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Understanding how long-term care organizational context affects nurses' quality of work life in Nova Scotia: A model of workforce support

by

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Abstract

Understanding how work environment in long term care (LTC) homes impacts staff quality of work life is fundamental to strengthening workforce stability. Guided by Kanter's theory of structural empowerment, I suggest that organizational context (OC) helps explain LTC nurses' job satisfaction (JS), a relationship potentially mediated by psychological empowerment (PE). I tested this theoretical model (OC-PE-JS) by examining how LTC work environment, measured by four organizational context (OC) variables (leadership, evaluation, culture, and social capital) associates with nurses' job satisfaction (JS) while being mediated by PE.

Data were collected in December 2021 using a convenience sample of 10 Nova Scotia LTC homes. Eligible nurses (n=138) completed the TREC survey online. I tested the validity of the four OC subscales on this sample using exploratory and confirmatory factor analysis. I used path analysis modelling to examine the three-part OC-PE-JS model using individual aspects of organizational context to test the PE mediation hypothesis.

Results of factor analyses supported the use of the four OC subscales in this sample. I found PE to partially mediate the impact of leadership, culture, and social capital on job satisfaction, and fully mediate the impact of evaluation on job satisfaction. The results indicate that leadership, culture, and social capital each have significant direct and total impact on JS within this model, suggesting that LTC organizations and managers can provide emotionally intelligent leadership and opportunities for professional growth to maintain a stable, effective workforce.

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Glossary of Abbreviations

ACT: Alberta Context Tool

CFA: confirmatory factor analysis

CWEQ-I/II: Conditions for Work Effectiveness Questionnaire (first or second version)

EFA: exploratory factor analysis

HRDR: Health Research Data Repository

LTC: long-term care

LPN: licensed practical nurse

MOAQ-JSS: Michigan Organizational Assessment Questionnaire's job satisfaction subscale

NS: Nova Scotia

RMSEA: root mean square error of approximation

RN: registered nurse

SRMR: standardized root mean square residual

TREC: Translating Research in Elder Care

VAF: variance accounted for

Chapter 1. Introduction and Background

Introduction

Through this project I aim to understand the relationships among work environment, empowerment, and job satisfaction for registered nurses (RNs) and licensed practical nurses (LPNs) working in long-term care homes in Nova Scotia. More specifically, I use an established theoretical framework to understand the relationship between different dimensions of organizational context and job satisfaction with the mediating effect of psychological empowerment. I provide a first look into how organizational context at work is mediated by personal experiences of psychological empowerment and discuss how these findings might impact directions for future intervention design and research.

Background

Care for older adults is under the spotlight in Canada. The number of Canadians aged 65 and older has increased by around 1.3 million persons within the past five years alone (Statistics Canada, 2024). Life expectancy past age 65 has grown by about 2 years since the year 2000, meaning more years are lived into older life (Statistics Canada, n.d.). Projections show this trend continuing as the baby boom cohort enters this age bracket. With current figures at around 18.9% of Canadian citizens aged 65 and over, estimates see this growing up to 22.0% by 2048 under current growth rates (Statistics Canada, 2023): not only are numbers growing, but the proportion of Canadians who are older is also seeing an increase. These figures are exacerbated in a Nova Scotian (NS) context, where current proportions are 22.0% and 2048 estimates reaching 25.4% (Statistics Canada, 2022). Nova Scotia's healthcare system must be prepared to support its population through this important shift of demographic and care needs. One of the

primary healthcare areas of importance is long-term care (LTC), an important and often-overlooked piece of the healthcare system. LTC use among Canadians continues to be high. Estimates from the Canadian Institute of Health Information (CIHI, 2023) show over 200 000 Canadians in long-term care facilities, with the vast majority being over the age of 65 and over half being over the age of 85 – LTC usage rates grow quickly with age. Demand for LTC will see an unprecedented rise with these demographic shifts as the primary driving force (Gibbard, 2017; World Health Organization, 2015).

The Nova Scotian government has started to address these concerns through increasing provincial LTC bed counts with new facility builds and expansions (Government of Nova Scotia, n.d.) as well as recruitment strategies such as covering tuition of licensed practical nurses who plan to work in the LTC sector (Government of Nova Scotia, 2024). However, strategies to deal with the anticipated demand for LTC services need to go deeper than more beds and higher recruitment. Staffing shortages are a common concern within the LTC sector and became more pressing during COVID-19 (Xu et al., 2020), and while recruitment strategies work to increase new hires, more attention is now turning towards retention strategies. Turnover rates for LTC nurses are high (Gandhi et al., 2021). According to a study done on LTC nurses in Nova Scotia, nurses' intent to leave was measured at one-third of respondents thinking about leaving their job at least monthly (Keefe et al., 2024). Many LTC nurses are finding their quality of work life unacceptable.

Quality of work life refers to the broad experiences of employees at work: a multi-dimensional concept including things like autonomy, working conditions, and significance of work (Elizur & Shye, 1990). Inconsistent and inflexible shifts, lack of stability in their position, and overly high workplace demands were primary

organizational and quality of work life factors associated with turnover in a study on Japanese LTC nurses (Li & Yamamoto-Mitani, 2021), while a Dutch study found that lack of career development opportunities and poor workplace culture were primary reasons for leaving (Tummers et al., 2013). Another study on LTC nurse turnover in Ontario found that positive perceptions of leadership significantly reduced turnover (Chu et al., 2014). An increased focus on work environment and quality of work life within LTC homes could help to support a stable workforce, and nurses' experiences at work must be more thoroughly understood to make this happen.

Work environment is a multifaceted concept that contains things like workplace culture, physical environment, roles and involvement of leadership, and opportunities for learning and growth, among others. While a positive work environment can lead to increased job satisfaction and empowerment (Aloisio et al., 2019), a perceived negative work environment can have worrying implications such as burnout and decreased quality of care provided (Aloisio et al., 2019; White et al., 2020). Two ways of measuring work environment include structural empowerment and organizational context.

This thesis is built on the similarities and parallels between the concepts of organizational context and structural empowerment. Both concepts pertain to the influence an employer and workplace have on their staff, with both including interactions with the organization, resources, leaders, and other staff as important concepts. I compare measurement of these two concepts – one based on translating research to practice and the other rooted in the concept of power and empowerment. Additionally, I discuss further development of organizational context in how it relates to the personal experience of psychological empowerment in the workplace, and results in the outcome of job satisfaction. I argue

that a better understanding of how work environment impacts both the psychological state of employees and workplace wellbeing indicators such as job satisfaction is needed. This understanding could help to increase the effectiveness of resources available to our province's LTC homes by ultimately focusing organizational and structural changes on modifiable areas of work environment with the most positive impact on staff and resident outcomes.

Chapter 2. Literature Review and Research Questions

Organizational Context and Structural Empowerment

Organizational Context

The principal concept used in this thesis is organizational context. Organizational context can refer to the physical setting and conditions of care as experienced by staff; the "context of practice in which evidence is implemented" (McCormack et al., 2002). Evidence, in this case, refers to research on best practices, data and outcomes within the care environment, and the experiences of staff and patients/residents. A successful organization values evidence within the work culture and combines these different sources to form comprehensive knowledge bases in the decision-making process and to share among an organization. Context became of interest in the 1990s as a vital component to the implementation of evidence-based practice. McCormack et al. (2002), in their foundational piece on the definition and interpretation of context using a decade of prior literature, found three main concepts to encapsulate the meaning of context. The first is culture, framed as possibly the most important aspect of organizational context. Culture is defined as the way things are done around here" (Drennan, 1992), and can include individual attitudes, team-level goals, and organizational directives that lead to the overall culture of practice with clear and strong values. Other important dimensions of organizational context are leadership (transformational and empowering leaders, role clarity and teamwork), and measurement (performance feedback, evaluation of methods). Together, these concepts form a definition of organizational context as "the specific environment in which implementation, utilization and creation of evidence may take place" (McCormack et al., 2002, p. 101). This definition encompasses the

physical/cultural boundaries of practice, role of authority, availability of resources, and ability to grow and change from learned experienced. A later paper by this same group added a fourth concept, resources, to the framework in reference to the organization's resources to implement change independently from the other three concepts (Rycroft-Malone et al., 2004).

Further work on this definition of context situated it as one of three functions in the Promoting Action on Research Implementation in Health Services framework (PARiHS framework, Rycroft-Malone, 2004) alongside availability/strength of evidence and proper facilitation of evidence. The key components of context outlined by McCormack et al. (2002) are supported by adequate, meaningful learning process that support staff to internalize findings and share knowledge with those around them, involving a variety of leaders, educators, and formal/informal interactions in organizational education. When these conditions are met, implementation of theory (evidence) to practice can succeed (Rycroft-Malone, 2004).

It follows that measuring context is necessary to understand the bridge between evidence and implementation. The Alberta Context Tool (ACT) was developed in response to this need and is based on the PARiHS framework alongside other concepts (Estabrooks et al., 2009a). Subscales of the ACT were directly borrowed from the PARIHS framework (leadership, culture, evaluation, structural and electronic resources) or expanded on in measurement of interactions with others (social capital, formal and informal interactions) and ability to respond to demand through organizational slack (space, time, staffing), concepts added further explore factors relating to knowledge translation (Estabrooks et al., 2008). The resulting ten dimensions provide a strong measurement of the breadth of

organizational context, broader than the initial definition by McCormack but designed to measure supporting characteristics of work environment. Organizational context has been a focus of investigation in Canadian LTC settings since the development of the ACT. This has included work with nurses (Aloisio et al., 2019; Squires et al., 2015), care aides (Estabrooks et al., 2011; Titley et al., 2023), and managers (Estabrooks et al., 2023); in some cases, only the four 'core' dimensions (leadership, culture, evaluation, and social capital) are administered (e.g., Keefe et al., 2024). These researchers have shown that LTC organizational context plays a vital role in the use of research in practice by nurses, and highlight access to structural and electronic resources, opportunities for formal interactions with other staff and knowledge users, and adequate staffing to respond to demand as practical applications of these findings (Demery Varin et al., 2019). This is important, as LTC nurses find themselves uniquely situated within their workplace with an array of demands and responsibilities. They can receive directive from an organization's managers and directors, provide some direct care themselves, and perform leadership roles at the care unit level to care aides, who provide the majority of direct care to residents (Aloisio et al., 2021a; Berta et al., 2013). Nurses are central in the web of implementation and practice within LTC homes. Measuring nurses' perceived level of organizational context helps us to understand the broad function of a LTC home.

