knowledge, data, expertise) to function effectively in one's position, affects job

satisfaction. Limited training may leave staff feeling unprepared and overwhelmed (37). Lack of clarity about responsibilities may further contribute to confusion (38), likely adversely affecting job satisfaction among nurses. To date, few studies have assessed adequate orientation in relation to job satisfaction in LTC (7,36,39,40). It is likely that adequate job orientation improves job satisfaction by promoting nurses' sense of competency, safety, and knowledge of job-related tasks (41). Supporting this, Proctor et al. (40) found that levels of psychological distress increased among nurses working in LTC who did not receive training or support as compared to those who did. Likewise, Alfredson and Annerstedt (39) found that LTC staff who received specific training on dementia topics had improved job satisfaction. These studies support the notion that inadequate knowledge about how to care for residents, handle difficult resident behaviors, or resolve conflicts increases nurses' job strain and lowers job satisfaction. Moreover, adequate orientation reflects organizational quality environment (42) and promotes organizational acculturation, as nurses develop relationships, identify resources, and build their competencies in resident care (43).

Perception of a lack of adequate training may be compounded by limited exposure to ageing-related content in colleges and universities (44). Increased gerontological preparation during nursing school or on-the-job training increases job satisfaction, empowerment, and competency among nurses in LTC (45), thereby increasing quality of care. This may in turn reduce job stress and improve competence, thereby increasing job satisfaction. Thus, adequate training facilitates nurses' adaptation to their work environment (43), which likely reduces their work burden and improves job satisfaction.

Gerontological Nursing Competencies and Standards of Practice should be included as part of their orientation and RNs should be encouraged to obtain the Gerontological Nursing Certificate offered by the Canadian Nurses Association. Orientation should also include information on the organization's values, beliefs, and mission (46). Involving newly hired nurses in the decision making regarding their own training and orientation would also be highly beneficial; this would demonstrate respect for them as adult learners and ensure that the training is tailored to their needs (46). Finally, orientation policies should consider organizational size, resident care needs, and integration of staff into the organization, (46) and how the existing work climate may affect success of the training program (47).

Leadership.

In contrast to several previous studies (11,15,16), leadership was not a significant predictor of job satisfaction in our study. It is well-established that nurses associate dimensions and/or outcomes of effective leadership, such as being seen as equal members of a team (11), staff recognition by management (7,11), presence of an organizational quality environment (7), perception that high quality of care is delivered (48), and managerial support for skills and competence development (9), as components of unit culture that positively influence job satisfaction. Good leadership is seen as necessary to cultivate a positive culture, which was positively associated with job satisfaction in the present study. The lack of significant association between leadership and job satisfaction in the current study therefore may, in part, be explained by its relationship with culture. As well, the TREC leadership scale did not measure leadership from a single reference point but rather asked participants to identify the person they report to most often may

account for the unexpected findings. Future research should explore more the causal world between leadership, culture, and job satisfaction.

Differences in scales used to measure job satisfaction in previous studies may also explain the discrepancy between the present study and previous studies in relationship to leadership and job satisfaction. For example, Li et al. (12) and Tyler et al. (13) used the Job Description Index and Job Diagnostic Surveys, respectively. Given that Job Diagnostic Surveys measures satisfaction with skill variety, task identity, task significance, autonomy, and intrinsic feedback, it is possible that the job satisfaction scale captured components of leadership (e.g., social capital, interactions, and adequate resources) such that high scores on job satisfaction were, by definition, associated with those variables.

Strengths and Limitations

The study has several strengths. It is the first to evaluate a large number of factors affecting job satisfaction using multivariate analysis among a relatively large sample of regulated nurses in residential LTC settings across Canadian provinces. Data collection was from a random stratified sample of residential LTC using well-validated responses and a high degree of quality assurance processes. Limitations include its cross-sectional nature, limiting assessment of temporal changes in organizational context and job satisfaction. Finally, because this was a secondary analysis of data, it did not contain all possible variables of interest, e.g., marital status and race/ethnicity (48); levels of administrative duties (11,13), opportunity for direct care (11), perception of insufficient skills among staff (36), and relationships with residents and residents' families (10,13).

Conclusion

We found that individual-level factors, including burnout, psychological empowerment (meaning), and work engagement (vigor and dedication), and context factors such as adequate support and access to resources (e.g., space), affect regulated nurses' job satisfaction in LTC. Our findings support efforts to improve culture and organizational slack-space as a way of increasing regulated nurses' job satisfaction. Our findings further suggest that residential LTC should consider providing comprehensive on-the-job training to ensure that staff have the knowledge and skills to provide quality care to LTC residents and creating additional space for staff. Future research should examine the causal links between the variables identified as important in this study to develop strategies to promote nurses' job satisfaction in LTC.

Table 4-1 Descriptions of Variables in TREC 2.0 Relevant to Present Study

Category	Variable	Definition	Measurement	Alpha	
				RN	LPN
Demographic Characteristics	Gender	An individual's gender	Asked for their gender: male or female		
	Age Group	An individual's age group	Asked to indicate age group according to a category (<20 years, 20-29, 30-39, etc.)	N/A	N/A
	Highest Education	Level of education obtained	Asked to answer yes or no if completed diploma/certificate, bachelor's, or graduate degree	N/A	N/A
	Current Enrolment Status	Current enrolment in an educational program	Asked to answer: yes or no	N/A	N/A
	Years Worked in Current Role	Total years in current role	Asked for number of years and months worked in current role	N/A	N/A
	Years Worked in Facility	Total years worked on unit	Asked for number of years and months worked on the unit	N/A	N/A
	Hours Worked	Average hours worked per week during a two-week period	Asked for number of hours in last typical two weeks period	N/A	N/A
	Shift Worked	Shift worked most of the time	Asked to indicate the shift they work most of the time: day, evening, or night	N/A	N/A
	Employment Status	Individual's employment status on unit	Asked to answer: full-time, part-time, or casual	N/A	N/A
	Year of Licensure	Year the individual became licensed	Asked to indicate year of licensure	N/A	N/A
	Primary Role	An individual's primary role	Asked to select RN or LPN	N/A	N/A
Individual-Level Factors	Burnout (Total)	A debilitating psychological condition brought about by unrelieved work stress	The Maslach Burnout Inventory General Survey (short form) (25). 3 items per subscale scored on a 7-point Likert frequency scale (never to daily). An overall score for eat subscale is derived by taking the mean of the 3 items	.673	.628
	Burnout-Exhaustion			.799	.800
	Burnout-Cynicism			.766	.696
	Burnout-Efficacy			.649	.627
	Job satisfaction*	An individual's perception of whether they are "satisfied" with their job	Michigan Organizational Assessment Questionnaire, Job Satisfaction Subscale (MOAQ-JSS-3) (24). 3 items scored on a 5-point Likert agreement scale ranging from strongly disagree (1) to strongly agree (5). Overall score is derived by taking the mean of the 3 items	.897	.838
	Work Eng. (Total)	Work engagement refers to positive, fulfilling work-related state of mind, based on three subscales: vigor, dedication, and absorption	Utrecht Work Engagement Scale (UWES-9) (26). 3 items per subscale scored on a 7-point frequency rating scale ranging from 0 (never) to 6 (daily). An overall score is derived by taking the mean of the 9 items	.909	.904
	Work Eng.-Vigor			.880	.887
	Work Eng.-Dedication			.873	.812
	Work Eng.-Absorption			.800	.768

Category	Variable	Definition	Measurement	Alpha	
				RN	LPN
	Emp. (Total)	Empowerment is defined as a motivational construct manifested in four cognitions: meaning, competence, self-determination, and impact, which reflects an active as opposed to passive attitude toward work	Spreitzer's Psychological Empowerment scale (19). 3 items per subscale scored on a 5-point Likert agreement scale, ranging from strongly disagree (1) to strongly agree (5). An overall score is derived by taking the mean of the 12 items	.923	.892
	Emp.-Competence			.886	.864
	Emp.-Meaning			.938	.898
	Emp.-Self-Determination			.914	.881
	Emp.-Impact			.838	.800
	Problem Solving	Cognitive, affective and behavioural processes and the particular set of skills people employ in order to find solutions for the challenges of everyday life	Heppner's Problem Solving Inventory (27). 10 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 10 items	.786	.743
	Physical Health Status	An individual's perception of their health status over past 4 weeks	SF-8™ health survey (28). 8 items scored on 5- or 6-point scales depending on item. Scoring is done using a proprietary algorithm obtained when permission to use scale is granted to produce a mental and physical health score (0%-100%)	.746	.735
	Mental Health Status			.444	.473
Context-Level Factors	ACT: Leadership	Actions of formal leaders in an organization (unit) to influence change and excellence in practice, items reflect emotionally intelligent leadership	The Alberta Context Tool (29,49, 50). 6 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 6 items.	.922	.926
	ACT: Culture	The way that "we do things" in our organizations and work units, items reflect a supportive work culture	6 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 6 items	.865	.849
	ACT: Evaluation	The process of using data to assess group/team performance and to achieve outcomes in organizations or units	6 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 6 items	.915	.913
	ACT: Social Capital	The stock of active connections among people. These connections are of 3 types: bonding, bridging, and linking	6 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 6 items	.877	.829
	ACT: Organizational Slack-Staffing	The cushion of actual or potential resources which allows an organization (unit) to adapt successfully to internal pressures for adjustments or to external pressures for changes	3 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 3 items	.944	.930
	ACT: Organizational Slack-Time		4 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 4 items	.811	.813
	ACT: Organizational Slack-Space		2 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall is derived by taking the mean of the 2 items	.874	.839

Category	Variable	Definition	Measurement	Alpha	
				RN	LPN
	ACT: Formal Interactions	Formal exchanges that occur between individuals working within an organization (unit) through scheduled activities that can promote the transfer of knowledge	4 items scored on a 5-point Likert frequency scale (never to almost always). Recode each of the 4 item scores to "0" (no interaction) and "1" (interaction). An overall score is derived by taking a count of the 4 recoded items	.689	.682
	ACT: Informal Interactions	Informal exchanges that occur between individuals working within an organization (unit) that can promote the transfer of knowledge	9 items scored on a 5-point Likert frequency scale (never to almost always)/ Recode each of the 9 item scores to "0" (no interaction) and "1" (interaction). An overall score is derived by taking a count of the 9 recoded items	.818	.778
	ACT: Structural and Electronic Resources	The structural and electronic elements of an organization (unit) that facilitate the ability to assess and use knowledge	7 items scored on a 5-point Likert frequency scale (never to almost always). Recode each of the 7 item scores to 0 (no resource) or 1 (resource). An overall score is derived by taking a count of the 7 recoded items	.814	.791
	Adequate Orientation	An individual's perception of whether they have had enough orientation to carry out their job effectively and safely.	A single item scored on a 5-point Likert agreement scale (strongly disagree to strongly agree)	N/A	N/A
	Working with Challenging Residents	An individual's experience with violence and difficult behaviours from residents.	Sum of six items: threat of assault, emotional abuse, physical abuse, verbal sexual harassments, sexual assault, and force sexual intercourse. Each item was scored as yes or no based on if the respondent had experienced the behaviour during the last five shifts	N/A	N/A
Provincial/ Facility Variables	Province	Province in which the nursing home is located	British Columbia, Alberta, or Manitoba	N/A	N/A
	Owner-operator Model	Ownership and operation model of the facility	Public not-for-profit, private for-profit, or voluntary not-for-profit	N/A	N/A
	Facility Size	Total number of beds for residents in the facility	Sum of LTC beds and non-LTC beds (small: ≤79 beds, medium: 80-120 beds, large: >120 beds)	N/A	N/A

Note. *Independent variable. ACT, Alberta Context Tool; Emp, Psychological Empowerment; LPN, Licensed Practical Nurse; RN, Registered Nurse; Work Eng = Work Engagement. Items developed by the TREC team unless otherwise specified. Adapted from "The Influence of Organizational Context on Best Practice Use by Care Aides in Residential Long-Term Care Setting" by C. A. Estabrooks, J. E. Squires, L. Hayduk, D. Morgan, G. G. Cummings, L. Ginsburg ... P. G. Norton, 2015, *JAMDA, 16,* 537e1-537e10. Copyright 2009 AMDA. Adapted with permission.