Structural Empowerment

Another important measure of work environment, and one with extensive publications to draw from over the past decades, is structural empowerment. Kanter's definition of structural empowerment (1977, 1993) states that the structures within an organization are essential puzzle piece to a worker's behaviours and attitudes, more than their personal

characteristics. An organization then has a high degree of influence over the perceived level of empowerment of the employees – essentially, an organization that works to support and grow its employees can lead to greater organizational success through the empowerment of each individual. Kanter (1977, 1993) focusses on the concept of power in the organization, defined as one's ability to use their skills and resources to achieve their workplace goals and receive recognition for their successes (formal power) and maintain and harness interpersonal relationships (informal power), and this power can be increased through opportunities for professional development and growth as well as access to organizational resources to complete their job, access to information to better understand their role and its meaning to the organization, and access to support through feedback, guidance, and social capital.

The experience of structural empowerment by nurses has been explored in a large body of literature by Heather Laschinger. Her initial work exploring the subject in 1997 found that nurses tended to report higher levels of informal power (e.g., interpersonal relationships) than formal power (e.g., hard resources and formal recognition) (Laschinger et al., 1997). Further, both formal and informal power had strong, significant relationships with other structural empowerment measures in opportunity, information, support, and resources, which in turn showed increases in perceived autonomy at work. Laschinger et al. concluded that work structures are not easy to change, but that application of Kanter's theory to improve job autonomy might see benefits to other outcomes such as quality of care provided (Laschinger et al., 1997). This research team continued to develop on these findings and found Kanter's theory of structural empowerment extended to impact job strain (Laschinger et al., 2001a), organizational

commitment (Laschinger et al., 2000; Laschinger et al., 2001b), burnout (Sarmiento et al., 2004), and job satisfaction (Laschinger et al., 2004; Laschinger et al., 2001b). Psychological empowerment was also a concept of interest, being framed as one's personal reaction to the support of structural empowerment, and paying a role in how structural empowerment impacted other outcome variables (Laschinger & Havens, 1996; Laschinger et al., 2001a). Further work by others since then have continued to explore structural empowerment's link to psychological empowerment (Wagner et al., 2010), job satisfaction (Li et al., 2013; Orlowska & Laguna, 2023), burnout (Orlowska & Laguna, 2023), and quality of care (Caspar & O'Rourke, 2008), including in long-term care settings. The experienced level of structural empowerment through the work environment in a LTC home has direct impacts on many staff quality of work life outcomes as well as resident outcomes, with different aspects of work environment seemingly have different levels of impact on outcomes (Aloisio et al., 2019; Laschinger et al., 2001a).

In the decades since Kanter's theory of structural empowerment, the Conditions for Work Effectiveness Questionnaire (CWEQ) emerged as the primary measurement instrument within care environments. The CWEQ was initially developed by Chandler (1986) who combined Kanter's theory with Rogers' theory of nursing (1970), wherein Rogers states that nurses are integrated into their work environment rather than existing in isolation within it: the nurse and their environment are inseparable. Further work led to the development of the CWEQ-II (Laschinger, 2012). This scale aims to measure the level of access an employee has to opportunity, information, support, and resources while also capturing their level of formal and informal power in taking advantage of these structures. The CWEQ-I/II has been widely used in nursing and LTC settings both

internationally (e.g., Caspar & O'Rourke, 2008; Li et al., 2013; Orlowska & Laguna, 2023; Wagner et al., 2010). It is one of the primary measures of work environment across healthcare research.

Similarities and Differences

While organizational context and structural empowerment are distinct concepts, both aim to capture an organization's support of its employees to succeed in their job. In Table 1 I outline the two measurement tools, their measurement dimensions, and sample items reflecting the intention of each dimension. Many of the ACT's dimensions pertain to the respondent's perception of context rather than any objective measurements, and all dimensions reference the unit level rather than the organization at large. The CWEQ-II includes does ask about the respondent's perceived experience but focusses on opportunities and the respondent's perceived position more broadly within the organization. I argue that structural empowerment has a slightly stronger focus on formal or objective measurements of support, whereas organizational context leans more towards informal or soft power as experienced or perceived by the employee. This is maybe the most important distinction to reference when comparing organizational context to structural empowerment, and interpretation of research findings between these concepts can be better understood with this in mind.

In this thesis, I will use the wealth of structural empowerment research to present a model of outcomes of workplace support (psychological empowerment and job satisfaction) using organizational context.

Table 1. Comparison of the Alberta Context Tool and Conditions for Work Effectiveness Questionnaire

Organizational Context: Alberta Context Tool (ACT) (Estabrooks et al., 2009a)		
Dimension	**Description**	**Sample Item**
Leadership	Perception of emotionally intelligent leadership at the care unit level	[The leader(s)] looks for feedback to ideas and initiatives even when it is difficult to hear
Culture	Perception of workplace culture on the care unit, the way "we do things"	My organization effectively balances best practice and productivity
Evaluation	Perception of feedback mechanisms to achieve outcomes on the care unit	Our team routinely monitors our performance with respect to the action plans
Social Capital	Perception of social capital/active connections at the care unit	People in the group share information with others in the group
Informal Interactions*	Number/frequency of roles/situations informally exchanging information on the unit	[How often do you interact with] someone who champions research and its use in practice?
Formal Interactions*	Number/frequency of formal exchanges of information on the unit	[How often do you participate in] team meetings?
Structural and Electronic Resources*	Number/frequency of resource and research access points on the unit	[How often do you use] notice boards?
Organizational Slack – Staff*	Perception of organization's cushion/slack to respond to demand at the unit level	We have enough staff to deliver the best possible care
Organizational Slack – Space*		How often do you use the space to discuss [resident care]?
Organizational Slack – Time*		[How often do you have] time to do something extra for residents?
*Excluded from some waves of data collection		

Structural Empowerment: Conditions for Work Effectiveness Questionnaire (CWEQ-II) (Laschinger, 2012)		
Dimension	**Description**	**Sample Item**

Opportunity	Chances for growth and skill development at work	**How much of each kind of opportunity do you have in your present job?** -The chance to gain new skills and knowledge on the job
Information	Access to knowledge of the state and direction of the org.	**How much access to information do you have in your present job?** -The goals of top management
Resources	Access to time and resources to complete tasks	**How much access to resources do you have in your present job?** -Time available to accomplish job requirements
Support	Formal and informal feedback/guidance from leaders and other employees	**How much access to support do you have in your present job?** -Specific information about things you do well
Formal Power*	Autonomy and control in decisions, alignment with org. goals	**In my work setting/job:** -the amount of flexibility in my job is [None – A Lot]
Informal Power*	Informal connections and relationships within the organization; social capital	**How much opportunity do you have for these activities in your present job:** -Being sought out by peers for help with problems
*Can be excluded when measuring SE; supplementary to more objective measures of empowerment (Laschinger, 2012)		

Psychological Empowerment

Psychological empowerment in the workplace is a multi-faceted concept, popularized by Spreitzer (1995) whose 4-part measurement instrument has become the de facto in healthcare workplace empowerment research. Spreitzer showed that psychological empowerment is not a trait but an experiential concept, and is continuous rather than a 'have/have not' (Spreitzer, 1995). It is experienced through four major dimensions of workplace motivation: (1) meaning, or personal value achieved through performing a job role; (2) competence, or the ability one has to perform their role successfully by their organization's and their own standards; (3) self-determination, or autonomy and choice in decision-making opportunities; and (4) impact, or how one feels their work contributes to the success of their organizational outcomes (Spreitzer, 1995). Together, Spreitzer's concepts define psychological empowerment as an active orientation in their work role: in other words, the feeling of being able to shape both their role and the context of their work. Psychological empowerment is an important concept in measuring the motivation, perceived autonomy, and satisfaction of a workforce. Spreitzer's psychological empowerment tool can be used as an overall score or through the four individual subscales measuring meaning, competence, self-determination, and impact.

Structural and psychological empowerment have been shown to be closely tied, both theoretically and statistically. The work of Laschinger et al. (2001) builds on Kanter's theory of structural empowerment, arguing that psychological empowerment is a reaction to structural empowerment and workplace conditions and one of the key mechanisms in how structural empowerment impacts outcomes such as job satisfaction. Research has demonstrated a statistically significant association with these constructs across various

healthcare settings (Connolly et al., 2018; Dahinten et al., 2016; Laschinger et al., 2001; Wagner et al., 2010). While psychological empowerment in the workplace is not one-to-one linked with structural empowerment, it is strongly related.

Previous research has analyzed the association of organizational context with psychological empowerment. A study by Iaconi et al. (2024) using data from over 3700 care aides found that ACT subscales of culture and social capital were significantly associated with all four Spreitzer's psychological empowerment subscales and leadership was associated with one psychological empowerment subscale (self-determination) when controlling for home- and individual-level demographics. No such study has been done using LTC nurses. Past research has indicated that other measures of leadership have been associated with Spreitzer's psychological empowerment in hospital nurses. This includes scales that capture leadership traits like support, development, lateral thinking, and leading by example (Ibrahim et al., 2024); empowerment and professional behaviours from leaders (Feng et al., 2025); and supervisors' empowering management practices (Montani et al., 2015). As the ACT aims to measure emotionally intelligent leadership, these results give reason to believe LTC nurse's experiences of leadership through the ACT may be linked to their level of psychological empowerment. No literature proves this relationship within LTC nurses, although conditions of work are similar between nurses and care aides within care homes. Further investigation is warranted.