Table 4-2 Comparison of Demographic Characteristics among Regulated Nurses by Province (N=756)

		Province				χ^2 / ANOVA
		British Columbia ***n=323***	**Alberta** ***n=272***	**Manitoba** ***n=161***	**Total** ***n=756***	***p* value**[1]
Owner-operator model [n (%)]	Public not-for-profit	79 (24.5)	49 (18.0)	14 (8.7)	142 (18.8)	**< .001**[2]
	Private for-profit	141 (43.7)	127 (46.7)	48 (29.8)	316 (41.8)	
	Voluntary not-for-profit	103 (31.9)	96 (35.3)	99 (61.5)	298 (39.4)	
	Missing	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
Facility size [n (%)]	Small (≤79 beds)	59 (18.3)	31 (11.4)	8 (5.0)	98 (13.0)	**< .001**[3]
	Medium (80-120 beds)	151 (46.7)	38 (14.0)	58 (36.0)	247 (32.7)	
	Large (>120 beds)	113 (35.0)	203 (74.6)	95 (59.0)	411 (54.4)	
	Missing	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
Gender [n (%)]	Female	283 (87.6)	241 (88.6)	136 (84.5)	660 (87.3)	.282
	Male	38 (11.8)	23 (8.5)	21 (13.0)	82 (10.8)	
	Missing	2 (0.6)	8 (2.9)	4 (2.5)	14 (1.9)	
Age Group [n (%)]	<20 years	3 (0.9)	0 (0.0)	0 (0.0)	3 (0.4)	**.009**[4]
	20-29 years	64 (19.8)	34 (12.5)	13 (8.1)	111 (14.7)	
	30-39 years	68 (21.1)	60 (22.1)	28 (17.4)	156 (20.6)	
	40-49 years	89 (27.6)	77 (28.3)	66 (41.0)	232 (30.7)	
	50-59 years	68 (21.1)	67 (24.6)	34 (21.1)	169 (22.4)	
	60-70 years	28 (8.7)	32 (11.8)	19 (11.8)	79 (10.4)	
	<70 years	3 (0.9)	2 (0.7)	1 (0.6)	6 (0.8)	
	Missing	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
Highest education [n (%)]	Diploma/certificate	236 (73.1)	162 (59.6)	93 (57.8)	491 (64.9)	**.001**[5]
	Bachelor's Degree	77 (23.8)	105 (38.6)	62 (38.5)	244 (32.3)	
	Graduate Degree	9 (2.8)	4 (1.5)	5 (3.1)	18 (2.4)	
	Missing	1 (0.3)	1 (0.4)	1 (0.6)	3 (0.4)	
Current Enrolment [n (%)]	Yes	29 (9.0)	26 (9.6)	4 (2.5)	59 (7.8)	**.018**[6]
	Missing	2 (0.6)	1 (0.4)	2 (1.2)	5 (0.7)	
Shift worked most of the time [n (%)]	Day Shift	162 (50.2)	134 (49.3)	78 (48.4)	374 (49.5)	.206
	Evening Shift	104 (32.2)	109 (40.1)	65 (40.4)	278 (36.8)	
	Night Shift	48 (14.9)	28 (10.3)	18 (11.2)	94 (12.4)	
	Missing	9 (2.8)	1 (0.4)	0 (0.0)	10 (1.3)	
Employment status [n (%)]	Full-Time	177 (54.8)	105 (38.6)	67 (41.6)	349 (46.2)	**< .001**[7]
	Part-Time	98 (30.3)	157 (57.7)	88 (54.7)	343 (45.4)	
	Casual	47 (14.6)	10 (3.7)	6 (3.7)	63 (8.3)	
	Missing	1 (0.3)	0 (0.0)	0 (0.0)	1 (0.1)	
Primary role [n (%)]	RN	112 (34.7)	126 (46.3)	70 (43.5)	308 (40.7)	**.011**[8]
	LPN	211 (65.3)	146 (53.7)	91 (56.5)	448 (59.3)	
Hours worked in 2 weeks [Mean (SD)]		62.28 (19.34)	60.37 (20.55)	62.80 (19.14)	61.71 (19.53)	.383
Years worked in current role [Mean (SD)]		7.80 (8.24)	9.41 (10.38)	9.52 (9.52)	8.75 (9.36)	.069
Years worked in facility [Mean (SD)]		4.31 (4.59)	5.24 (5.80)	5.02 (5.28)	4.80 (5.12)	.095

[1] Chi-square test was used to test statistical differences in categorical variables (owner-operator model, facility size, gender, age group, higher education, current enrolment, shift worked most of the time, employment status, primary role) and one-way ANOVA was used for quantitative (internal and ratio level variables – hours worked, years worked in current role, years worked in facility)

[2] Post-hoc test used was Bonferroni correction. Significant difference was in Manitoba (voluntary not-for-profit)
[3] Post-hoc test used was Bonferroni correction. Significant differences were for the following facility size categories: medium (British Columbia compared to Alberta); large (British Columbia compared to Alberta)
[4] Post-hoc test used was Bonferroni correction. No significant differences found
[5] Post-hoc test used was Bonferroni correction. Significant differences were found for the following categories: diploma/certificate (British Columbia); Bachelor's Degree (British Columbia)
[6] Post-hoc test used was Bonferroni correction. No significant differences found
[7] Post-hoc test used was Bonferroni correction. Significant differences were found in the following employment status categories: part-time (British Columbia compared to Alberta); casual (British Columbia)
[8] Post-hoc test used was Bonferroni correction. No significant differences found

Table 4-3 Average Scores for Study Variables

Category	Variable	*N*	Mean (*SD*)
Dependent Variable	Job Satisfaction	730	4.14 (0.686)
Independent Variables			
Demographic Characteristics	Hours worked in 2 weeks	702	61.71 (19.53)
	Time worked in current role	700	8.75 (9.358)
	Time worked in unit/nursing home	707	4.8 (5.212)
	Year Licensed	702	2002 (12)
Individual-Level Factors	Burnout: Emotional Exhaustion	724	2.02 (1.438)
	Burnout: Cynicism	711	1.83 (1.435)
	Burnout: Efficacy	719	4.69 (1.05)
	Work Engagement: Vigor	730	5.07 (1.148)
	Work Engagement: Dedication	724	5.30 (1.008)
	Work Engagement: Absorption	723	5.68 (0.647)
	Empowerment: Competence	732	4.40 (0.546)
	Empowerment: Meaning	728	4.53 (0.539)
	Empowerment: Self-Determination	727	3.99 (0.756)
	Empowerment: Impact	721	3.76 (0.73)
	Problem Solving	718	3.85 (0.383)
	Physical Health Status	712	50.60 (7.74)
	Mental Health Status	712	50.68 (9.15)
Context-Level Factors	Leadership	742	3.78 (0.831)
	Culture	745	3.89 (0.662)
	Evaluation	747	3.56 (0.786)
	Social Capital	731	3.97 (0.548)
	Organizational Slack-Staffing	733	2.74 (1.115)
	Organizational Slack-Space	729	3.71 (1.148)
	Organizational Slack-Time	729	2.92 (0.695)
	Formal Interactions	730	1.43 (1.185)
	Informal Interactions	717	4.21 (2.024)
	Structure and Electronic Resources	715	4.43 (2.481)
	Adequate Orientation	735	3.90 (0.882)
	Working with Challenging Residents	726	2.63 (1.648)

Table 4-4 Bivariate Analysis – Nurses (RNs and LPNs)

Category	Variable	Correlation Coefficient	*p* value	Sample Size (*n*)
Demographic Characteristics	Gender		**.020**[1*]	717
	Age Group		.320[2]	730
	Highest Education		.511[2]	728
	Current Enrolment		.393[1]	730
	Shift worked most of the time		.258[2]	722
	Employment Status		.364[2]	729
	Primary Role		.252[1]	725
	Hours worked in 2 weeks	.101**	**.008**[3]	678
	Time worked in current role	.037	.339[3]	677
	Time worked in unit/nursing home	.019	.623[3]	683
	Year Licensed	.008	.842[3]	682
Individual-Level Factors	Burnout: Emotional Exhaustion	-.492**	**< .001**[3]	719
	Burnout: Cynicism	-.447**	**< .001**[3]	707
	Burnout: Efficacy	.294**	**< .001**[3]	714
	Work Engagement: Vigor	.603**	**< .001**[3]	725
	Work Engagement: Dedication	.620**	**< .001**[3]	721
	Work Engagement: Absorption	.426**	**< .001**[3]	718
	Empowerment: Competence	.342**	**< .001**[3]	725
	Empowerment: Meaning	.445**	**< .001**[3]	724
	Empowerment: Self-Determination	.495**	**< .001**[3]	722
	Empowerment: Impact	.416**	**< .001**[3]	716
	Problem Solving	.259**	**< .001**[3]	708
	Physical Health Status	.191**	**< .001**[3]	709
	Mental Health Status	.342**	**< .001**[3]	709
Context-Level Factors	Leadership	.400**	**< .001**[3]	717
	Culture	.548**	**< .001**[3]	721
	Evaluation	.400**	**< .001**[3]	721
	Social Capital	.439**	**< .001**[3]	725
	Organizational Slack-Staffing	.421**	**< .001**[3]	727
	Organizational Slack-Space	.324**	**< .001**[3]	722
	Organizational Slack-Time	.409**	**< .001**[3]	724
	Formal Interactions	.261**	**< .001**[4]	720
	Informal Interactions	.172**	**< .001**[4]	709
	Structure and Electronic Resources	.274**	**< .001**[4]	710
	Adequate Orientation	.462**	**< .001**[3]	730
	Working with Challenging Residents	-.175**	**< .001**[4]	721

**. Mean difference is significant at the .01 level (2-tailed).
*. Mean difference is significant at the .05 level (2-tailed).
[1] Independent samples t-test was used to test statistical differences
[2] One-way ANOVA was used to test statistical differences
[3] Pearson's *r* was used to test statistical differences
[4] Spearman *rho* was used to test statistical differences

Table 4-5 GEE Model: Regulated Nurses (N=574)

Category	Variables	β	SE	95% CI	*p* value
	Intercept	.910	.3838		.018
Demographic Characteristics	Gender - Male	.015	.0511	-.085 – .116	.762
	Highest Education - Diploma/College	-.121	.1181	-.352 – .111	.307
	Highest Education - Bachelor's	-.158	.1243	-.401 – .086	.205
	Primary Role - Registered Nurse	.009	.0408	-.071 – .089	.817
	Hours Worked in 2 Weeks	.002	.0011	< .001 – .004	.050
Individual-Level Factors	Burnout: Emotional Exhaustion	-.060	.0201	-.100 – -.021	**.003**
	Burnout: Cynicism	-.018	.0194	-.056 – .020	.355
	Burnout: Efficacy	-.023	.0215	-.065 – .020	.293
	Work Engagement: Vigor	.094	.0301	.035 – .153	**.002**
	Work Engagement: Dedication	.132	.0399	.054 – .210	**.001**
	Work Engagement: Absorption	-.034	.0429	-.118 – .051	.434
	Empowerment: Competence	.011	.0555	-.098 – .119	.846
	Empowerment: Meaning	.134	.0571	.022 – .246	**.019**
	Empowerment: Self-Determination	.045	.0336	-.021 – .111	.179
	Empowerment: Impact	-.006	.0358	-.076 – .065	.875
	Problem Solving	.030	.0549	-.078 – .138	.585
	Physical Health Status	-.001	.0027	-.006 – .004	.707
	Mental Health Status	-.003	.0027	-.008 – .002	.281
Context-Level Factors	Leadership	.054	.0297	-.005 – .112	.072
	Culture	.182	.0488	.087 – .278	**< .001**
	Evaluation	-.029	.0337	-.096 – .037	.383
	Social Capital	.081	.0509	-.018 – .181	.110
	Organizational Slack-Staffing	.036	.0225	-.008 – .080	.113
	Organizational Slack-Space	.043	.0211	.001 – .084	**.043**
	Organizational Slack-Time	.034	.0350	-.035 – .102	.333
	Formal Interactions	-.001	.0189	-.038 – .036	.937
	Informal Interactions	-.017	.0109	-.038 – .004	.119
	Structural and Electronic Resources	.008	.0093	-.010 – .026	.397
	Adequate Orientation	.096	.0262	.044 – .147	**< .001**
	Working with Challenging Residents	-.017	.0123	-.042 – .007	.159

QIC: 174.001
QICC: 165.274
β = standardized coefficient; CI = confidence interval; SE = standard error

References

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Chapter 5

Modeling the determinants to health professionals' job satisfaction in residential long-term care facilities

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Abstract

Background: Job satisfaction is a predictor of intention to stay and turnover among allied healthcare providers. However, there is limited research examining job satisfaction among allied health professionals, specifically in residential long-term care (LTC) settings. The purpose of this study was to identify factors (demographic, individual, and organizational) that predict job satisfaction among allied healthcare providers in residential LTC.

Methods: We conducted an analysis of data from Phase 2 of the Translating Research in Elder Care program. A total of 338 allied healthcare providers from 77 residential LTC in three Western Canadian provinces were included in the analysis. Generalized estimating equation modeling was used to assess demographics, individual, and organizational context predictors of allied healthcare providers' job satisfaction. We measured job satisfaction using the Michigan Organizational Assessment Questionnaire Job Satisfaction Subscale.

Results: Both individual and organizational context variables predicted job satisfaction among allied healthcare providers employed in LTC. Demographic variables did not predict job satisfaction. At the individual level, burnout (cynicism) ($\beta = -.113$, $p = .001$) and the competence subscale of psychological empowerment ($\beta = -.224$, $p = < .001$), were predictive of lower job satisfaction levels while higher scores on the meaning ($\beta = .232$, $p = .001$), self-determination ($\beta = .128$, $p = .005$), and impact ($\beta = .110$, $p = .014$) subscales of psychological empowerment predicted higher job satisfaction. Organizational context variables that predicted job satisfaction included: social capital (β

= .158, p = .012), organizational slack-time (β = .096, p = .029), and adequate orientation (β = .088, p = .005).

Conclusions: This study suggests that individual allied healthcare provider and organizational context features are both predictive of allied healthcare provider job satisfaction in residential LTC settings. Unlike demographics and structural characteristics of LTC facilities, all variables identified as important to allied healthcare providers' job satisfaction in this study are potentially modifiable, and therefore amenable to intervention.

Keywords: job satisfaction, allied health professionals, long-term care, individual-level factors, context-level factors, work environment

Introduction

In 2014, approximately 2.6% of seniors 65 years and over and 9.5% of seniors 85 years and over resided in long-term care (LTC) facilities in the United States (1). In Canada, in 2011, approximately 224,280 seniors resided in LTC facilities (2). Within LTC facilities, allied healthcare providers (e.g., social workers, physiotherapists and aides, dietitians, recreation therapists and aides) work together with nursing staff (e.g., registered nurses, licensed practical nurses, healthcare aides) to meet residents' needs and ensure a high quality of care. Job satisfaction among LTC care providers however is suboptimal (3) and has been shown to adversely affect the quality of care provided to residents (4,5) by: increasing turnover (6–12), reducing employees' well-being (8), and increasing risk of medical errors (8) and adverse health events (13–15).

The factors affecting job satisfaction, specifically among allied healthcare providers employed in LTC facilities, are poorly understood. Previous studies have found limited empirical support for a relationship between demographic factors and job satisfaction (16–19). Among individual-level factors, psychological empowerment (16–18) and physical and mental health (18) are shown to be related to allied healthcare provider job satisfaction in LTC settings. There is also some support for organizational context variables, namely: leadership and supervisory support (16,18), culture (16,18), and social capital (16). Overall, there is a paucity of research on allied healthcare provider job satisfaction in LTC, particularly in Canadian LTC settings. Given allied healthcare providers' role in providing high quality resident care in LTC settings, it is important that we know the factors, individual and organizational, that affect their job

satisfaction. Therefore, the purpose of this study was to identify factors that predict job satisfaction among allied healthcare providers in residential LTC.

Theoretical Framework

Kanter's (20) Theory of Structural Empowerment and Spreitzer's (21–23) Theory of Psychological Empowerment were used to guide this study, as the combination of both theories offers a better understanding of job satisfaction (24–28). These theories were used to guide our identification and understanding of the factors important to allied healthcare provider job satisfaction (29).

Methods

Design.

An analysis was performed on data collected from Phase 2 of the Translating Research in Elder Care (TREC) program. TREC is a multi-level, longitudinal research program that seeks to develop a comprehensive understanding of the effects of organizational context on care providers' use of best practices, quality of work life, and staff and resident health outcomes in residential LTC (30), and in doing so improve quality of care, life, and work-life.

Sampling.

TREC maintains a longitudinal database with waves of primary data collection every 2-3 years coupled with regular acquisition of routinely collected resident data. Presently, the TREC database contains information collected from 77 LTC facilities in three Canadian provinces: British Columbia, Alberta, and Manitoba. Facilities were selected using stratified random sampling by health region within the three provinces,

owner-operator model (public not-for-profit; voluntary not-for-profit; private for-profit), and size (small: ≤79 beds, medium: 80-120 beds, large: >120 beds) (30).

Data sources and collection.

The allied healthcare provider data used in this analysis was collected using web-based surveys between September 2014 and May 2015. Participants were recruited using a volunteer, census-like sampling technique. All allied healthcare providers in the 77 TREC LTC facilities who met inclusion criteria and could be contacted (through mail or personally) were invited to participate by completing the TREC allied healthcare provider survey online. Eligibility criteria included working at the facility in their current role for at least 3 months and working a minimum of six shifts per month.

Measures.

The TREC allied healthcare provider survey measured: demographics (e.g. gender), individual factors (including health outcomes, e.g. physical and mental health status, and work life outcomes, e.g. empowerment), and organizational context variables (e.g. leadership). The TREC facility survey included three variables: owner-operator model, size, and province. All survey variables used in the analysis presented in this paper along with their definitions, measurement, and reliability are listed in Table 1.

Dependent variable.

Job satisfaction was defined as a holistic measure of a person's attitude and feelings toward work. Job satisfaction was measured using the Michigan Organizational Assessment Questionnaire Job Satisfaction Subscale (31), which is a three-item scale, scaled on a five-point Likert scale (1, strongly disagree; 5, strongly agree). An overall

score for job satisfaction was produced by taking a mean of the three items (score range 1-5), with higher values representing higher job satisfaction.

Independent variables.

Independent variables were chosen based on their availability in the TREC allied healthcare provider survey, balanced by the presence of empirical and/or theoretical support in relation to allied healthcare provider job satisfaction. We assessed demographic, individual-level, and organizational context variables.

Demographic variables.

Demographic variables included: gender, age group, highest education, primary role, current enrolment, hours worked in two weeks, years worked in current role, and years worked in facility.

Individual-level variables.

Individual-level variables included: three dimensions of burnout (exhaustion, cynicism, efficacy) measured using the Maslach Burnout Inventory-Short Form (32); three dimensions of work engagement (vigor, dedication, absorption) measured using the Utrecht Work Engagement Scale (33); four dimensions of psychological empowerment (competence, meaning, self-determination, impact) measured using Spreitzer's Psychological Empowerment Scale (23); problem solving measured using an abbreviated version of Heppner's Problem Solving Inventory (34); and physical and mental health measured using the SF-8 Health Survey (35).

Context-level variables.

Contextual variables investigated were: adequate orientation (single item on the TREC survey), dementia-related responsive behaviours (six items on the TREC survey), and the 10 scales of the 53-item Alberta Context Tool (ACT). The ACT is a survey

designed to measure modifiable elements of organizational context (30). It is comprised of 10 concepts: leadership, culture, evaluation (feedback of data), social capital, organizational slack (composed of 3 concepts: staff, time, space), formal interactions, informal interactions, and structural and electronic resources. The ACT, originally developed for use in acute care hospitals (36), was modified for and produces reliable and valid scores when used in residential LTC (37).

Statistical analysis.

Descriptive statistics were used to determine the level of job satisfaction among allied healthcare providers, as well as to create a profile of the sample, including demographic, individual, and context variables. Means and standard deviations were used for all interval-level variables and frequency counts and proportions were used for all categorical-level variables. All variables that were significantly associated with job satisfaction in the bivariate analyses ($p \leq .05$) were entered into a General Estimating Equation (GEE) model. Since TREC data have a natural hierarchical structure and allied healthcare provider responses within a facility may be correlated, we used GEE modeling to account for any possible clustering of the data (38). The model was run with listwise deletion of missing cases. The significance level was $p < .05$ for all analyses. All analyses were performed using IBM SPSS Statistics for Mac, v21.0 software (Chicago, IL, USA).

Ethics approval.

We obtained ethics approval from the Research Ethics Boards at the University of Ottawa (File # H08-17-07).

Results

Demographic characteristics.

A total of 334 allied health professionals from 77 residential LTC facilities participated in the TREC program (Table 2). Most participants were women (84.1%) and worked in large facilities (54.8%). The largest age group was 50-59 years of age (26.9%). The most common allied health roles were recreation therapist assistant/attendant/aide (21.0%), recreation therapist (20.1%), rehabilitation therapist (18.0%), and rehabilitation therapist assistant/attendant/aide (15.3%). Social workers (10.2%), dieticians (7.2%), and clinical pharmacists (0.9%) were also represented in our sample.

Bivariate and multivariate analysis.

The mean job satisfaction score was 4.20 (*SD* = .66). The bivariate analysis showed 22 of 33 (67%) variables identified as potentially important to allied healthcare provider job satisfaction based on past empirical studies and theory were significantly associated with job satisfaction in our sample (Table 3). These variables, along with primary role, were included in the subsequent GEE model (Table 4).

In the final GEE model, eight variables predicted job satisfaction; five variables were individual level and the remaining three variables were organizational context concepts. At the individual level, higher burnout-cynicism ($\beta = -.113$, $p = .001$) and the competence subscale of psychological empowerment ($\beta = -.224$, $p = < .001$) predicted lower job satisfaction. Three components of psychological empowerment were predictive of job satisfaction, with higher empowerment being associated with higher job satisfaction: empowerment-meaning ($\beta = .232$, $p = .001$), empowerment-self-determination ($\beta = .128$, $p = .005$), and empowerment-impact ($\beta = .110$, $p = .014$). Three

organizational context concepts predicted job satisfaction: social capital, organizational slack-time, and adequate orientation. Higher scores on organizational slack-time (β = .096, p = .029), social capital (β = .158, p = .012), and adequate orientation (β = .088, p = .005) predicted higher job satisfaction levels.

Discussion

This study sought to identify factors affecting job satisfaction among a wide variety of allied healthcare providers in residential LTC. Multivariate analysis revealed that five individual-level variables and three organizational context variables predicted allied healthcare provider job satisfaction in LTC settings. Consistent with previous studies (16,38), demographic variables were not predictive of allied healthcare provider job satisfaction.

Individual-level factors.

In the present study, five individual-level variables predicted job satisfaction among allied healthcare providers in LTC settings, with psychological empowerment-competence and burnout-cynicism predicting lower job satisfaction and psychological empowerment-meaning, -self-determination, and -impact predicting higher job satisfaction. To the best of our knowledge, this is the first study to show that burnout-cynicism affects allied health professionals' job satisfaction in LTC settings.

Psychological empowerment.

Largely consistent with Spreitzer's Theory of Psychological Empowerment (21–23), which suggests that high levels of psychological empowerment promote job satisfaction, three subscales of Spreitzer's Psychological Empowerment Scale (23) predicted allied healthcare provider job satisfaction. This finding is in line with previous

research on allied health provider job satisfaction in LTC settings (16–18,39). Greater autonomy (16,18) and ability to contribute to decision making (17) have long been shown to promote job satisfaction among allied health professionals. For example, Tourangeau and colleagues (39) found that higher job satisfaction among allied healthcare providers was associated with higher psychological empowerment and higher sense of personal accomplishment, and that lower levels of autonomy on the job were positively correlated with intention to leave. According to Gleasonwynn and Mindel (16), allied health professionals who know their role responsibilities and how to accomplish their duties should be given freedom and flexibility when making decisions regarding how to do their job.

Our findings in relation to greater empowerment being predictive of higher job satisfaction also reflect research on allied healthcare providers working in non LTC settings. In a literature review of factors promoting retention of rural and remote allied health professionals, Campbell and colleagues (40) found that autonomy was a positive intrinsic incentive promoting retention, which is also related to job satisfaction. Similarly, in a study examining aspects of allied healthcare providers' jobs that contribute to job satisfaction and intention to leave a metropolitan hospital, Wilson and colleagues (41) found a significant negative correlation between factors related to psychological empowerment, including autonomy and accomplishment, and their intention to leave their job. These findings support the notion that autonomy to make decisions about how to do one’s work results in a sense of ownership, which may explain why higher empowerment is predictive of higher job satisfaction among allied healthcare providers.

Further research exploring the causal pathway between empowerment and job satisfaction is warranted.

Burnout-cynicism.

In the present study, the cynicism dimension of burnout predicted lower job satisfaction. Cynicism measures the indifference or a distant attitude that individuals may feel toward their work. To the best of our knowledge, this is the first study to identify cynicism as a factor affecting job satisfaction among allied health professionals in LTC facilities. However, studies have found that other dimensions of burnout are associated with reduced job satisfaction among allied health professionals. In a study of factors affecting job satisfaction in LTC facilities among allied health workers, Tourangeau et al. (39) found that higher burnout-exhaustion, which measures how overextended and exhausted one is by one's work, and higher burnout-depersonalization, which measures an impersonal response toward recipients of one's service, care treatment, or instruction, were associated with lower job satisfaction.