Job Satisfaction

Much of nursing structural empowerment/organizational context literature situate these concepts as predictors of organizational outcomes such as innovative behaviours,

organizational commitment, job satisfaction, burnout, and intent to leave (Wagner et al., 2010). Of particular note is the body of research involving job satisfaction. Job satisfaction refers to the attitudes and feelings one has toward their job (Stamps, 1998). It is often measured as the outcome of concepts including structural empowerment, psychological empowerment, job stress, spirit at work, and various demographic factors (Larrabee et al., 2010; Wagner et al., 2013). Job satisfaction has been of interest due to its ability to both directly and indirectly associate to nursing workplace stability through concepts like intent to leave and organizational commitment (Ding & Wu, 2023; Maniscalco et al., 2024), as well as missed care (White et al., 2019) and quality of care provided (Chang et al., 2009; Kvist et al., 2014; Liu & Hao, 2017). Not only is job satisfaction an important measure as a standalone snapshot of workplace wellbeing, but it also provides insight into a host of other important workplace outcomes.

Due to its importance, there is much literature exploring predictors of job satisfaction. Aloisio et al. (2019), in a sample of 759 nurses from 3 Western Canadian provinces, found that both individual and organizational factors had impacts on JS: individual factors included Spreitzer's psychological empowerment's meaning subscale, and organizational factors included culture and organizational slack in space from the ACT. A 2021 systematic review of predictors of JS in long-term care nurses highlighted structural and psychological empowerment as predictors, while other organizational factors were not found to be predictive (Aloisio et al., 2021b). Predictors of job satisfaction among long-term care nurses are notably different than those in hospital and acute care settings due to differences in work environments and job responsibilities (Aloisio et al., 2021b) meaning cross-comparison with general nursing literature is largely inappropriate: further

research is needed to fully understand the role of job satisfaction specifically within LTC nurses.

Job satisfaction has multiple established scales of measurement used within the nursing and LTC literature. Some scales contain few and high-level items: the Michigan Organizational Assessment Questionnaire's job satisfaction subscale (MOAQ-JSS) contains three items asking about general satisfaction with their job, whether they like their job, and whether they like working for their organization (Cammann et al., 1983). Some studies have successfully used single-item measures of nurses' general job satisfaction (Chang et al., 2009). Other scales used in nursing and LTC literature contain many items that report on specific aspects of one's job, such as the 38-item Work Quality Index (Whitley & Putzier, 1994) as used by Larrabee in LTC research (2003, 2010). This is to say, there is little consistency in job satisfaction measures within the literature. Though the concept of 'job satisfaction' is seemingly straight-forward, comparability between scales is unresearched and likely limited. The MOAQ-JSS is used two Canadian LTC research programs, including one where the data for this thesis is sourced, but still lacks LTC nurse-specific publications beyond one paper (Aloisio et al., 2019).

Relationships between structural empowerment/organizational context, psychological empowerment, and job satisfaction

As outlined in the work by Laschinger, psychological empowerment is theoretically assumed as being a reaction to the level of structural empowerment experienced (Almost & Laschinger, 2002; Laschinger & Havens, 1996). Empirical evidence of a directional relationship is present in many studies: a literature review of pre-2010 studies found all included literature concluded structural empowerment as a predictor of psychological

empowerment (Wagner et al., 2010). More recent literature continues to show directional relationships through regression modelling (Meng et al., 2015; Monje-Amor et al., 2021). This combination of theory and results situates psychological empowerment as a personal outcome of structural empowerment.

The relationship between organizational context and psychological empowerment is less understood. While positive associations between ACT dimensions and care staff psychological empowerment have been found (Iaconi et al., 2024), no directionality was implied.

Psychological empowerment has, in turn, long been seen as an important factor in nurse job satisfaction (Aloisio et al., 2021b; Cicolini et al., 2014; Li et al., 2018; Yaseen Al-Hussein, 2020). A literature review from 2014 found that all 12 included studies noted job satisfaction to have positive correlations with psychological empowerment (Cicolini et al., 2014). More recent studies have continued to show that total score for psychological empowerment (Dahinten et al., 2016; López-Ibort et al., 2021; Türe & Akkoç, 2020; Yaseen Al-Hussein, 2020) is a predictor of nurse's job satisfaction using regression modelling.

Job satisfaction is also theoretically viewed as an outcome of organizational support through both structural empowerment and organizational context. Attributes within nurse job satisfaction such as autonomy, interpersonal relationships, and patient care are facilitated by the structure of an organization, but also deeply personal in how one takes advantage of and experiences these opportunities and relationships (Castaneda & Scanlan, 2014). Quantitative research supports this: Lautizi et al. (2009) found a strong correlation between the CWEQ-II structural empowerment and job satisfaction; structural

empowerment also predicted job satisfaction within a regression model. Total CWEQ-I/CWEQ-II structural empowerment (Dahinten et al., 2016; Manojlovich & Laschinger, 2002; Laschinger et al., 2014) and the support subscale (Li et al., 2013) have been found to associate with or predict job satisfaction in numerous studies. For organizational context, ACT subscales including culture were found to be associated with LTC nurse job satisfaction using the MOAQ-JSS (Aloisio et al., 2019). Organizational factors like empowerment and context have shown stronger links to job satisfaction than individual or demographic factors (Aloisio et al., 2021b). Job satisfaction is an outcome of structural empowerment and organizational context.

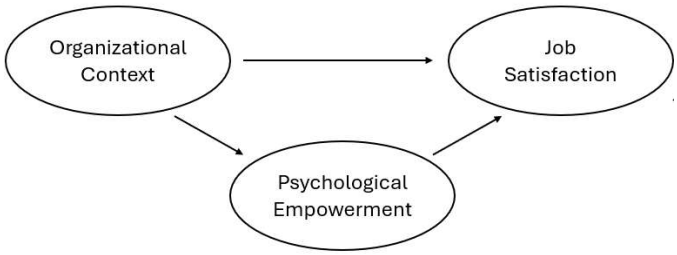
Questions have been raised about psychological empowerment mediating to the relationship between structural empowerment and job satisfaction. Mediation plays important roles in linking theoretical concepts. A mediating variable will explain the mechanisms of a relationship between two other variables, through measuring the underlying mechanism that links those two variables (MacKinnon et al., 2007). If psychological empowerment is an individual's reaction to structural empowerment as outlined in the Kanter's expanded theory, then the impact of structural empowerment on job satisfaction may be impacted by each individual's level of psychological empowerment. Understanding the potential of the mediation hypothesis is important to aid in the deeper understanding of how modifiable dimensions of organizational context act on outcomes like job satisfaction, expanding on existing theory of context and leading to more thoughtful development of interventions.

The mediation hypothesis was initially supported by Laschinger et al. (2001a) in a cross-sectional study of Canadian LTC nurses: the relationship between structural

empowerment and job satisfaction was mediated by psychological empowerment. Continued work by the same authors found that the mediation hypothesis no longer held when measured longitudinally a two time points (Laschinger et al., 2004). However, another longitudinal study did find psychological empowerment to partially mediate the relationship between structural empowerment and psychological empowerment (Orgambídez et al., 2024), while also controlling for a measure of personal initiative. Longitudinal studies can be stronger for testing mediation hypotheses compared to cross-sectional studies due to their ability to gauge the impact of differences in outcomes between time points, but the relative accessibility of cross-sectional datasets means more cross-sectional literature explores psychological empowerment as a mediator. A cross-sectional study of Taiwanese nurses did not support the mediation hypothesis (Chang et al., 2010). Neither did another study of Canadian nurses by Dahinten et al. (2016). Orlowska and Laguna (2023) looked at hospital nurses' structural empowerment at the department level and their individual scores of psychological empowerment, job satisfaction, and burnout; psychological empowerment was found to be a mediator in this circumstance. The potential mediating relationship of psychological empowerment continues to be of interest in workplace empowerment research though a clear consensus on this relationship is lacking (Li et al., 2018). Additionally, there is an absence of research on the mediation between organizational context measures and job satisfaction. This thesis aims to address this knowledge gap and provide some initial insight into the mediation hypothesis while using organizational context, building on the current structural empowerment literature.

Theoretical Model and Goals

Figure 1. Theoretical model and model to be tested.



Psychological empowerment is a response to level of structural empowerment. I hypothesize it to also be a response to organizational context due to the similarities of the two measures of work environment. Both organizational context and psychological empowerment are individually associated with job satisfaction. In this thesis, I use the established theoretical model of structural empowerment impacting job satisfaction while being mediated by psychological empowerment and test the role of organizational context in place of structural empowerment. This model uses the experience of one's work environment to explain the outcome of job satisfaction

No peer-reviewed work has been done to support the applicability of the ACT to a Nova Scotian LTC workforce, which houses a demographically different workforce than Western Canada where the scale was developed – older and more likely to be born in Canada (Keefe et al., 2024; Song et al., 2023). This is addressed in the first research question through performing factor analyses, though limited in scope to the four subscales included in the available dataset. Then, by inserting measures of organizational context into the theoretical model outlined in Figure 1, I provide a first look at the potential mediating effect of psychological empowerment and provide insight into which

aspects of organizational context provide the strongest association to job satisfaction. This research helps to give direction to areas that could be prioritized in home- and system-level interventions to improve both context and overall quality of work life.

Research Question 1: How do the leadership, culture, evaluation, and social capital subscales of the Alberta Context Tool used to measure Nova Scotian LTC nurses' organizational context in this thesis perform under factor analyses?

Research Question 2: How do organizational context subscales of leadership, culture, evaluation, and social capital perform in a model with job satisfaction with a mediation path through psychological empowerment?

Research Question 3: How do any differences in how leadership, culture, evaluation, and social capital act in this model imply or not imply some dimensions of organizational context to be more important than others in modifying job satisfaction?

Chapter 3. Methodology

Background

Translating Research in Elder Care (TREC) is an LTC-focused research program that looks at staff quality of work life and resident quality of care and care outcomes. TREC has been collecting data from LTC homes in Alberta and other Western provinces since 2007 with the development of the ACT. TREC's guiding theory is an extension of the PARIHS framework for implementation research (Estabrooks et al., 2009b) with the ACT being central to its methodology. Additionally, other personal (demographic, health and wellbeing) and organizational (e.g., quality of work life, burnout, responsive behaviours from residents) variables have been core to TREC's data collection and analysis. With these tools, TREC aimed to build a research program that assesses and monitors organizational context over multiple waves of data while building the theoretical argument for the important of context within various LTC staff groups within LTC homes. Seven waves of TREC data collection have taken place since.

LTC staff data using the TREC suite of surveys was collected in Nova Scotia for the first time in 2021, in collaboration with the Nova Scotia Centre on Aging. This project (Quality of Work Life in Nova Scotia, QWL-NS) acted as a pilot wave for future establishment of a fully developed LTC research program in the Atlantic region (Keefe et al., 2025).

Sample

The QWL-NS project consisted of a convenience sample of 10 LTC homes from rural and urban NS. Homes were extended an invitation to participate by the research team; if a

home declined, another was invited to participate to maintain a sample size of 10 homes. This contrasts with the typical TREC procedure of stratified random sampling for LTC home recruitment, and is unique to the pilot project nature of this wave of data collection. Most (nine) homes were not-for profit (municipal or voluntary) and had <120 beds. Participating homes collaborated with the QWL-NS team to delegate an employee to coordinate the home's research activities: leading internal promotional campaigns including mass company email, posters/flyers, and word of mouth to recruit care aides, nurses, and managers, setting up interviews and providing survey links to interested staff, and offering compensation for study participation. These delegates were the main points of contact between the LTC home and the QWL-NS team. LTC homes were granted a stipend based on bed count for their participation; this stipend was intended to cover costs associated with research uptake (time off the floor to complete the survey, admin time, etc.).

Registered nurses (RNs) and licensed practical nurses (LPNs) were eligible to participate in the survey if they had worked in the LTC home for longer than three months and had worked at least six shifts in the past month. These requirements ensured experienced reflections of work environment from participants. Interested nurses would then receive unique access codes to an online survey platform hosted by Nooro, a Canadian secure data management platform. Nurses could complete the survey at work, taking an average of 20-25 minutes to complete. Data were anonymized. 144 nurses submitted valid survey responses.

Measures

Nurses were asked basic demographic information including their age category, sex, income, country of birth, tenure as a nurse and in their current care home, shift information, and hours worked in two weeks prior to taking the survey.

Organizational context

The Alberta Context Tool (Estabrooks et al., 2009a) was used. Use of the ACT in data collection typically includes all ten subscales, but in some iterations, such as the dataset used in this thesis, only four subscales were asked of nurses: leadership, culture, evaluation, and social capital. The first three of these four are the three primary dimensions identified in organizational context as defined in the PARiHS framework (McCormack et al., 2002; Rycroft-Malone, 2004). Social capital is added as a measure of information sharing. These four scales can be thought of as the core necessary to understand the experience of organizational context as the setting in which care happens and research is implemented in practice. In the 2021 wave of TREC/QWL-NS data collection, four subscales of the ACT were administered to nurses: leadership, culture, evaluation, and social capital. These represent most of the core concepts of the PARIHS framework. These four subscales contain six items each, for as total of 24 items; each item provides a statement and asks respondents to answer to a 5-point Likert type scale from ‘Strongly disagree’ to ‘Strongly agree’. Scores are calculated by averaging all items, meaning all subscales have possible score ranges from 1-5. The ACT has undergone content validity testing and response processes validity testing (Estabrooks et al., 2009a) and been found acceptable to use in LTC nurses by confirmatory factor analysis and internal consistency estimates (Squires et al., 2015).

Psychological empowerment

Spreitzer's psychological empowerment instrument (Spreitzer, 1995) was used. This twelve-item instrument measures four dimensions of empowerment: meaning, competence, self-determination, and impact. Each item has a 5-point Likert-type response from 'Strongly disagree' to 'Strongly agree'. The scale can be used with individual subscales using means of items or a sum/mean of all four subscales for an overall measure of psychological empowerment. Overall psychological empowerment was used to maintain simplicity of the model; scores ranged from 1-5. Spreitzer's psychological empowerment has been validated for research involving LTC nurses in the past (Spence Laschinger et al., 2001b).

Job satisfaction

A modification (all positively-coded items) of the Michigan Organizational Assessment Questionnaire – Job Satisfaction Subscale (Cammann et al., 1983) was used. This three-item instrument asks nurses to respond to the following statements with a 5-point Likert type scale ranging from 'Strongly disagree' to 'Strongly agree': "All in all, I am satisfied with my job"; "In general I like my work"; and "In general, I like working here." Average summative scores were computed so the scale has a possible score range from 1-5. This scale has been validated previously (Bowling & Hammond, 2008) and is the sole measure of job satisfaction used in the TREC survey (Ginsburg et al., 2016; Squires et al., 2019).

Data Management

Data from the 2021 QWL-NS project are stored on a secure, offline data server hosted by the University of Alberta called the Health Research Data Repository (HRDR). In order

to access the HRDR, I signed a confidentiality agreement reviewed by the data manager for the QWL-NS project and the data manager for the TREC program. I then was registered for a University of Alberta student ID code, which I used to log in to a provided VPN client. Then, using the remote desktop software Citrix, I could access the HRDR through a provided server access with a separate provided username and password. Analysis took place exclusively on the HRDR using provided software, and outputs were manually requested to be copied from the server after review and approval from the TREC data manager or approved delegate.

Ethics

Data are anonymized. Ethics approval for data collection stated no risk above that of everyday life and was approved by the Mount Saint Vincent University Research Ethics Board (REB) File # 2021-016 and Nova Scotia Health REB #1027057. Ethics approval for the secondary data analysis and presentation within this thesis was approved by the Mount Saint Vincent University REB #2024-198 on February 28, 2025 and was valid through February 27, 2026. I received my Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans Course on Research Ethics (TCPS CORE 2) certification (#0000939590) on July 5, 2023.

Analysis

All data analysis was conducted on the HRDR using R version 4.4.3 (R Core Team, 2023) alongside RStudio version 2024.12.1 Build 563 (Posit Software, 2024). Any packages used outside of base R are cited where appropriate. The data file contained LTC home study ID, nurse role type, responses to each demographic item on the TREC survey (outlined in the Results section), and individual item responses for the Spreitzer's PE 9

item tool, MOAQ-JSS, and the leadership, culture, social capital, and evaluation subscales of the ACT.

The first step was cleaning the data. Codebooks provided by TREC state that for each item within all scales used in this thesis, Likert scores were coded from ‘1’ to ‘5’ and missing data was coded as ‘9’. A simple for loop was used to run through each column providing response data and recode all ‘9’s to ‘NA’. Listwise deletion was performed on the dataset using the na.omit() function (package ‘stats’ in the tidyverse collection, Wickham et al., 2019). Scale mean scores and standard deviations were calculated using the mean() and sd() functions from base R and stored in the dataset.

Histograms of key variables were generated using the hist() function to judge normality to determine if variables should be subject to parametric or nonparametric tests. Eye tests of histograms indicated further tests were warranted. Skewness and kurtosis were used. Skewness is a measure of symmetry within the distribution of data by comparing the mean of a sample to the median (Sheskin, 2020). Kurtosis compares the tail distribution of a sample to the normal distribution, where a normal sample would have a kurtosis of 0 and positive/negative kurtosis represent taller tails than normal and shorter tails, respectively (Westfall, 2014). The skewness() and kurtosis() functions from package ‘e1071’ were used (Meyer et al., 2024). I determined that nonparametric tests would be appropriate after assessing skewness and kurtosis cut-off scores (Sheskin, 2020).

Within the dataset, two types or nurses were sampled: RNs and LPNs. Means and standard deviations for each nurse role were calculated. A Wilcoxon test for comparison of distributions for non-parametric samples was performed using the wilcox.test()

function (Wickham et al., 2019). With no significant differences between any of the key variables, RNs and LPNs were considered one, single nurse group for further analysis.

Next, I tested the reliability of the scales used on the overall sample. Cronbach's alpha was used as a test of internal consistency for the four Spreitzer's psychological empowerment subscales, MOAQ-JSS, and four ACT subscales using the alpha() function (package 'psych', Revelle, 2025). This function uses the procedure by Cronbach (1951) and is widely accepted as a simple, baseline measure of internal consistency in measuring a concept but does not verify the factorial validity of a scale. Alpha was inappropriate to test the internal consistency of total Spreitzer's psychological empowerment, due to the multi-factor structure of the concept. An appropriate alternative is the omega test, a more complex and situational alternative to Cronbach's alpha as a reliability estimate for data that contains multiple factors in its structure, such as overall psychological empowerment being a mean of four independent subscales. This was tested using the omega() function from package 'psych' using the twelve items and specifying a four-factor solution. This function uses the procedure from McDonald (1999). It computes the general factor saturation of a test, and provides item loadings onto their subscale constructs and loadings from subscale constructs onto the overall latent construct.