The relatively limited time allied healthcare providers spend with residents in LTC may contribute to their perception of cynicism regarding their ability to effectively meet patients' needs. In addition, allied health professionals in LTC facilities tend to focus on delaying the onset of immobility and easing discomfort as opposed to therapeutic progress for physical therapy and related concerns, which may further contribute to allied healthcare providers sense that they may not be putting in enough time (42). Indeed, Balogun et al. (42) argued that poor treatment outcomes in working with individuals with chronic conditions, lack of organizational slack time, lack of peer and supervisors' support, inadequate resources, and interprofessional conflicts contribute

to burnout among allied health professionals. Balogun et al. (42) found significant relationships between allied healthcare providers relationships with peers and supervisors and burnout. They found that support from supervisors explained 7.0% of the variance in emotional exhaustion and support from colleagues accounted for 9.6% of the variance in cynicism. Thus, the requirements for emotional labour may be lower for allied healthcare providers but frustration and cynicism due to prolonged and poor treatment outcomes may be higher, reducing the impact of emotional exhaustion on their job satisfaction while increasing the impact of cynicism. Taken together, these findings suggest that burnout-cynicism is an important factor affecting job satisfaction among allied healthcare providers in LTC facilities that needs addressing.

Context-level factors.

In the present study, three context variables positively predicted job satisfaction among allied healthcare providers in LTC facilities: social capital, organizational slack-time, and adequate orientation. To the best of our knowledge, this is the first study to show organizational slack-time and adequate orientation affect job satisfaction among allied healthcare staff in LTC facilities.

Formal interactions and social capital.

The present study identified social capital (defined as the stock of active connections among colleagues) as a significant positive predictor of job satisfaction among allied health professionals. This is in line with Kanter's (20) theory of structural conditions necessary for job empowerment and job satisfaction, which proposes that informal power derived from relationships with superiors, peers, and subordinates promotes job satisfaction. In addition, these findings are consistent with previous studies.

For instance, Wilson et al. (41) and Rodwell, Noblet, Demire and Steane (43) found that communication and support from the manager were significantly correlated with intention to stay and job satisfaction among allied healthcare providers; and Gleasonwynn and Mindel (16) who found that peer support, emotional support, and morale enhancement improved job satisfaction among LTC allied healthcare providers. Finally, Stagnitti, Schoo, Dunbar and Reid (44) also found that when allied healthcare providers felt supported in the workplace, they expressed higher intention to stay. The importance of communication among colleagues may be particularly salient for allied healthcare providers given there are relatively few allied health professionals employed in a single LTC facility compared to other care provider groups like nurses and healthcare aides. Further, allied healthcare providers tend to move around units or floors in a facility more than other care providers in the same facility, which leaves limited opportunity for peer support (16). Collins et al. (45) found that job satisfaction depended on participants' integration within their own professional group and with colleagues in other fields. Integration into the work milieu was an important component of job satisfaction for all respondents.

The concept of *esprit de corp*, defined as "feelings of group belonging and solidarity derived from a sense of the position nurses occupy as a subordinate collective within the healthcare system" (46, p336), may also explain the importance of social capital for allied healthcare providers. Miller et al. (46) found that feelings of professional solidarity among nurses were interpreted negatively by other professionals. As a result, social capital, which may indicate the extent to which allied healthcare providers are integrated into the facility and the extent of interprofessional collegiality,

may be more important than unit or facility culture for this population. For allied healthcare providers, who may be excluded from the *esprit de corps* of the nursing groups (46), integration and interprofessional communication, particularly with nursing staff, may play an important role in job satisfaction. Taken together, the present findings suggest that support provided through social connections and social capital among allied healthcare providers and between allied healthcare providers and nursing staff may enable the former to receive better emotional support, boosting morale and job satisfaction.

Adequate orientation.

The present study also identified adequate orientation as a significant predictor of allied healthcare provider job satisfaction. Adequate job orientation refers to an individual's perception of whether they have had enough on-the-job orientation and training to carry out their job safely and effectively. Kanter (20), in the Theory of Structural Empowerment, posits that access to information (e.g., technical knowledge, data, expertise) to function effectively in one's position is important to job satisfaction. Though not directly assessing job satisfaction, Stagnitti et al. (44) found that allied health professionals who were given orientation to their primary position were more likely to express intention to stay longer in the job. It is possible that the lack of adequate job orientation contributed to lower job satisfaction by increasing stress and time required to work out proper protocols. We recently conducted a similar analysis on nurses (Aloisio et al. (47), manuscript in review) and found that adequate orientation was also a significant predictor of job satisfaction among regulated nurses. Among nurses, perception of inadequate training is shown to leave nurses feelings unprepared and overwhelmed about

their responsibilities (48,49). Lack of clarity about one's role contributes to confusion (50), likely adversely affecting job satisfaction among allied health professionals.

Organizational slack-time.

In the present study, perceptions of a lack of organizational slack - time, which refers to the perceived availability of time to provide resident care and share best practice knowledge, was a predictor of lower job satisfaction among allied healthcare providers. While, to the best of our knowledge, organizational slack-time has not been assessed in any of the previous studies on allied healthcare provider job satisfaction, it may be that limited time with each patient contributes to job dissatisfaction by increasing burnout-cynicism resulting from insufficient time to complete job duties, particularly given the long timescales that may be required for treatment among this population (42). Kanter (20) argues that access to resources, including time to accomplish organizational goals, is an important component of job satisfaction. Our results with respect to slack-time are also consistent with research showing that insufficient time with residents increases stress, which may contribute to poorer job satisfaction. For instance, in a qualitative study of retention among allied health workers in rural areas, O'Toole, Schoo, and Hernan (51) found limited time to do administrative work reduced healthcare providers' intention to stay. Our findings, in conjunction with past research in the field, suggests increasing allied health care providers organizational slack-time as a means of promoting their job satisfaction.

Strengths and Limitations

Strengths.

The study has important strengths. It is the first study to evaluate, using multivariate analysis, a large variety of factors, individual and organizational, affecting job satisfaction among a relatively large sample of allied health care providers in residential LTC settings. Data was collected from a random stratified sample of LTC facilities using well-validated responses with a high degree of quality assurance processes. Additionally, secondary analyses, such as this one, are time- and cost-effective, as resources do not need to be expended on collecting data. They also serve as a useful exploratory tool.

Limitations.

The cross-sectional nature of the analysis limits our ability to assess whether temporal changes in organizational context affect allied healthcare providers' job satisfaction. As this is a secondary analysis, the data did not contain all of the variables of interest identified in the literature, e.g., levels of administrative duties (17), contextual variables such as less routinization (18), satisfaction with residents and residents' families (16), and promotional opportunities (18).

Conclusion

The results of the present study suggest that both individual-level and organizational context variables predict job satisfaction among allied healthcare providers in residential LTC facilities. Consistent with Spreitzer's Theory of Psychological Empowerment, high levels of psychological empowerment were predictive of job satisfaction in the present study. Our findings suggest that efforts to provide adequate orientation and improve social capital and organizational slack-time to allied healthcare providers hold potential to improve their job satisfaction, which may result in lower staff

turnover and better quality of care to residents. Future research is needed to identify causal pathways leading to improved job satisfaction. Future studies should also examine strategies to improve the modifiable context factors identified in this study and then evaluate whether those strategies lead to improvements in job satisfaction among allied healthcare providers in residential LTC.

Table 5-1 Descriptions of Variables in TREC 2.0 Relevant to Present Study

Category	Variable	Definition	Measurement	Cronbach's Alpha
Demographic Characteristics	Gender	An individual's gender	Asked for their gender: male or female	N/A
	Age group	An individual's age group	Asked to indicate age group according to a category (<20 years, 20-29, 30-39, etc.)	N/A
	Highest Education	Level of education obtained	Asked to answer yes or no if completed diploma/certificate, bachelor's, or graduate degree	N/A
	Current Enrolment Status	Current enrolment in an educational program	Asked to answer: yes or no	N/A
	Years Worked in Current Role	Total years in current role	Asked for number of years and months worked in current role	N/A
	Years Worked in Facility	Total years worked on unit	Asked for number of years and months worked on unit	N/A
	Hours Worked	Average hours worked per week during a two-week period	Asked for number of hours in last typical two-week period	N/A
	Year of Licensure	Year the individual became licensed	Asked to indicate year of licensure	N/A
	Primary Role	An individual's primary role	Asked to select their primary role: rehabilitation therapist, clinical pharmacist, recreational therapist, social worker, dietician, rehabilitation therapist assistant/attendant/aid, recreational therapist assistant/attendant/aide, other	N/A
Individual-Level Factors	Burnout-Emotional Exhaustion	A debilitating psychological condition brought about by unrelieved work stress	Maslach Burnout Inventory General Survey (short form) (32). 3 items per subscale scored on a 7-point Likert frequency scale (never to daily). An overall score for each subscale is derived by taking the mean of 3 items	.806
	Burnout-Cynicism			.655
	Burnout-Efficacy			.674
	Job satisfaction*	An individual's perception of whether they are "satisfied" with their job	Michigan Organizational Assessment Questionnaire, Job Satisfaction Subscale (31). 3 items scored on a 5-point Likert agreement scale ranging from strongly disagree (1) to strongly agree (5). Overall score is derived by taking the mean of 3 items	.821

Category	Variable	Definition	Measurement	Cronbach's Alpha
	Work Engagement-Vigor	Work engagement refers to positive, fulfilling work-related state of mind, based on three subscales: vigor, dedication, and absorption	Utrecht Work Engagement Scale 9 (33). 3 items per subscale scored on a 7-point frequency rating scale ranging from 0 (never) to 6 (daily). An overall score is derived by taking the mean of the 9 items	.814
	Work Engagement-Dedication			.881
	Work Engagement-Absorption			.751
	Empowerment-Competence	Empowerment is defined as a motivational construct manifested in four cognitions: meaning, competence, self-determination, and impact, which reflects an active as opposed to passive attitude toward work	Spreitzer's Psychological Empowerment scale (23). 3 items per subscale scored on a 5-point Likert agreement scale, ranging from strongly disagree (1) to strongly agree (5). An overall score is derived by taking the mean of the 12 items	.831
	Empowerment-Meaning			.881
	Empowerment-Self-Determination			.931
	Empowerment-Impact			.751
	Problem Solving	The cognitive, affective and behavioural processes and to the particular set of skills people employ in order to find solutions for the challenges of everyday life	Heppner's Problem Solving Inventory (34). 10 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 10 items	.543
	Physical Health Status	An individual's perception of their health status over past 4 weeks	SF-8™ health survey (35). 8 items scored on 5- or 6-point scales depending on the item. Scoring is done using a proprietary algorithm obtained when permission to use the scale is granted to produce a summary mental and physical health score (0%-100%)	.855
	Mental Health Status			.839
Context-Level Factors	ACT: Leadership	Actions of leaders in an organization to influence change and practice; reflect emotionally intelligent leadership	The Alberta Context Tool (36,37,52). 6 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 6 items	.932

Category	Variable	Definition	Measurement	Cronbach's Alpha
	ACT: Culture	The way that "we do things" in our organizations and work units, items reflect a supportive work culture	6 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 6 items	.831
	ACT: Evaluation	The process of using data to assess team performance and to achieve outcomes in organizations or units	6 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 6 items	.919
	ACT: Social Capital	The stock of active connections among people. Connections are of 3 types: bonding, bridging, linking	6 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 6 items	.816
	ACT: Organizational Slack-Staffing	The cushion of actual or potential resources which allows an organization (unit) to adapt successfully to internal pressures for adjustments or to external pressures for changes	3 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 3 items	.591
	ACT: Organizational Slack-Time		4 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall score is derived by taking the mean of the 4 items	.742
	ACT: Organizational Slack-Space		2 items scored on a 5-point Likert agreement scale (strongly disagree to strongly agree). An overall is derived by taking the mean of the 2 items	.722
	ACT: Formal Interactions	Formal exchanges that occur between individuals working within an organization (unit) through scheduled activities that can promote the transfer of knowledge	4 items scored on a 5-point Likert frequency scale (never to almost always). Recode each of the 4 item scores to "0" (no interaction) and "1" (interaction). An overall score is derived by taking a count of the 4 recoded items	.832
	ACT: Informal Interactions	Informal exchanges that occur between individuals working within an organization (unit) that can promote the transfer of knowledge	9 items scored on a 5-point Likert frequency scale (never to almost always)/ Recode each of the 9 item scores to "0" (no interaction) and "1" (interaction). An overall score is derived by taking a count of the 9 recoded items	.803

Category	Variable	Definition	Measurement	Cronbach's Alpha
	ACT: Structural and Electronic Resources	The structural and electronic elements of an organization (unit) that facilitate the ability to assess and use knowledge	7 items scored on a 5-point Likert frequency scale (never to almost always). Recode each of the 7 item scores to 0 (no resource) or 1 (resource). An overall score is derived by taking a count of the 7 recoded items	.644
	Adequate Orientation	An individual's perception of whether they have had enough orientation to carry out their job effectively and safely.	A single item scored on a 5-point Likert agreement scale (strongly disagree to strongly agree)	N/A
	Dementia-related Responsive Behaviours	An individual's experience with violence and difficult behaviours from residents.	Sum of six items: threat of assault, emotional abuse, physical abuse, verbal sexual harassments, sexual assault, and force sexual intercourse. Each item was scored as yes or no based on if the respondent had experienced the behaviour during the last five shifts	N/A
Provincial/Facility Variables	Province	Province in which the residential LTC is located	British Columbia, Alberta, or Manitoba	N/A
	Owner-operator Model	Ownership and operation model of the facility	Public not-for-profit, private for-profit, or voluntary not-for-profit	N/A
	Facility Size	Total number of beds for residents in the facility	Sum of LTC beds and non-LTC beds (small: ≤79 beds, medium: 80-120 beds, large: >120 beds)	N/A

Note. Abbreviations: ACT, Alberta Context Tool; LTC, long-term care; NA, not applicable as single item.