To test Research Question 1, factor analysis was performed on the ACT. This procedure generally followed the steps by Rosseel (n.d.). I tested for the latent factor loadings of the items onto a non-specified four-factor solution. This entailed setting up an exploratory factor analysis, performed using the 'lavaan' package (Rosseel, 2012). A model was set up including all 24 ACT items within the dataset. This model was fit using the efa() function running with 1-10 potential factors. Items were standardized when testing the fit

of the model. Results showed ideal factor loadings onto latent constructs and correlations between constructs/items for each factor-number model. Bayesian information criterion (BIC) was compared for each model to determine the ideal number of factors. Eigenvalues were also extracted from the efa output and a scree plot was constructed. The second step was confirmatory factor analysis: a separate model was set up containing four factors (the four ACT subscales), each containing six items (same items as per the ACT guidelines and as suggested by the EFA). After reviewing the documentation of the ACT, it was decided to simply fix the first item within the scale as no one item could be deemed a best fit for the role. This model was fit using the cfa() function while specifying scaled χ^2 and robust standard error corrections for nonnormality (Satorra & Bentler, 1988) through including 'estimator = 'MLM'' in the cfa() function. The default operator is to use the maximum likelihood while calculating ordinary least squares regression between variables. However, this method assumes full continuity of the data, an assumption incompatible with Likert-type data, as well as assuming normality, which has already been disproven within all variables in the sample. Finney & DiStefano (2006) suggest that scaled χ^2 and robust standard error corrections for nonnormality techniques (Satorra & Bentler, 1988) can help account for both non-normal and Likert-type data within the context of factor analysis and SEM by weighing observations proportionally to their multivariate kurtosis rather than the standard linear model. The loading coefficient results when using this scaled/robust correction are the same: this correction applies to model statistics like the Taylor-Lewis Index and the Scaled Root Mean Residual, and provide more accurate indicators of model fit based on the non-normality of the data. Thus, interpretability of item loadings is left unchanged while overall model fit statistics

become more applicable to a non-normal dataset. No error covariance was tested for as all items were consistent in format and directionality. Latent constructs were allowed to correlate, as correlation has been proven in past work (Estabrooks et al., 2008; Squires et al., 2015). This model followed the procedure by Brown and Moore (2012).

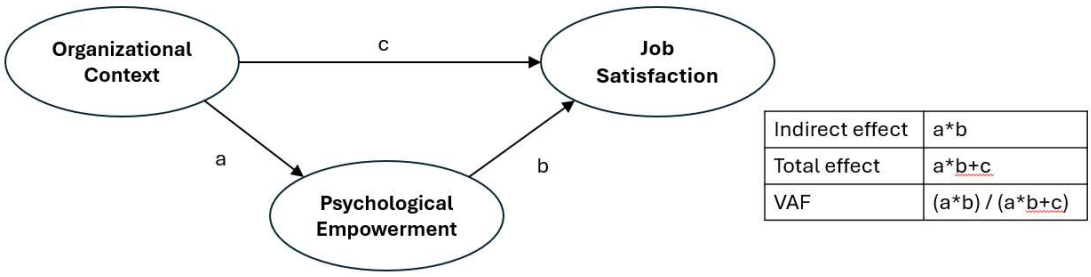
A test of association was performed to determine any preliminary association between variables. Spearman's rho is a nonparametric test of association between two continuous variables. Testing was performed by using the cor() function (Wickham et al., 2019) on the scale mean scores for each observation while specifying the Spearman method by including "method = 'spearman'" within the cor() function (Spearman, 1904).

Following this analysis of the robustness of the data, Research Questions 2 and 3 were tested using path analysis with scale means. Path analysis was chosen due to the small sample size used and the overall complexity (mathematical and theoretical) of the SEM procedure. Wolf et al. (2013) suggest sample sizes for 3-factor latent mediation models of 180-440 depending on model details; not only does the minimum estimate for a lower statistical power not meet our sample size, but the four subscales of Spreitzer's psychological empowerment would require independent structure within the analysis. This adds complexity and based on the suggestions by Wolf et al. (2013) would increase the minimum sample size further. Path analysis using scale mean scores was deemed an acceptable way to test the mediation hypothesis (RQ2) and explore strength of relationships (RQ3). This method is acceptable in use cases with small sample sizes (Lai et al., 2023).

Path analysis was set up by first specifying the model. Models sepecified a direct path between the organizational context subscale and job satisfaction and an indirect path

through the mediating variable of psychological empowerment, as shown in Figure 2. This model was then input into the analysis using the sem() function as per 'lavaan' guidelines (Rosseel, 2012). Standard errors for indirect and total effects were calculated using bootstrapping with 1000 bootstraps by specifying "se = 'bootstrap'". Results were pulled using the summary() function while specifying "rsquare = T" to give the R^2 statistic. 95% confidence intervals for direct, indirect, and total effects were calculated for each model. The variance accounted for (VAF) was calculated by multiplying the two pathway coefficients of the indirect effect and dividing this by the sum of the result plus the direct effect coefficient, providing a measure of percentage of overall effect mediated by total PE. These calculations are shown in Figure 2. To test RQ3, total and direct effects were compared using 95% CIs.

Figure 2. Visual aid for indirect effect, total effect, and VAF calculations



Indirect effect	a*b
Total effect	a*b+c
VAF	(a*b) / (a*b+c)

Chapter 4. Results

Descriptive statistics - demographics

Descriptive statistics are presented in Table 2. There were 138 observations with full item responses for the three scales of interest after listwise deletion. LPNs made up 60.9% of the sample. Half of nurses (RNs & LPNs) were aged 40-59. Most were female, born in Canada, and reported a household income over 75 000$. In terms of job characteristics, most worked day shifts, had full-time positions, had worked an average of 69.3 hours in the two weeks prior to survey completions, and had 12.8 years average experience as a nurse, with 7.5 years average working on their current unit/in their current home.

Table 2. Demographic characteristics of sample.

Variable		n (%) or mean (SD)
Age	<30	24 (17.3%)
	30-39	31 (22.4%)
	40-49	30 (21.7%)
	50-59	39 (28.3%)
	≥60	14 (10.1%)
Sex	Male	10 (7.2%)
	Female	125 (90.6%)
	Missing	3 (2.2%)
Household Income	<50 000	17 (12.3%)
	50 000 - 74 999	39 (28.2%)
	≥ 75 000	78 (56.5%)
	Missing	4 (2.9%)
Country of Birth	Canada	116 (84.1%)
	Philippines	12 (8.7%)
	Other	5 (3.6%)
	Missing	5 (3.6%)
Role	RN	54 (39.1%)
	LPN	84 (60.9%)
Employment Status	Full-time	72 (52.1%)
	Part-time	54 (39.1%)
	Casual	12 (8.7%)
Shift	Day	91 (65.9%)
	Evening	30 (21.7%)
	Night	16 (11.6%)
Years as RN/LPN		12.8 (12.2)
Years in current home/unit		7.5 (7.8)
Hours in 2 weeks		69.3 (20.2)

Descriptive statistics – quality of work life

I present descriptive statistics for the main model variables in Table 3. Nurses reported high scores for perceptions of leadership, culture, and social capital, while scores for evaluation were slightly lower but still moderate. Nurses reported high levels of psychological empowerment and job satisfaction.

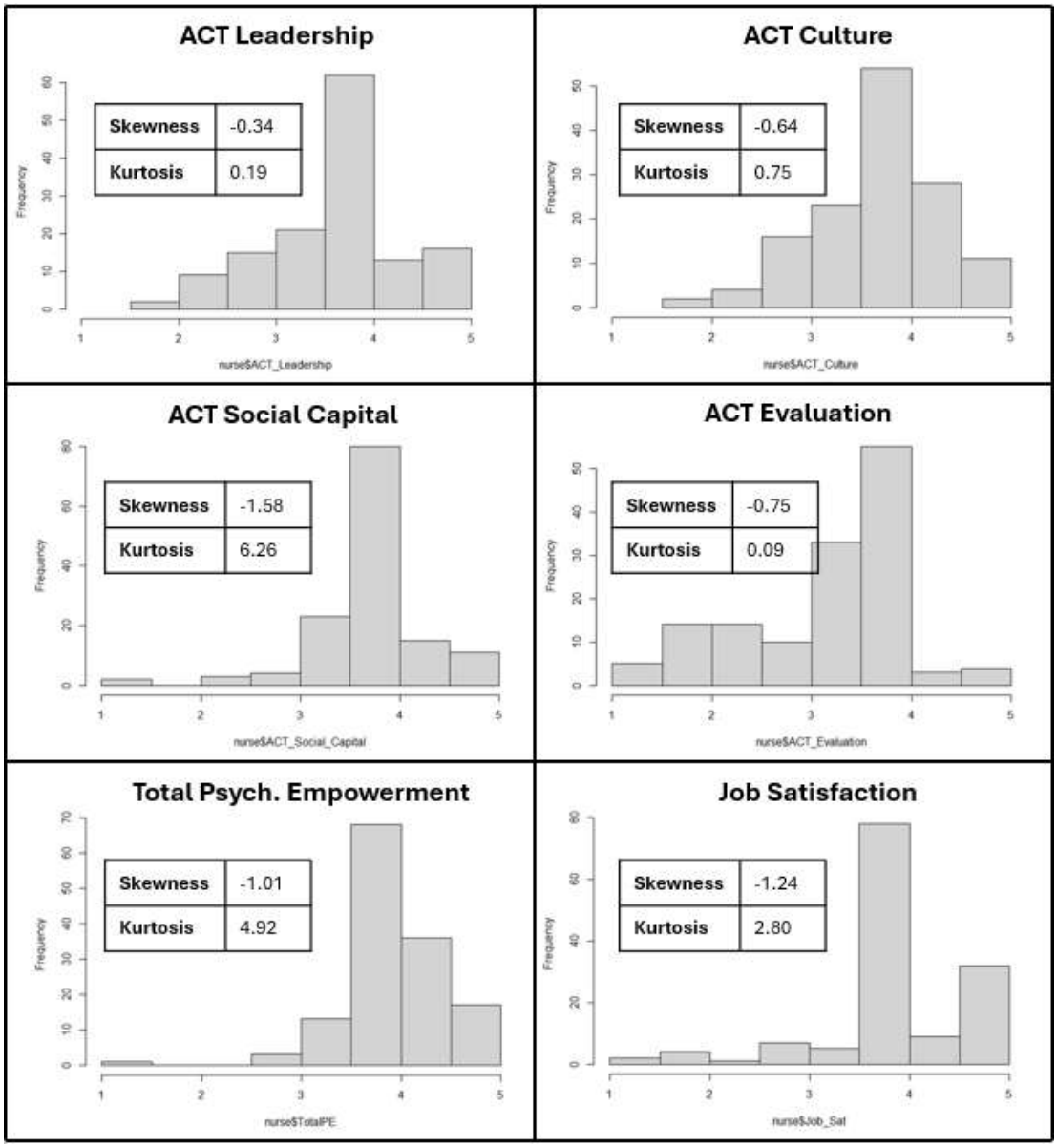
Table 3. Descriptive statistics of scale variables.