Table 5-2 Comparison of Demographic Characteristics among Allied Health Professionals by Province (N=334)

		Province				χ^2 / ANOVA
		British Columbia *n=131*	**Alberta** *n=162*	**Manitoba** *n=41*	**Total** *n=334*	***p* value**[1]
Owner-operator model [n (%)]	Public not-for-profit	34 (26.0)	23 (14.2)	1 (2.4)	58 (17.4)	**0.003**[2]
	Private for-profit	54 (41.2)	69 (42.6)	18 (43.9)	141 (42.2)	
	Voluntary not-for-profit	43 (32.8)	70 (43.2)	22 (53.7)	135 (40.4)	
	Missing	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
Facility size [n (%)]	Small (≤79 beds)	21 (16.0)	26 (16.0)	4 (9.8)	51 (15.3)	**< 0.001**[3]
	Medium (80-120 beds)	64 (48.9)	25 (15.4)	11 (26.8)	100 (29.9)	
	Large (>120 beds)	46 (35.1)	111 (68.5)	26 (63.4)	183 (54.8)	
	Missing	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
Gender [n (%)]	Female	111 (84.7)	137 (84.6)	33 (80.5)	281 (84.1)	0.670
	Male	15 (11.5)	17 (10.5)	4 (9.8)	36 (10.8)	
	Missing	5 (3.8)	8 (4.9)	4 (9.8)	17 (5.1)	
Age group [n (%)]	<20 years	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0.493
	20-29 years	22 (16.8)	37 (22.8)	7 (17.1)	66 (19.8)	
	30-39 years	32 (24.4)	47 (29.0)	7 (17.1)	86 (25.7)	
	40-49 years	29 (22.1)	30 (18.5)	10 (24.4)	69 (20.7)	
	50-59 years	38 (29)	36 (22.2)	16 (39.0)	90 (26.9)	
	60-70 years	9 (6.9)	11 (6.8)	1 (2.4)	21 (6.3)	
	>70 years	1 (0.8)	1 (0.6)	0 (0.0)	2 (0.6)	
	Missing	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
Highest education [n (%)]	Diploma/certificate	60 (45.8)	55 (34.0)	20 (48.8)	135 (40.4)	**0.012**[4]
	Bachelor's degree	53 (40.5)	69 (42.6)	14 (34.1)	136 (40.7)	
	Graduate degree	15 (11.5)	28 (17.3)	3 (7.3)	46 (13.8)	
	Missing	3 (2.3)	10 (6.2)	4 (9.8)	17 (5.1)	
Current enrolment [n (%)]	Yes	11 (8.4)	11 (6.8)	3 (7.3)	25 (7.5)	0.873
	Missing	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
Primary role [n (%)]	Rehabilitation Therapist	25 (19.1)	32 (19.8)	3 (7.3)	60 (18.0)	**0.041**[5]
	Clinical Pharmacist	0 (0.0)	3 (1.9)	0 (0.0)	3 (0.9)	
	Recreational Therapist	27 (20.6)	26 (16.0)	14 (34.1)	67 (20.1)	
	Social Worker	9 (6.9)	18 (11.1)	7 (17.1)	34 (10.2)	
	Dietician	12 (9.2)	10 (6.2)	2 (4.9)	24 (7.2)	
	Rehabilitation Therapist Assistant/Attendant/Aide	18 (13.7)	27 (16.7)	6 (14.6)	51 (15.3)	
	Recreation Therapist Assistant/Attendant/Aide	30 (22.9)	37 (22.8)	3 (7.3)	70 (21.0)	
	Other	10 (7.6)	9 (5.6)	6 (14.6)	25 (7.5)	
	Missing	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
Hours worked in 2 weeks [Mean (SD)]		53.305 (24.584)	65.165 (19.536)	67.308 (19.113)	60.724 (22.403)	**< 0.001**[6]
Years worked in current role [Mean (SD)]		8.733 (8.841)	8.251 (8.253)	9.415 (8.170)	8.583 (8.457)	0.723
Years worked in facility [Mean (SD)]		5.136 (6.691)	7.179 (8.000)	7.810 (7.439)	6.414 (7.489)	**0.036**[7]

[1] Chi-square test was used to test statistical differences in categorical variables (owner-operator model, facility size, gender, age, highest education, primary role, current enrolment) and one-way ANOVA was used for quantitative (interval and ratio level variables – hours worked, years worked in current role, years worked in facility)
[2] Post-hoc test used was Bonferroni correction. No significant differences were found
[3] Post-hoc test used was Bonferroni correction. Significant differences were for the following facility size categories: medium (British Columbia compared to Alberta); large (British Columbia compared to Alberta)
[4] Post-hoc test used was Bonferroni correction. No significant differences were found
[5] Post-hoc test used was Bonferroni correction. Significant differences were between British Columbia and Alberta, and British Columbia and Manitoba
[6] Post-hoc test used was Bonferroni correction. No significant differences were found

Table 5-3 Average Scores for Study Variables

Category	Variable	*N*	Mean (*SD*)
Dependent Variable	Job Satisfaction	325	4.20 (0.660)
Independent Variables			
Demographic Characteristics	Hours worked in 2 weeks	323	60.72 (22.40)
	Time worked in current role	313	8.58 (8.46)
	Time worked in unit/nursing home	318	6.44 (7.49)
	Year Licensed	281	2002 (11)
Individual-Level Factors	Burnout: Emotional Exhaustion	322	1.85 (1.298)
	Burnout: Cynicism	318	1.67 (1.241)
	Burnout: Efficacy	321	4.74 (0.962)
	Work Engagement: Vigor	324	5.18 (0.911)
	Work Engagement: Dedication	325	5.45 (0.852)
	Work Engagement: Absorption	324	5.68 (0.575)
	Empowerment: Competence	324	4.38 (0.521)
	Empowerment: Meaning	322	4.48 (0.534)
	Empowerment: Self-Determination	324	4.10 (0.810)
	Empowerment: Impact	322	3.60 (0.674)
	Problem Solving	322	3.91 (0.377)
	Physical Health Status	322	51.58 (7.590)
	Mental Health Status	322	49.41 (9.765)
Context-Level Factors	Leadership	332	3.84 (0.853)
	Culture	331	3.95 (0.621)
	Evaluation	333	3.59 (0.774)
	Social Capital	323	3.93 (0.521)
	Organizational Slack-Staffing	325	2.57 (0.963)
	Organizational Slack-Space	320	3.77 (1.021)
	Organizational Slack-Time	320	2.99 (0.682)
	Formal Interactions	323	1.34 (1.274)
	Informal Interactions	314	4.08 (2.272)
	Structure and Electronic Resources	317	3.84 (2.017)
	Adequate Orientation	325	3.73 (0.981)
	Dementia-Related Responsive Behaviours	325	1.80 (1.523)

Table 5-4 Bivariate Analysis – Allied Health Professionals

	Variable	correlation coefficient	*p* value	Sample Size (*n*)
Demographic Characteristics	Gender		.102[1]	309
	Age group		.771[2]	325
	Highest Education		.123[2]	325
	Current Enrolment		.529[1]	325
	Primary Role		.465[1]	325
	Hours worked in 2 weeks	-.058	.308[3]	315
	Time worked in current role	-.006	.915[3]	304
	Time worked in unit/LTC	.020	.722[3]	309
	Year Licensed	-.050	.408[3]	277
Individual-Level Factors	Burnout: Emotional Exhaustion	-.471**	**< .001**[3]	322
	Burnout: Cynicism	-.548**	**< .001**[3]	318
	Burnout: Efficacy	.292**	**< .001**[3]	321
	Work Engagement: Vigor	.489**	**< .001**[3]	324
	Work Engagement: Dedication	.499**	**< .001**[3]	325
	Work Engagement: Absorption	.391**	**< .001**[3]	324
	Empowerment: Competence	.114*	**.040**[3]	324
	Empowerment: Meaning	.418**	**< .001**[3]	322
	Empowerment: Self-Determination	.495**	**< .001**[3]	324
	Empowerment: Impact	.420**	**< .001**[3]	322
	Problem Solving	.122*	**.029**[3]	321
	Physical Health Status	.055	.327[3]	322
	Mental Health Status	.268**	**< .001**[3]	322
Context-Level Factors	Leadership	.424**	**< .001**[3]	324
	Culture	.572**	**< .001**[3]	323
	Evaluation	.352**	**< .001**[3]	324
	Social Capital	.469**	**< .001**[3]	323
	Organizational Slack-Staffing	.266**	**< .001**[3]	325
	Organizational Slack-Space	.220**	**< .001**[3]	320
	Organizational Slack-Time	.350**	**< .001**[3]	320
	Formal Interactions	.103	.064[4]	323
	Informal Interactions	.149**	**.008**[4]	313
	Structure and Electronic Resources	.170**	**.002**[4]	317
	Adequate Orientation	.348**	**< .001**[3]	325
	Dementia-related Responsive Behaviours	-.071	.200[4]	325

**. Mean difference is significant at the .01 level (2-tailed).
*. Mean difference is significant at the .05 level (2-tailed).
[1] Independent Samples T-test
[2] One-way ANOVA
[3] Pearson's *r*
[4] Spearman *rho*

Table 5-5 GEE Model: Allied Health Professionals (N=288)

Category	Variables	β	SE	95% CI	*p* value
	Intercept	1.112			.034
Individual-Level	Burnout: Emotional Exhaustion	-.042	.0293	-.100 – .015	.150
Factors	Burnout: Cynicism	-.113	.0338	-.179 – -.046	**.001**
	Burnout: Efficacy	.013	.0344	-.054 – .081	.699
	Work Engagement: Vigor	.079	.0544	-.028 – .185	.148
	Work Engagement: Dedication	.025	.0717	-.116 – .165	.732
	Work Engagement: Absorption	.061	.0746	-.085 – .207	.414
	Empowerment: Competence	-.224	.0608	-.343 – -.105	**< .001**
	Empowerment: Meaning	.232	.0725	.090 – .374	**.001**
	Empowerment: Self-Determination	.128	.0460	.038 – .219	**.005**
	Empowerment: Impact	.110	.0448	.022 – .197	**.014**
	Problem Solving	.015	.0752	-.132 – .163	.839
	Mental Health Status	-.004	.0038	-.011 – .004	.318
Context-Level	Leadership	.060	.0394	-.017 – .137	.129
Factors	Culture	.097	.0666	-.034 – .228	.145
	Evaluation	-.034	.0415	-.115 – .047	.414
	Social Capital	.158	.0632	.034 – .282	**.012**
	Organizational Slack-Staffing	-.021	.0314	-.082 – .041	.511
	Organizational Slack-Space	-.015	.0247	-.064 – .033	.538
	Organizational Slack-Time	.096	.0439	.010 – .182	**.029**
	Informal Interactions	-.008	.0141	-.035 – .020	.587
	Structural and Electronic Resources	-.009	.0166	-.042 – .023	.571
	Adequate Orientation	.088	.0314	.027 – .150	**.005**

QIC: 103.181
QICC: 96.712
β = standardized coefficient; CI = confidence interval; SE = standard error

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Chapter 6

Integrated Discussion

Thesis Summary

The aim of this thesis was to identify factors affecting job satisfaction among regulated nurses (RNs and LPNs) and allied health professionals in LTC facilities. A literature review of factors affecting job satisfaction in LTC facilities was completed (Chapter 2). Chapter 3 detailed the methods of the studies presented in this thesis. This was followed by a secondary analysis to identify the main contributors to job satisfaction in regulated nurses and allied health professions, the data for which is presented in Chapters 4 and 5, respectively. This chapter will summarize the findings in the previous chapters, provide an integrated discussion of important findings, and discuss important implications for nursing practice, policy, and research. Strengths and limitations of the thesis project, as well as directions for future research will also be addressed.

Summary of Thesis Findings

Manuscript one: Regulated nurses.

Using data from the TREC survey (1), I conducted a secondary analysis of data collected from 756 regulated nurses (448 LPNs and 308 RNs). Of the 36 variables 27 were found to be significantly related to job satisfaction in the bivariate analysis. These variables and primary role were included in the GEE model. The GEE model revealed that four individual-level variables (burnout - emotional exhaustion, psychological empowerment - meaning, work engagement - vigor, and work engagement - dedication) and three context-level variables (organizational slack-space, adequate

training/orientation, culture) significantly predicted job satisfaction in this population. Demographic-level variables were not predictive of job satisfaction. Consistent with previous research, these findings highlight the importance of burnout, empowerment, engagement, space, adequate training, and culture in job satisfaction.

Manuscript two: Allied health professionals.

In the second study, a secondary analysis was conducted with TREC survey data collected from 334 allied health professionals. Of the 34 variables, 22 were found to be significantly related to job satisfaction in the bivariate analysis. These variables were included in the GEE model. The GEE model showed that five individual-level variables (burnout - cynicism, psychological empowerment - meaning, psychological empowerment - competence, psychological empowerment - impact, and psychological empowerment - self-determination), and four context-level (social capital, formal interactions, adequate orientation, and organizational slack-time) were significantly associated with job satisfaction among allied health professionals in LTC facilities. None of the demographic-level variables were predictive of job satisfaction. Taken together, these findings confirm the importance of burnout, work empowerment, social capital, adequate orientation, and time in allied health professionals' job satisfaction.

Integrated Discussion

Level of job satisfaction in the present thesis.

Participants in the present study were fairly satisfied with their job, with both nurses and allied health professionals averaging above 4.0 on a 5.0 Likert-type job satisfaction scale. Comparison to job satisfaction levels in other studies is complicated by use of different scales; however, when considering the average percent satisfaction, these

results are slightly higher than some previously reported job satisfaction values among regulated nurses in LTC facilities (2–6) and allied health professionals in LTC facilities (7–9), but consistent with other studies of job satisfaction among nurses in LTC facilities (10–17).

Demographic variables.

My finding that demographic variables were not predictive of job satisfaction is consistent with previous studies of nurses and allied health professionals in LTC facilities. Specifically, previous studies have found that age (12,18–20), gender (4,10,14), educational attainment (10,18,19), time worked on unit (10,12,21), hours worked per week (10,11,14), and employment status (4,21) were not associated with job satisfaction. That many demographic variables were significantly related to job satisfaction in the bivariate analysis but none were predictive of job satisfaction in the multivariate analysis suggests that individual-level and context-level factors play a more important role in affecting job satisfaction. This may be because individual- and context-level factors more directly affect employees' daily work-life experiences, setting the tone and overall atmosphere of their work environment. For factors that were not significant in the bivariate analysis, it may be that while demographic variables affect an individual's job satisfaction, the direction of the relationship between a demographic variable and job satisfaction differs among individuals such that no clear relationship can be discerned.

Culture, social capital, formal interactions, and leadership.

In the present study, culture, social capital, and formal interactions, but not leadership, were found to affect job satisfaction. In the literature review, leadership was found to be a significant predictor of job satisfaction in seven out of seven studies that

examined leadership (4,11,13,18,21–23). Thus, it was surprising that leadership, though significant in the bivariate analysis, was not a significant predictor of job satisfaction among regulated nurses and allied health professionals. However, it may be that the effect of leadership on job satisfaction is embedded or reflected in other context-level variables that were shown to be predictive of job satisfaction. Specifically, among regulated nurses, culture was found to be a significant predictor of job satisfaction, while for allied health professionals, social capital and formal interactions predicted of job satisfaction. As culture, social capital, and formal interactions are all components of context, it may be that these factors mediate the relationship between leadership and job satisfaction, such that good leadership promotes a positive culture, high social capital, and effective formal interactions, thereby fostering job satisfaction.

Culture, social capital, and formal interactions may be broadly grouped under "social integration," which refers to "connectedness with or caring about fellow workers" (24, p140). It may be that culture and social capital supersede leadership such that poor leadership may be compensated for through social integration (25,26). Alternatively, good leadership may be necessary to create an environment with a positive culture, social capital, and interactions. For instance, as argued by McColskey (24), it may be that good leaders create a general ambience on a unit through interactions of many factors that in turn improve culture and social capital.

In a study of nurses and allied health professionals, Collins et al. (27) found that job satisfaction depended on participants' integration within their own professional group and with colleagues in other fields. Integration into the work milieu was an important component of job satisfaction for all respondents. Nearly three decades ago, in a survey

of 150 nurses in a Midwestern Hospital, McColskey (24) found that autonomy and social integration were important for job satisfaction, with the latter especially effective in cushioning the negative effects of low autonomy.

The concept of esprit de corp, defined "as feelings of group belonging and solidarity derived from a sense of the position nurses occupy as a subordinate collective within the healthcare system" (28, p336), may simultaneously explain the importance of culture for nurses and social capital and formal interactions for allied health professionals. Miller et al. (28) found that feelings of professional solidarity among nurses were interpreted negatively by other professionals. As a result, social capital and formal interactions, which may indicate the extent to which allied health professionals are integrated into the facility and the extent of interprofessional collegiality, may be more important than unit culture for this population. Conversely, that nurses tend to work more collaboratively than do allied health professionals may promote cohesive professional identity and esprit de corps. This may increase the importance of culture relative to social capital and formal interactions, particularly with respect to other professionals. For allied health professionals, who may be excluded from the esprit de corps (28), integration and interprofessional communication, particularly with nurses, may thus play an important role in job satisfaction.

Emotional exhaustion and cynicism.

In the present study, emotional exhaustion and cynicism affect job satisfaction in regulated nurses and allied health professionals, respectively. In the literature review, burnout was found to be a significant predictor of job satisfaction in three out of three studies that examined this factor (2,23,29). In the present thesis, I found that the

emotional exhaustion subscale of burnout was a significant predictor of job satisfaction among regulated nurses. Conversely, the cynicism component of the burnout scale was significant for allied health professionals.

Within LTC facilities, regulated nurses tend to spend more time with patients than do allied health professionals. As a result, it may be that regulated nurses engage in more emotional labour than do allied health professionals. Emotional labour refers to having to induce or suppress feelings "in order to sustain the outward countenance that produces in others the sense of being cared for in a convivial and safe place" (30, p7). Individuals in caregiving professions such as nursing are more likely to experience emotional exhaustion because they are required to regulate their emotions on their job (31). Given that emotional labour contributes to emotional exhaustion and job dissatisfaction (32,33), it may be that regulated nurses experience more emotional exhaustion due to increased demands for emotional regulation. This is consistent with Tourangeau, Widger, Cranley, Bookey-Bassett and Pachis (34), who found that unlicensed aides working in LTC facilities (e.g., physiotherapy assistants, occupational therapy assistants, reactionation therapy asistants, and personal support workers) had significantly lower levels of emotional exhaustion (34). It is possible that the lack of association between emotional exhaustion and job satisfaction among allied health professionals in the present study was, at least in part, due to the inclusion of aides and assistants in the allied health professionals group.

On the other hand, the relatively limited time allied health professionals spend with patients may contribute to a sense of cynicism regarding their ability to effectively meet patients' needs. In addition, therapeutic progress for physical therapy and related

concerns tends to be slow, particularly among elderly residents in LTC facilities, which may contribute to allied health professionals' sense that they may not be putting in enough time (35). Indeed, Balogun et al. (35) posited that poor treatment outcomes in working with patients with chronic conditions, lack of organizational slack-time, lack of peer and supervisors' support, inadequate resources, and interprofessional conflicts contribute to burnout among allied health professionals. Balogun et al. (35) found significant relationships between allied health professionals' relationships with peers and supervisors and their levels of burnout. They found that support from supervisors explained 7.0% of the variance in emotional exhaustion and support form colleagues accounted for 9.6% of the variance in cynicism. Thus, the requirements for emotional labour may be lower for allied health professionals but frustration and cynicism due to prolonged and poor treatment outcomes may be higher, reducing the role of emotional exhaustion in affecting job satisfaction while increasing the role of cynicism.

Psychological empowerment.

All four components of psychological empowerment (competence, meaning, self-determination, and impact) were significant predictors of job satisfaction for allied health professionals whereas only the meaning subscale was important for regulated nurses. In the literature review, four out of five studies found that meaning was associated with job satisfaction (3,6,17,36,37). Among allied health professionals, three studies found that autonomy (9,38), greater job involvement (9), and ability to contribute to decision making (8) increased job satisfaction. It may be that psychological empowerment is not a priority for nurses because they may not expect it as a component of their job, whereas

allied health professionals, who typically work more independently, may expect higher levels of autonomy.

Among regulated nurses, it is also possible that role clarity may be a more important contributor to job satisfaction than psychological empowerment, as clarity regarding one's job responsibilities has previously been found to be more important than having decision-making autonomy (27). It may also be possible that there are significant differences between LPNs and RNs in terms of the role psychological empowerment has in affecting job satisfaction, as LPNs may not expect as much autonomy as RNs; however, because LPNs and RNs were combined in my analysis of factors affecting job satisfaction for regulated nurses, I was unable to distinguish any differences.

Work engagement.

Consistent with previous findings (10,39,40), I found that vigor and dedication were significantly associated with job satisfaction for regulated nurses. In a qualitative study, Venturato et al. (40) found that among nurses employed in LTC facilities, engagement with residents and families, as well as engagement with colleagues, was important for their sense of value and thus contributed to job satisfaction. Moreover, nurses' "ability to engage in creative and skillful practice" (40, p330) also contributed to a sense of value and was associated with a sense of satisfaction. Similarly, participants in the present study may have found that work engagement contributed to their sense of value within their organization. Interestingly, however, work engagement was not a significant predictor of job satisfaction among allied health professionals. To date, no studies were identified as examining work engagement among allied health professionals in LTC facilities. Thus, future research is warranted to examine the role of work

engagement in job satisfaction among nurses and allied health professionals in LTC facilities.

Adequate orientation.

Adequate job orientation was a significant predictor of job satisfaction for both allied health professionals and nurses. It is likely that adequate job training/orientation improved job satisfaction by leading regulated nurses and allied health professionals to feel capable and competent on the job, as this was found by Collins, Jones, McDonnell, Read and Cameron (27). Furthermore, if adequate orientation/training improved competence, this finding may explain why the competence component of psychological empowerment was not a significant predictor of job satisfaction among regulated nurses.

Though not directly assessing job satisfaction, Stagnitti et al. (41) found that allied health professionals who were given orientation to their primary position were more likely to express intention to stay longer in the job. It is possible that the lack of adequate job orientation contributed to lower job satisfaction by increasing stress and time required to work out proper protocols. Among nurses, perception of inadequate training leaves staff feeling unprepared and overwhelmed about their responsibilities (42,43). Lack of clarity contributes to confusion (44), likely adversely affecting job satisfaction among allied health professionals.

Perception of a lack of adequate training may be due to limited on-the-job training, compounded by limited exposure to gerontological content in college or university (45,46). Limited training may leave staff feeling unprepared and overwhelmed about their roles and responsibilities (42,43). Lack of clarity about responsibilities may further contribute to confusion (44), likely adversely affecting job satisfaction among

nurses. However, to date, few studies have assessed adequate orientation in relation to job satisfaction in LTC facilities (10,14,47–49). It is likely that adequate job orientation improves job satisfaction by promoting nurses' sense of competency and knowledge of job-related tasks (27). Supporting this, Proctor et al. (49) found increased levels of psychological distress among LTC-employed nurses who did not receive training or support as compared to those who did. Likewise, in a Swedish study, Alfredson and Annerstedt (47) found that LTC staff who received specific training on dementia topics had improved job satisfaction. Among nurses working with dementia patients in LTC facilities, inadequate training regarding dementia care increases stress and lowers job satisfaction (10,48). These studies support the notion that inadequate knowledge about how to care for residents, handle difficult resident behaviours, or resolve conflicts increases nurses' job strain and lowers job satisfaction.

Adequate orientation reflects organizational quality environment (50) and promotes the process of organizational acculturation (26,51). During the training period, nurses "build collegial relationships, find access to resources, and develop competence in patient care and independence in their job" (52, p417). During this period, nurses also improve their ability to care for residents and manage conflicts. Increased gerontological preparation during nursing school or on-the-job training increases job satisfaction, empowerment, and competency among nurses in LTC facilities (53,54), thereby increasing quality of care delivered. This, in turn, reduces job stress and improves competence, thereby increasing job satisfaction. Thus, adequate training facilitates nurses' adaptation to their work environment (52), which likely reduces their work burden and improves job satisfaction.