Variable	Mean (SD)
ACT Leadership (1-5)	3.72 (0.72)
ACT Culture (1-5)	3.76 (0.65)
ACT Evaluation (1-5)	3.26 (0.82)
ACT Social Capital (1-5)	3.83 (0.60)
Total Psych. Empowerment (1-5)	3.98 (0.48)
Job Satisfaction (1-5)	4.00 (0.74)

Normality testing

In Figure 3 I present the histograms and skewness/kurtosis results. Using the eye test immediately flagged abnormality within the distributions. Skewness values ranged from -0.34 (leadership) to -1.56 (social capital). Negative skewness indicates a longer tail on the left side; a general rule of thumb is that a score within +/-0.5 can still be considered symmetrical while scores greater than +/-0.5 are moderately skewed and +/-1.0 are highly skewed (Bulmer, 1979, p.63). With these categories in mind, only the ACT's leadership subscale can be considered roughly symmetrical; two other variables (culture and evaluation) are moderately skewed and the remaining three are highly skewed. There are similar results with regard to the kurtosis of the distributions. Scores in this sample ranged from 0.09 (evaluation) to 6.26 (social capital). Kurtosis scores are interpreted with relation to a score of 3, which represents the peak and tail heights of a normal distribution. The rule of thumb suggested by George & Mallery (2016, p. 114) is that scores below 1 or above 5 fall outside of normality. Using this guideline, total PE and Job Satisfaction has a 'normal' kurtosis (4.92 and 2.85, respectively); the ACT subscales of leadership, culture, and evaluation are platykurtic (0.09-0.75, flatter than a normal distribution) while the social capital subscale is leptokurtic (6.26, sharper than a normal distribution). None of the six variables met both the skewness and kurtosis conditions of normality, justifying the use of nonparametric tests within the analysis.

Figure 3. Normality testing for dependent/independent variables.



RN/LPN comparison

Table 4 includes the descriptive statistics between RNs/LPNs and the results of the Wilcoxon rank-sum test comparing distributions. All means were within 1 standard deviation of each other, with most means being <0.10 (all scales 1-5) from each other. The largest observed differences are a 0.12 difference in evaluation means and 0.10 difference in total PE means, with p-values of 0.318 and 0.206 respectively. The results of this simple test indicate that merging responses from RNs and LPNs was appropriate for this sample.

Table 4. Comparison of variables between nurse roles.

	mean (SD)		Wilcoxon statistic	p
	RN	LPN		
ACT Leadership	3.74 (0.72)	3.72 (0.72)	2305.0	0.872
ACT Culture	3.74 (0.59)	3.78 (0.69)	2158.8	0.632
ACT Social Capital	3.81 (0.58)	3.84 (0.61)	2306.0	0.867
ACT Evaluation	3.19 (0.82)	3.31 (0.83)	2180.5	0.703
Total Psych. Empowerment	3.91 (0.51)	4.01 (0.46)	1978.5	0.206
Job Satisfaction	3.93 (0.74)	4.05 (0.74)	2050.5	0.318

Internal consistency

Table 5 contains the results of the Cronbach's alpha testing, including the standardized alphas and mean inter-item correlation. Spreitzer's psychological empowerment consists of four subscales which are independently tested for internal consistency and Table 5 also contains information on the omega testing for overall psychological empowerment.

All scales and subscales showed acceptable alphas. Scores ranged from 0.79 (Impact subscale) to 0.93 (Meaning subscale). While all scores exceeded the minimum score of 0.70 (Tavakol & Dennick, 2011), some scales met or exceeded the recommended upper limit of 0.90, implying potential redundancy in the items inflating the consistency within the scale. This can be explored by examining the mean inter-item correlation. This self-explanatory coefficient measures the correlation between each item in a scale and presents the average; typical suggestions are that scores less than 0.15 show a lack of correlation between items while scores above 0.50 show that items exhibit a high degree of similarity to each other and are potentially redundant. Mean inter-item coefficients were generally high: only two scales (culture and social capital) fell below the 0.50, while the ACT's leadership subscale and psychological empowerment's impact subscale were less than 0.60. Job satisfaction's three items showed a mean inter-item correlation of 0.73: the items were strongly correlated, which is further explained by the histogram (Figure 3) which shows large spikes around scores of 4 and 5, scores that could have resulted from uniform responses of 'Agree' or 'Strongly agree' to each item. These results suggest potential underlying issues in the scale. However, analysis of the scale by Bowling & Hammond (2008) on a larger sample found acceptable reliability as well as test-retest reliability; they also found that the scale exhibited appropriate construct

validity in relation to other preceding and anteceding variables. While the MOAQ-JSS' three similarly-worded items do open up the scale to potentially problematic behaviour, prior work has shown that it still can function as intended despite high inter-item correlation.

Moving beyond single-scale reliability, the results of omega testing on overall psychological empowerment are shown in Table 6. The ω_H (omega hierarchical) value of 0.71 is greater than the generally accepted cut-off of 0.70, implying a strong internal reliability of the scale to measure the overall intended construct of total PE. The ω_T (omega total) value of 0.96 implies the scale has a very strong ability to capture overall variance within the test, and far exceeds the identical suggested cut-off of 0.70 (Revelle, 2013). The factor loadings also shown in Figure 4 were also appropriate, with all variables loading together onto their intended constructs and only one case of an item loading onto an unintended factor by a slight amount. Model fit statistics showed a χ^2 of 35.09 with a p-value of 0.067, with nonsignificance implying a good fit, and are further supported with a standardized root mean square residual (SRMR) of 0.020 (<0.05 being ideal) and root mean square error of approximation (RMSEA) of 0.057 (0.050-0.080 indicating good fit). Total psychological empowerment using the four subscales was supported with these results.

Table 5. Internal consistency results for single-concept scales.

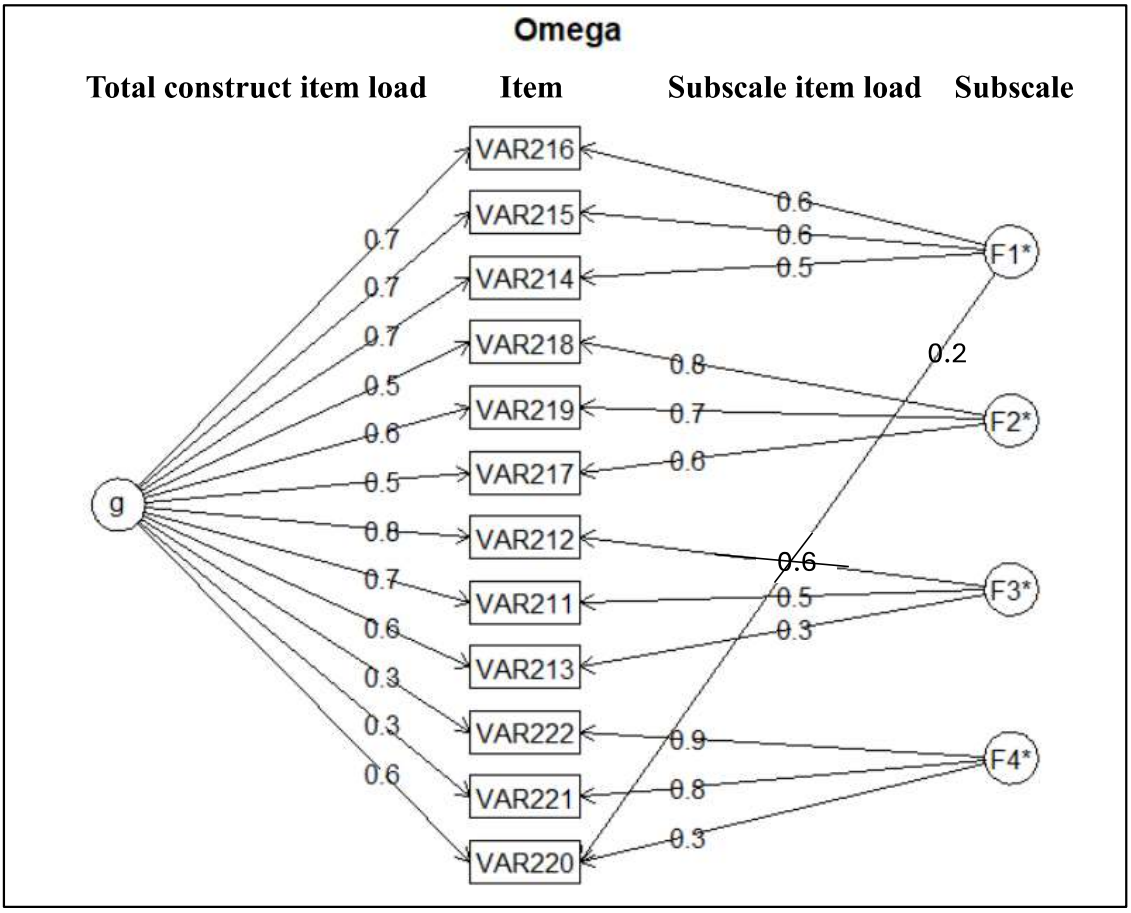
	Standardized alpha	Mean inter-item correlation
ACT Leadership	0.88	0.56
ACT Culture	0.83	0.46
ACT Evaluation	0.92	0.65
ACT Social Capital	0.82	0.44
PE - Competence	0.89	0.74
PE - Meaning	0.93	0.82
PE - Determination	0.90	0.75
PE - Impact	0.79	0.54
Job Satisfaction	0.89	0.73

Table 6. Omega testing for total psychological empowerment.