Organizational slack time and space.

Organizational slack-time.

Organizational slack-time, which refers to availability of time to provide resident care and share best practice knowledge, was a significant predictor of job satisfaction among allied health professionals. While organizational slack-time was not assessed in any allied health studies identified in the literature review, it may be that limited time with each patient contributes to job dissatisfaction by increasing cynicism. Specifically, cynicism may increase due to insufficient time to complete job duties, which may be particularly stressful given the long timescales that may be required for treatment among this demographic (35).

Organizational slack-space.

Organizational slack-space, which refers to availability and use of adequate space to provide resident care and share best practice knowledge, was a significant predictor of job satisfaction among regulated nurses. Sufficient organizational space was found to be associated with higher levels of nurse job satisfaction in one study (55). Small, confined spaces and lack of privacy have been found to increase negative interactions and aggression among residents and between residents and staff (48,55,56). This, in turn, can increase stress among staff members who have to spend a lot of time intervening with conflicts (48). In environments with limited space, it is likely that nurses would be the ones who would bear the brunt of resolving conflict among residents and between residents and staff.

Implications for Practice

The findings of this thesis have implications for practice, education, policy, and research.

Implications for nursing practice.

The results of the secondary analyses in this thesis have implications for the advanced practice nurse (APN) employed in LTC facilities. APNs maximize the use of their graduate education and specialized nursing knowledge to meet the health needs of diverse clients, communities, and populations (57). The APN role entails four core competencies: direct clinical practice, research, leadership, and collaboration/consultation (57).

Nursing implications for improving job satisfaction in LTC facilities are acknowledged for each APN competency. For the direct clinical practice competency, APNs can develop new programs and policies that provide opportunities for staff to enhance their social capital; and plan, initiate, coordinate, and conduct training programs to ensure that regulated nurses and allied health professionals feel adequately trained for their roles. With regard to the research competency, APNs can evaluate current practices in the LTC setting based on the significant context-level factors identified in the current thesis (social capital, culture, adequate orientation, organizational slack-space, organizational slack-time); identify and implement research-based innovations for improving regulated nurses' and allied health professionals' job satisfaction aforementioned factors; and identify, conduct and support research that is aimed at identifying programs that improve regulated nurses' and allied health professionals' job satisfaction by addressing the factors that affect job satisfaction in LTC facilities. With

respect to leadership competencies, APNs should advocate for an organizational culture that supports continuous learning and collaborative practice; and assess the needs of regulated staff with respect to training, space, time, culture, and social capital to develop programs and resources to meet those needs. APNs should also encourage regulated nurses in LTC facilities to work toward obtaining the Gerontological Nursing Certificate offered by the Canadian Nurses' Association and helping them ensure that they meet the competencies outlined by the Canadian Gerontological Nursing Association. Finally, for the collaboration and consultation competency, APNs should consult and collaborate with members of the healthcare team to develop programs and/or policies that address training and interaction needs among RNs, LPNs, and allied health professionals in LTC facilities.

Implications for education.

Increase gerontological and leadership training in entry-to-practice programs.

In LTC facilities, regulated nurses are responsible for supervising and managing nurse aides, who provide the vast majority of care in these facilities (58). Given that nurse aides have limited education and most regulated nurses have inadequate training in gerontology (59–61) and in leadership (62,63), it is possible job satisfaction among regulated nurses is influenced by the dual need to manage and educate nurse aides and to provide care to residents. Lack of training in gerontology and in leadership may negatively affect regulated nurses' sense of psychological empowerment and work engagement, reducing their job satisfaction. Thus, the findings of the present thesis suggest that there may be a need to improve 1) the quality and quantity of gerontological content in entry-to-practice programs and 2) the quality and quantity of leadership

training to ensure that regulated nursing staff are adequately prepared for their roles and responsibilities in an LTC facility.

Gerontological training.

A Canadian-wide survey of undergraduate nursing programs conducted between 1999 and 2000 found that fewer than 6.0% of faculty had educational backgrounds in gerontology (46). Similarly, in 2008, a survey of both undergraduate nursing and social work programs found that only 2.4% and 6.0% of faculty with master's and doctoral degrees, respectively, had a gerontological focus (45). These findings suggest that there has been little improvement in the percentage of faculty with gerontological expertise, which may adversely affect the quantity and quality of content taught to undergraduate nursing students. Supporting this, Hirst et al. (45) found that while 35% of schools had completed curriculum projects with a gerontological focus, 79% of faculties/departments reported that gerontological content was largely integrated within the general baccalaureate curriculum, suggesting insufficient focus is being placed on gerontology.

More recently, in a survey of program faculty and administrators, representing 76 healthcare entry-to-practice programs (including nursing and diverse allied health programs), McCleary, Boscart, Donahue and Harvey (64) found that only 52% of programs had a required course on seniors' care, gerontology, or geriatrics, and the same percentage had a required practicum or clinical experience focusing on seniors' care, gerontology, or geriatrics. McCleary and colleagues (64) further found that just over 50% of teaching faculty agreed that their programs provided graduates with the necessary competencies to provide gerontological care, and 64% of education administrators agreed that gerontological context in their programs could be enhanced. Thus, while Hirst et al.

(45) report that certain progress is being made to promote gerontological content in Canadian nursing programs, more improvements are necessary to make sure that graduating nurses have the knowledge and skills required to work in LTC facilities. Given the importance of adequate training in fostering health professionals' sense of competency and empowerment (53), and given the relationship between empowerment and job satisfaction (3,37), one of the implications of the present findings, particularly in light of the current status of gerontological education, is the need to enhance gerontological training in entry-to-practice programs.

Leadership training.

While leadership was not identified as a factor affecting job satisfaction in the present study, nursing leadership has been shown to promote factors identified in the present study as influencing job satisfaction, including enhanced organizational/work climate (65–67) and work engagement/burnout (68). If conceptualized "as a set of skills and attributes associated with the ability to effect change at all levels within an organization" (69, p188), then it is clear how enhancing leadership—among regulated nurses, allied health professionals, and management—could improve unit culture, employees' social capital, and communication and promote psychological empowerment and work engagement. Therefore, an important implication of the present findings is the need to promote effective nurse leadership training programs in LTC facilities, as there is some evidence that enhancing leadership skills among directors of nursing homes and regulated nurses improves psychological empowerment and work engagement, and reduces burnout (68).

Within LTC facilities, the roles of regulated nurses are substantial and multifaceted, and include significant leadership and management responsibilities. Regulated nurses, who are often the most highly credentialed staff in LTC facilities, are expected to provide expertise in resident assessments, care planning, provision of care, and organizational decision making pertaining to resident care (70). In addition, they are expected to mentor and lead unregulated care aides and other healthcare support staff (71). While most regulated nurses receive some education on leadership during their undergraduate training, studies have found that nursing graduates often feel that that they do not have adequate leadership skills required for their roles within LTC facilities (62,63,72). Newly hired LTC regulated nurses report feeling unclear about their role expectations and responsibilities (73). Many also report difficulty meeting clinical and supervisory expectations (73). This is likely because educational training for regulated nurses does not address the full scope of roles and responsibilities that regulated nurses working in LTC facilities will have. Moreover, the leadership training that is provided is often not specific enough or tailored to the needs of nurses working in LTC facilities (74).

Given the lack of adequate leadership training in nursing entry-to-practice programs and the role that leadership training has in improving employees' confidence and job satisfaction, the findings of the present study imply that more leadership training that is specifically tailored to the needs of nurses employed in LTC facilities is required, such as information about how to lead unregulated care workers, both in nursing programs and as part of orientation training or continuing education for regulated nurses employed in LTC facilities. The role of work engagement, social capital, culture, and

psychological empowerment on nurses' and allied health professionals' job satisfaction identified in the present study suggests it is particularly important that leadership enhancement programs include content on interpersonal skills, including communication and conflict resolution skills, as well as skills to inspire and motivate employees (69). Arguably, such skills would improve nurses' sense of self-efficacy and promote work engagement. While the evidence for effective leadership programs in LTC facilities is weak, existing evidence suggests that multi-day workshops or ongoing programs are more effective than single-day workshops in ensuring long-term maintenance and practice of the acquired leadership skills (69). Leadership enhancement programs, such as LEAP (Learn, Empower, Achieve, and Produce), have been shown to increase work empowerment, work effectiveness, leadership effectiveness, and organizational climate, ultimately enhancing job satisfaction among nursing staff (65). LEAP is a workforce initiative aimed for nurses working in LTC facilities that seeks to educate, empower, and train nurse managers and regulated staff. Implementation of the LEAP program has been found to promote a positive organizational climate, increase work empowerment, enhance leadership effectiveness, and promote job satisfaction (65). In addition to leadership training programs, Harvath et al. (69) suggest ongoing mentorship and guidance are necessary to ensure the maintenance of learned leadership skills.

Design and implement preceptorship, internship, and residency programs.

Nursing education programs are not adequately preparing regulated nurses for their roles in LTC facilities (62,69,72,74). The gaps in knowledge may lead nurses to experience frustration and stress, reducing their work engagement and psychological empowerment, leading to burnout and job dissatisfaction (53). Preceptorships and

mentoring may promote job satisfaction by increasing employees' work engagement, perception of self-efficacy, and feelings of competence. Prentice, Boscart, McGilton and Escrig (54) suggest nurse residency programs as a way to promote nurses' knowledge and reduce the gap between nurses' expectations and the reality of the work environment.

Nurse residency and internship programs in LTC facilities have been shown to promote job satisfaction (75–77). Altier and Kresk (75) examined the effects of a 1-year residency program on nurses' job satisfaction. The authors found that job satisfaction scores remained relatively constant during the first year. Given that job satisfaction scores typically decrease during the first year as "reality sets in" and "dissatisfaction occurs" (75, p76), the stability of the job satisfaction scores among participants of the residency program suggests that the intervention promoted job satisfaction and increased retention (75). Beecroft et al. (76) found that an RN Internship in Pediatrics program was effective in improving nurses' confidence, performance, organizational commitment, and retention. Beecroft et al. (76) urged nurse administrators to "take a second look at nurse internships as the requisite entry path for all new graduates coming to their facilities" (76, p582). Finally, Nolet et al. (77) developed, implemented, and evaluated the Wisconsin Long-Term Care Clinical Scholars Program, an internship program for undergraduate nursing students that takes place in LTC facilities. The program combines evidence-based LTC facility curricula with a paid work experience and was found to increase students' preparation for working with the geriatric population in LTC facilities. The program included a curriculum with closely matched didactic and clinical experiences, clinical topics tailored to fit the context of nursing home care, preceptor development and support and provision of novel, supplementary gerontological, and leadership education. Thus,

comprehensive residency, internship or preceptorship programs may also provide important information and support for newly hired regulated nursing staff. The emotional support, advice, and assistance from mentors may help newly hired nurses build important workplace relationships and transition into their leadership and supervisory roles (78,79). Feedback about performance may facilitate clarity and open communication, likely improving job satisfaction (78,79).

Improve job orientation.

The present thesis identified adequate training/orientation as a key factor affecting job satisfaction among both regulated nurses and allied health staff. Perception of a lack of adequate training may be due to limited on-the-job training compounded by limited exposure to gerontological content in college or university. Limited training may leave staff feeling unprepared, unclear, and overwhelmed about their roles and responsibilities in the LTC setting (42,43). For instance, lack of clarity about roles and responsibilities contributes to confusion and may adversely affect job satisfaction among regulated nurses (44). Similarly, among nurse aides, limited training reduces job satisfaction and increases intention to leave (80). These data suggest that limited training negatively affects job satisfaction among both regulated and unregulated nursing staff.

Adequate training/orientation has been equated to a process of organizational acculturation (51,81). During the training period, nurses could "build collegial relationships, find access to resources, and develop competence in patient care and independence in their job" (52, p417). Thus, extended job training facilitates nurses' adaptation to their work environment (52), which likely reduces work burden and improves job satisfaction.

For job orientation practices, training programs should be developed following a needs assessment to ensure that training methods is tailored to the needs of new hires and includes input from current staff (82), as the training methods should reflect the organization's values, beliefs, and mission (82). Involving newly hired staff in the decision making regarding their own training and orientation needs demonstrates respect for them as adult learners and ensures that training is tailored to their needs (82). Training/orientation policies should consider organizational size, resident care needs, and integration of staff into the organization (82) and be mindful of the existing work climate and how this may affect the success of the training program (83). Finally, training programs should limit the strain and demands that may be put on nurses who have to manage training with ordinary work (83).

Provide and support continuing education and in-services.