Spreitzer's psychological empowerment - item loadings				
Item	Competence	Meaning	Determination	Impact
Have flexibility			0.52	
Given independence			0.59	
I decide how I work			0.34	
Confident to do my job	0.49			
Good at my job	0.61			
I have the skills	0.64			
Work I do is important		0.62		
Job duties are meaningful		0.77		
Work I do is meaningful		0.73		
My work makes a difference	0.22			0.27
Control over my unit				0.79
Influence over my unit				0.93

Model fit	
Omega total	0.96
Omega hierarchical	0.71
χ^2	35.09
df	24
p	0.067
RMSEA	0.057
SRMR	0.020

Figure 4. Visual representation of omega testing for total psychological empowerment



*Note: F1 = meaning, F2 = competence, F3 = self-determination, F4 = impact

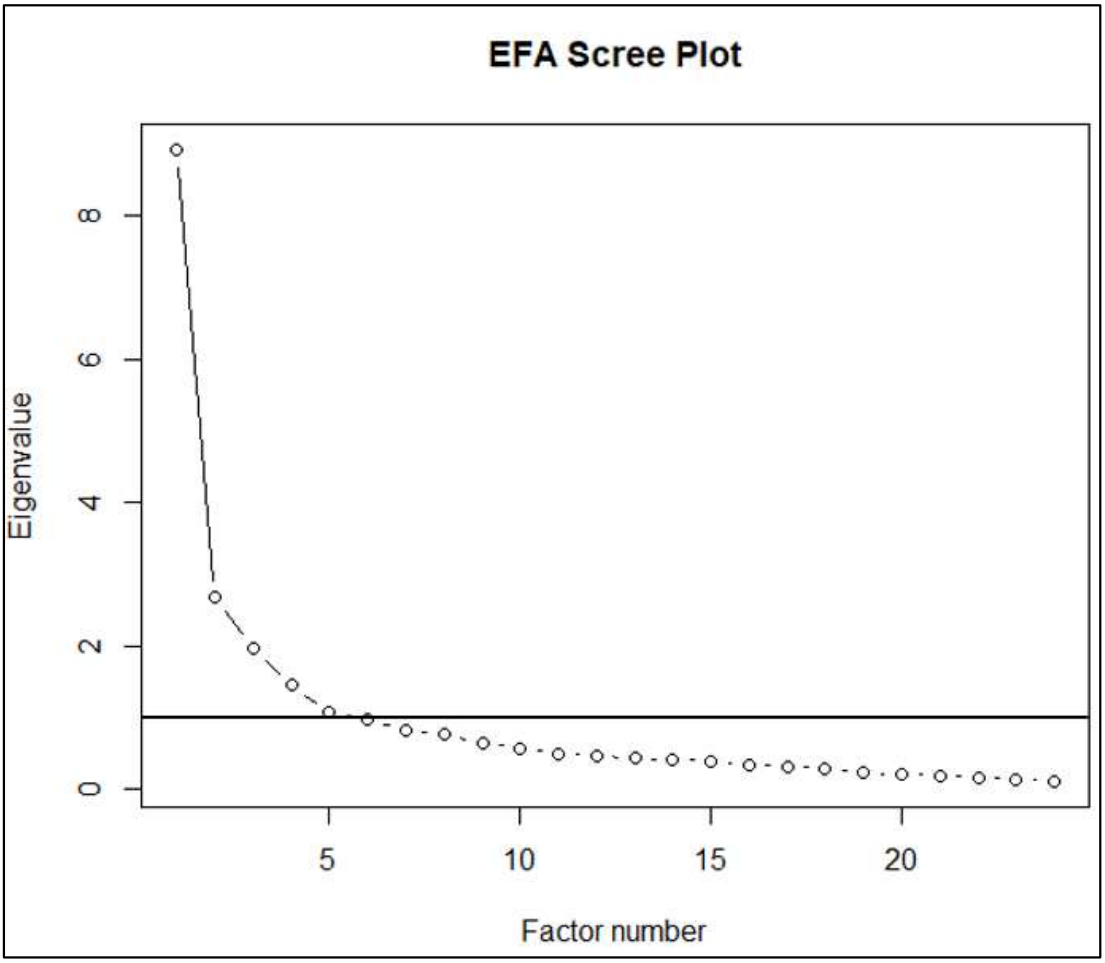
Factor analysis on the Alberta Context Tool

The results of the exploratory factor analysis (EFA) models testing for number of factors are demonstrated in Table 7 for model statistics and BIC, and in Figure 5 for eigenvalues represented as a scree plot. BIC values bottomed out at 3 and 4 factors, with 3 and 4 factor models being negligibly different and suggesting that 3 or 4 factors are ideal. The scree plot bottoms out at about 4 or 5 factors, where a sharp decline of the slope in the lines connecting eigenvalues can be seen. Between these two results, and the theory behind the 24 items suggesting four factors, the four-factor model was deemed appropriate to represent in this work and continue factor analysis.

Table 7. Exploratory factor analysis results for number of latent factors – model statistics.

Factors	AIC	BIC	χ^2	df	p
1	7606.3	7746.8	655.8	252	<0.001
2	7254.4	7462.2	411.0	229	<0.001
3	7108.0	7381.2	318.1	207	<0.001
4	7047.9	7381.6	251.8	186	0.001
5	7026.7	7418.9	219.7	166	0.003
6	7006.6	7454.4	186.7	147	0.015
7	6986.8	7487.3	144.9	129	0.161
8	6979.3	7529.7	111.6	112	0.492
9	6978.8	7576.0	89.0	96	0.681
10	6982.9	7623.9	70.2	81	0.799

Figure 5. Exploratory factor analysis results for number of latent factors – scree plot.



Results of the four-factor model are represented in table 8. Loadings above 0.300 are included. The six items in the leadership subscale all loaded strongly and similarly onto one latent factor (estimate 0.607-0.790, all $p<0.001$); no other item loadings were over 0.300. Culture showed a similar outcome albeit with weaker loadings (estimate 0.372-0.722, all $p<0.001$), and had a significant loading of 0.330 ($p=0.001$) from VAR079 from the leadership subscale. Evaluation showed a very strong set of factor loadings from intended items (estimate 0.628-0.938, all $p<0.001$) with no loading to any other items. Lastly, the ACT's social capital subscale showed moderate loadings from its intended items (estimate 0.407-0.774, all $p<0.001$). Looking at the covariance matrix, the coefficients were moderate and ranged from 0.234 (leadership-social capital) to 0.508 (culture-social capital). These four scales contain were correlated, but item loading is mostly as intended onto main factors, identifying leadership, culture, evaluation, and social capital as related but independent concepts.

Table 8. Four-factor model using exploratory factor analysis.

	Leader-ship	Culture	Evaluation	Social Capital
Item	**Loading value (p)**			
… looks for feedback	0.607 (<0.001)			
… focusses on successes	0.596 (<0.001)	0.330 (0.001)		
… calmly handles stressful situations	0.702 (<0.001)			
… actively listens	0.736 (<0.001)			
… actively mentors or coaches	0.790 (<0.001)			
… effectively resolves conflicts	0.700 (<0.001)			
… receive recognition		0.476 (<0.001)		
… supportive work group		0.372 (<0.001)		
… balances best practice and productivity		0.569 (<0.001)		
… supported [] professional development		0.570 (<0.001)		
… work to provide what residents need		0.722 (<0.001)		
… have control over [work]		0.695 (<0.001)		
… receive information on team performance			0.709 (<0.001)	
… discusses data informally			0.866 (<0.001)	
… formal process for discussing data			0.817 (<0.001)	
… formulates action plans			0.938 (<0.001)	
… monitors our performance			0.773 (<0.001)	
…compares performance with others			0.628 (<0.001)	
… share information with others				0.714 (<0.001)
… taken seriously by authority				0.774 (<0.001)

… other groups share information				0.471 (<0.001)
… comfortable talking with [] authority				0.739 (<0.001)
… take part in group activities				0.407 (<0.001)
… team exchanges help others do their job				0.576 (<0.001)
Covariance matrix				
Leadership				
Culture	0.434			
Evaluation	0.377	0.430		
Social Capital	0.234	0.508	0.407	

Table 9 includes the results of the confirmatory factor analysis, with each item directed to load onto its intended construct. Within all four ACT scales, all items significantly loaded onto their respective latent constructs (max p=0.001) in the predicted directions. Item loading was generally consistent according to standardized path estimates across all variables, with all path estimates above 0.500 and individual latent concepts showing a range of 0.143 for leadership, 0.108 for culture, 0.340 for evaluation, and 0.262 for social capital. The covariance matrix for this CFA model showed smaller coefficients than the EFA model, but all latent constructs were significantly correlated with one another (range 0.141-0.221, max p=0.004); this is acceptable. Model fit statistics adjusted for non-normal Likert-type data were encouraging: the user model χ^2 was 298.9 with 246 degrees of freedom, giving a p-value of 0.012; although nonsignificance is desired, this statistic is heavily influenced by sample size and model complexity, and these results are acceptable given the context. Robust Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) were 0.950 and 0.944, respectively; these should at minimum be above 0.900 and ideally close to or above 0.950, deeming this model satisfactory. The robust RMSEA was 0.050, indicating excellent fit relative to the degrees of freedom available, and the adjusted SRMR was 0.069, indicating good fit for the data. The EFA and CFA testing for the four ACT scales shows that the scale acts as expected within this sample of Nova Scotian LTC nurses despite the low sample size.

Table 9. Four-factor confirmatory factor analysis results.