In addition to job training/orientation, continuing education activities and opportunities should be made available to regulated staff in LTC facilities, as these have been shown to promote empowerment, competency, and job satisfaction (53,84). Continuing education about gerontological practice may fill gaps left in regulated staffs' education, as many bachelor's degree nursing programs do not include sufficient information about gerontological care (85,86). Thus, LTC administrators and nurse managers should encourage and support regulated staff interested in pursuing continuing education, as this increases employees' knowledge and will likely promote work engagement and psychological empowerment. As with job training/orientation, continuing education programs in LTC facilities must consider the role of organizational and system factors (87). Distance education can be used to overcome geographical

barriers and promote technological skills, as these programs have been found to be effective in improving clinical competence and job satisfaction (53).

Implications for policy.

Implement policies known to promote factors involved in job satisfaction.

As work conditions associated with job dissatisfaction, such as psychological stress and burnout, are often modifiable (88,89), LTC facility managers and directors of nursing should utilize their leadership skills to create policies and organizational conditions that affect factors shown to influence job satisfaction. As suggested by Cho and colleagues (90), administrators can use strategies consistent with Spreitzer's (91–93) theory of psychological empowerment and Kanter's (94,95) theory of structural empowerment to foster an environment that promotes unit culture, employees' social capital, and communication and enhances psychological empowerment and work engagement. LTC facility managers can integrate Kanter's and Spreitzer's theories as guides to establish and implement policies that promote employees' access to information, resources, and support networks that they require to successfully fulfill their roles and responsibilities. Laschinger et al. (96) argue that integrating Kanter's theory of structural empowerment with Spreitzer's theory of psychological empowerment provides a more comprehensive understanding of how organizational factors affect employees' experience of personal empowerment, thereby promoting job satisfaction.

Spreitzer et al. (93) posited that access to information, support, resources, and opportunity foster psychological and physical well-being and improve job satisfaction. Consistent with this, managers should provide access to necessary resources, supports, and information to create an environment that fosters' regulated nursing and allied

healthcare staffs' psychological empowerment, thereby improving job satisfaction. With respect to Spreitzer et al.'s (93) findings, the results of the present study suggest that to promote regulated staffs' job satisfaction, organizational managers must: provide decision-making autonomy to enable self-determination; create supportive organization and unit cultures; ensure that employees find their jobs to be meaningful; provide adequate job training and ongoing education to develop; and encourage employees' involvement in organizational decision making to make sure they feel they impact their work units. Ensuring that the jobs are meaningful is particularly important given that this dimension of psychological empowerment was found to be a significant predictor of job satisfaction among both regulated nurses and allied health professionals surveyed.

Given that all four subscales of psychological empowerment were found to affect job satisfaction among allied health professionals and the meaning subscale influenced job satisfaction among regulated nursing staff, LTC facility managers should focus on context-level antecedents to psychological empowerment. Spreitzer (91,92) posited that antecedents of psychological empowerment are locus of control, self-esteem, access to information, and the structure of rewards. Of these, the former two are personality traits that are thought to affect psychological empowerment by shaping individuals' perception of themselves in the workplace (91,92). On the other hand, the latter two are context variables and are thus potentially modifiable by LTC facility managers and directors. Addressing these context-level antecedents may promote regulated staffs' psychological empowerment in LTC facilities, thereby improving their job satisfaction. With respect to access to information and consistent with Kouzes and Postner (97), Kanter (95), and Lawler (98), Spreitzer (92) found that access to information about (1) the organization's

mission and (2) the performance of the unit were related to psychological empowerment. Spreitzer (92) also found support for the presence of a system that rewards performance as an antecedent to job satisfaction. In combination with the present study's findings, these results suggest that LTC facility management should provide information about the organization's mission to help foster a sense of purpose and meaning among employees and promote initiative taking and decision making. LTC facility management should also provide information about performance to reinforce individuals' sense of competence and the belief that one is a valued part of the organization. Taken together, previous and present findings suggest that LTC facility management should also acknowledge and support personal competencies and incentivize individuals to partake in decision-making processes in their workplace, as this empowers employees and promotes job satisfaction.

Given the role of several context- and individual-variables in job satisfaction identified in this study, and consistent with Spreitzer's (91–93) and Kanter's theories (95), LTC facility managers should implement multipronged policies and interventions that target all dimensions of psychological and structural empowerment, as focusing on a single dimension is likely to send mixed signals to staff and have limited success (93,99).

Improve policies to promote flexible scheduling.

Organizational slack-time was a significant predictor of job satisfaction among allied health professionals. Among nurses, Cheng, Liou, Tsai and Chang (52) found that flexibility in shift scheduling enabled nurses to better adapt to their work environments, reducing their work burden, which the authors posited likely improved their job satisfaction. As allied health professionals tend to work regular hours, not shifts, enabling allied health professionals to modify their work hours and allow them to better manage

their personal and professional lives may improve job satisfaction among allied health professionals employed in LTC facilities.

Improve organizational slack space in LTC facilities.

My study identified organizational slack space as a significant predictor of job satisfaction among regulated nurses. I found that regulated nurses' lack of access to private spaces such as conference rooms to discuss private and confidential information about residents affected their job satisfaction. It is possible that limited private spaces to converse about residents' confidential information hinder nurses' abilities to properly fulfill their duties and responsibilities, reducing job satisfaction. An important implication of these findings is that LTC facilities should aim to provide private spaces for regulated staff to safely discuss confidential information or exchange new clinical findings. LTC facilities may wish to seek funding from government agencies to support expansion or redesigning of their facilities. While getting more funding to expand physical space (or hire more staff) may not always be realistic and should not be the only solution to improving organizational slack space in LTC facilities, when such options are available, they should be sought out. In Ontario, the Ministry of Health and Long-Term Care (MoHLTC) provides funding for the development and redevelopment of existing LTC facilities (100). Similar programs may exist in other provinces, including British Columbia, Alberta, and Manitoba (101). If LTC facilities acquire funding for facility (re)development, they may be able to potentially rebuild or expand to create more space. The MoHLTC (102) guide for designing LTC facilities that meet building requirements and facilitate best practices can be used when designing or redesigning an LTC facility.

Implications for research.

As this was a secondary analysis, there is a need for more primary studies that employ multivariate analyses to examine factors that affect job satisfaction among healthcare staff in LTC facilities. However, while researchers may want to focus on identifying the most effective ways to prepare regulated nurses and allied health professionals to work in LTC facilities and the most effective programs/policies to promote job satisfaction at an organizational and/or unit-level, what is effective will likely be unique to each LTC facility and will vary between facilities. Consequently, I would argue that the time has come to begin implementing existing knowledge from research findings into practice.

Study Strengths and Limitations

Secondary analysis.

There are important benefits of conducting a secondary data analysis (103). First, the TREC study had rigorous data cleaning protocols to ensure high quality (104). Second, secondary data analyses are time- and cost-effective, as resources do not need to be expended on collecting data. Since secondary data analyses utilize already collected data, researchers conducting secondary analyses do not encounter data collection problems. Secondary data analyses also serve as a useful exploratory research tool, providing a way for researchers to fine-tune and revise their existing hypotheses prior to conducting additional surveys. Analysis of already existing data also promotes the generation of new insights without requiring additional data collection. Thus, new discoveries can be made through new analyses or re-analyses of existing data sets (103).

The research described in this thesis used secondary data analyses. Secondary data analyses have important limitations that must be considered (103). Given that the original data is often collected using different questionnaires and often for different purposes, obtained data rarely did not contain all of the variable of interest identified during the literature search, including demographic (12), individual (6,11,39,55,105–107), and context variables (6,36,40,48,107–109).

Present study.

Several demographic, individual, and contextual variables were identified in the literature search as factors affecting job satisfaction that could not be included as dependent variables in the present study as they were not collected in the TREC 2.0. These include demographic variables such as marital status and race/ethnicity (12); individual-level variables, such as levels of paperwork/administrative duties (6,11,39,104–106), opportunity for direct care (11,39,55), and diversity of skills required (9,106); and context-level variables, such as perception of insufficient skills among staff (48), relationships with residents and residents' families (6,36,40,106–108), high workload (4,11,14,17,22,36), and flexible scheduling (14,55).

Despite these limitations, the studies present in this thesis have important strengths, including the relatively large sample size of regulated nurses and allied health staff employed in residential LTC facilities across three provinces. The comprehensive literature review (Chapter 2) provides important empirical evidence to facilitate modeling of factors affecting job satisfaction in regulated nurses and allied health staff in residential LTC facilities. Moreover, the purpose of TREC was to examine outcomes

pertaining to research use, of which job satisfaction was one. Thus, the original study was designed to specifically address job satisfaction outcomes.

Conclusion

To the best of my knowledge, the studies presented in this thesis are the first to evaluate and compare factors affecting job satisfaction among regulated nurses and allied health staff in diverse LTC settings across three Canadian provinces. The results of the studies presented in this Master's thesis suggest that both individual- and context-level factors affect regulated nurses' and allied health professionals' job satisfaction in LTC facilities. Given the high rates of turnover among regulated nurses, my findings suggest that efforts to context-level variables may improve job satisfaction among allied health staff and regulated nurses, resulting in a better quality of care provided to LTC residents. As context-level factors tend to be modifiable, future research should examine how to best improve these components of the work environment to promote nurses' job satisfaction. Future studies should examine whether improvements in factors shown to be associated with job satisfaction in the studies present in this thesis will lead to improvements in job satisfaction and reduce staff turnover in LTC facilities. Finally, future studies should utilize questionnaires that address factors that have been shown to affect job satisfaction in the present study. Findings from the studies presented in this thesis and studies proposed above can be used to develop national and provincial strategies to improve the quality of work-life for regulated nurses and allied health professionals in LTC facilities.

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Chapter 7

Contributions of Collaborators Co-Authorship

From its conception to its completion, several authors contributed to the fulfillment of the requirements for a Master's Degree in Nursing at the University of Ottawa. As thesis supervisor, Dr. Janet E. Squires, RN, PhD, (JS), participated in every aspect of this project. JS led the development of the thesis proposal, methods, and ethics approval. JS directed all statistical analysis and interpretation of results. All statistical modeling was done under her guidance. JS guided and approved all drafts for both the manuscripts and thesis chapters. JS also oversaw final approval of the thesis for evaluation. An overview of contributions is found in Table 7-1.

As co-supervisor, Dr. Wendy Gifford, RN, PhD, (WG) was engaged in the development of the thesis topic, proposal development and final approval. WG also provided feedback throughout the writing process, and provided insight on all drafts.

As committee members, Dr. Katherine S. McGilton, RN, PhD, (KM) and Dr. Michelle LaLonde, RN, PhD, (ML) were engaged throughout the process. Both KM and ML provided feedback on draft proposals and final approval before submission. KM and ML offered consistent feedback on manuscript drafts and thesis chapters. Along with my supervisor, JS, all members provided final approval on the final version for publication.

Dr. Carole Estabrooks, RN, PhD, (CE), provided approval for this research topic, and granted permission for her TREC data to be used for this project. CE provided final approval of both manuscripts.

JS is an associate professor in the School of Nursing at the University of Ottawa. She is a scientist in the Clinical Epidemiology Program at the Ottawa Hospital Research

Institute and holds a University Research Chair in Health Evidence Implementation (2015-2020). JS is also a CIHR New Investigator (2014-2019). JS research primarily focuses on knowledge translation and organizational context. Her research interests include measurement and survey design/psychometrics and systematic reviews.

WG is an associate professor in the School of Nursing at the University of Ottawa. She is also Co- Director of the Nursing Best Practice Research Center at the University of Ottawa. WG research focuses on leadership for the implementation of best practices, and knowledge translation. Her research interests include leadership and management, community healthcare, and clinical practice guidelines.

KM is a professor in the Lawrence S. Bloomberg Faculty of Nursing at the University of Toronto. She is senior scientist at the Toronto Rehabilitation Institute – University Health Network. Her research focuses on the development and application of outcome measures in gerontological practices. KM develops intervention studies aimed at enhancing relationships between nursing staff and their supervisors.

ML is an assistant professor in the School of nursing at the University of Ottawa. Her body of work focuses on the emotional intelligence of the nurse preceptor and its impact on new graduate nurse's socialization outcomes. Her research interests include health services, organizational socialization, and new graduate nurse transition.

Table 7-1 Summary of Contributions of Co-Authors

	LA	JS	WG	KM	ML	CE
Conception & design	✓	✓	✓	✓	✓	✓
Data analysis & interpretation	✓	✓	✓	✓	✓	✓
Final approval of proposal & thesis chapters	✓	✓	✓	✓	✓	
Final approval of manuscripts	✓	✓	✓	✓	✓	✓
Responsibility for all content	✓					