	Leader-ship	Culture	Evalua-tion	Social Capital	
Item	**Item loading (all p<0.001)**				**Std. all-path estimate**
… looks for feedback	1.000				0.650
… focusses on successes	1.219				0.752
… calmly handles stressful situations	0.814				0.712
… actively listens	1.193				0.793
… actively mentors or coaches	1.254				0.793
… effectively resolves conflicts	1.388				0.791
… receive recognition		1.000			0.615
… supportive work group		0.865			0.616
… balances best practice and productivity		1.304			0.734
… supported [] professional development		1.124			0.723
… work to provide what residents need		0.977			0.705
… have control over [work]		0.990			0.664
… receive information on team performance			1.000		0.800
… discusses data informally			1.095		0.888
… formal process for discussing data			0.971		0.779
… formulates action plans			1.095		0.926
… monitors our performance			1.017		0.866
…compares performance with others			0.682		0.586
… share information with others				1.000	0.695
… taken seriously by authority				1.146	0.576

… other groups share information				0.999	0.586
… comfortable talking with [] authority				0.878	0.578
… take part in group activities				1.368	0.838
… team exchanges help others do their job				1.058	0.690
Variance					
	0.343	0.326	0.652	0.251	
Covariance matrix					
Leadership					
Culture	0.220				
Evaluation	0.202	0.258			
Social Capital	0.141	0.188	0.221		

Fit statistics	
Scaled χ^2	298.905
df	246
p	0.012
Scaled robust CFI	0.950
Scaled robust TLI	0.944
Scaled robust RMSEA	0.039
RMSEA > 0.08 p	0.002
Scaled SRMR	0.069

Correlation matrix

Results of correlation testing are presented in Table 10. All variables showed statistically significant correlations to all other variables. Coefficients between ACT subscales and psychological empowerment ranged from 0.26 (evaluation) to 0.51 (culture), representing weak to moderate correlations. Coefficients between ACT subscales and job satisfaction were of similar magnitude, ranging from 0.25 (evaluation) to 0.48 (culture), while psychological empowerment was correlated with job satisfaction with a coefficient of 0.49. These coefficients indicate an underlying relationship between variables used in this analysis.

Table 10. Spearman correlation between scale variables.

	Leader-ship	**Cul-ture**	**Evalua-tion**	**Social Capital**	**Total Psych. Emp**	**Job Satisfaction**
Leadership	/					
Culture	0.55***	/				
Evaluation	0.38***	0.49***	/			
Social Capital	0.45***	0.49***	0.49***	/		
Total Psych. Emp.	0.29***	0.51***	0.26**	0.38***	/	
Job Satisfaction	0.42***	0.48***	0.25**	0.44***	0.49***	/

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

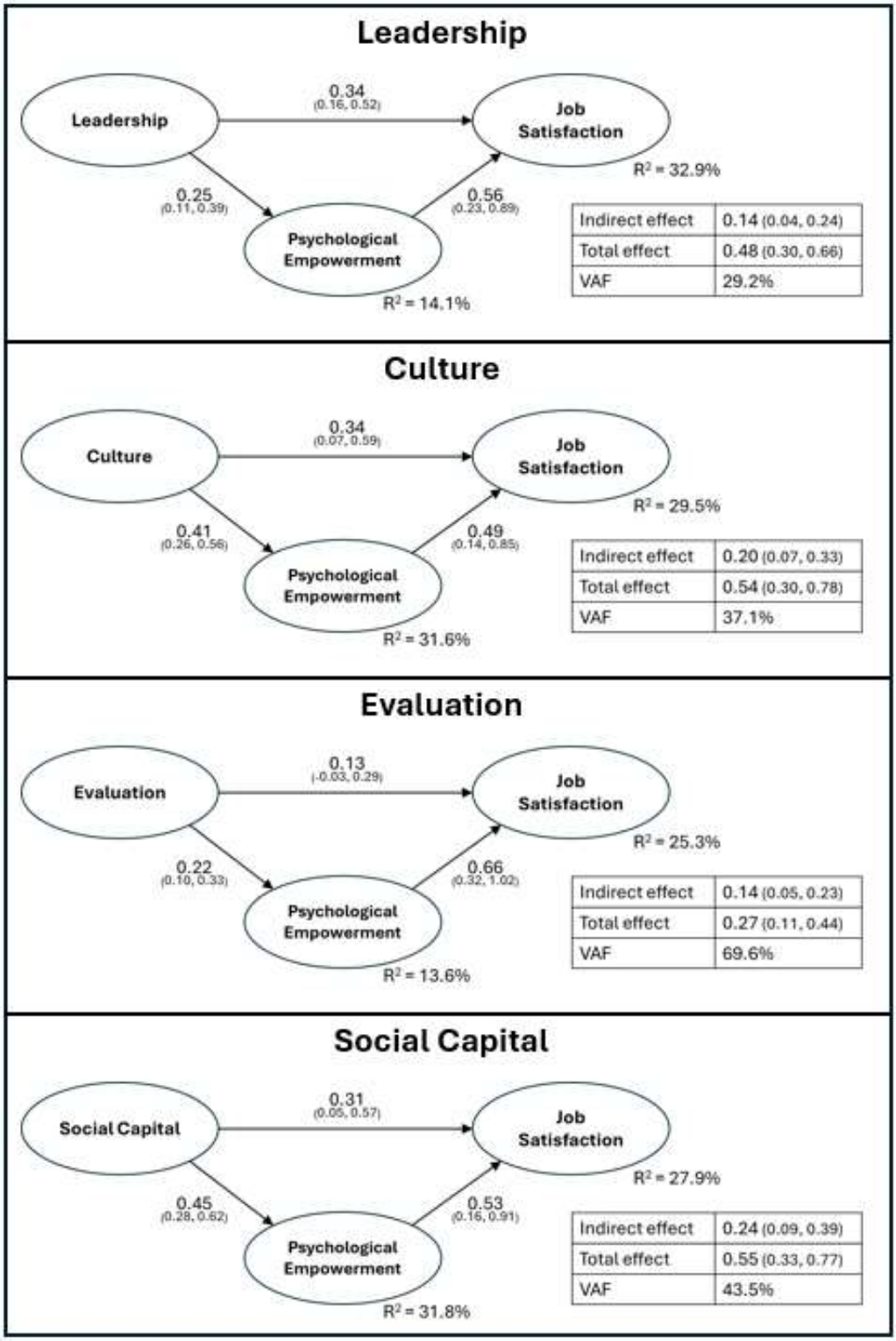
Path analysis

Table 11 contains the path coefficients and model statistics for each of the four path analyses with the ACT subscales. Figure 6 is a visual demonstration of these relationships.

Table 11. Results of path analysis testing the mediation hypothesis.

	Leadership	**Culture**	**Evaluation**	**Social Capital**
Direct effects				
ACT on JS 95% CI	0.34 (0.16, 0.52)	0.34 (0.07, 0.59)	0.13 (-0.03, 0.29)	0.31 (0.05, 0.57)
Indirect effects				
ACT on PE 95% CI	0.25 (0.11, 0.39)	0.41 (0.26, 0.56)	0.22 (0.10, 0.33)	0.45 (0.28, 0.62)
PE on JS 95% CI	0.56 (0.23, 0.89)	0.49 (0.14, 0.85)	0.66 (0.32, 1.02)	0.53 (0.16, 0.91)
Total indirect 95% CI	0.14 (0.04, 0.24)	0.20 (0.07, 0.33)	0.14 (0.05, 0.23)	0.24 (0.09, 0.39)
Total effects				
Total effect 95% CI	0.48 (0.30, 0.66)	0.54 (0.30, 0.78)	0.27 (0.11, 0.44)	0.55 (0.33, 0.77)
Model statistics				
VAF	29.2%	37.1%	69.6%	43.5%
JS R^2	32.9%	29.5%	25.3%	27.9%
PE R^2	14.1%	31.6%	13.6%	31.8%
AIC	430.02	405.33	445.49	408.09
BIC	444.65	419.96	460.13	422.72

Figure 6. Visual representations of path analyses.



Direct effects from three organizational context subscales on job satisfaction were significant and ranged from 0.31 (social capital) to 0.34 (leadership and culture); evaluation's direct effect on job satisfaction was not significant (0.13, -0.03–0.29). Total indirect effects were typically smaller than direct effects, ranging from 0.14 (leadership and evaluation) to 0.24 (social capital). Due to the insignificant direct effect but significant indirect effect, the evaluation model is considered fully mediated by psychological empowerment, while leadership, culture, and social capital were partially mediated by psychological empowerment. Total model effect on job satisfaction was lowest for evaluation (0.27) but similarly high for leadership (0.48), culture (0.54), and social capital (0.55). 95% CIs were broad, making comparability of effects between organizational context models limited. The significant direct and indirect effects seen in the leadership, culture, and social capital models imply a partial mediation, while the insignificant direct effect and significant indirect effect seen in the evaluation model imply a full mediation.

Overall, models explained a moderate amount of variance in overall JS, ranging from 25.3% (evaluation) to 32.9% (leadership); these results are high numbers for a broad concept like job satisfaction with only 2 predictor variables. The variance accounted for (VAF) represents the percent of the effect from the ACT scale that was mediated by total PE; this ranged from 28.7% (leadership) to 52.0% (evaluation). Total psychological empowerment showed strong relationships to job satisfaction, with coefficients from 0.49 (culture) to 0.66 (evaluation).

Model fit statistics are also presented. The model was fully saturated with three variables and three coefficients to calculate, meaning no values for χ^2, CFI, TLI, RMSEA, or

SRMR could be calculated. Loglikelihood, Akaike Information Criterion (AIC), and Bayesian Information Criterion (BIC) are model fit statistics that can be useful in comparing fit between different models, with lower absolute values indicating better fit in all three statistics. Loglikelihood represents how the observed covariance matrix compared to the proposed model's covariance matrix, indicating how the model fits the observed data; AIC and BIC use this statistic and put it into context for number of parameters, sample size, and other factors. AIC represents the models estimated ability to predict future relationships given new observations. BIC represents a models estimated ability to represent a true relationship between variables. In all three cases, the model including culture provided the best model fit statistics (Loglikelihood = -198.66, AIC = 407.31, BIC = 421.95), while the evaluation model provided the poorest statistics (Loglikelihood = -218.17, AIC = 446.33, BIC = 460.98).

General rules of thumb for interpreting AIC are that a difference of less than 2 means models are nearly identical in fit, from 2 to 4, there is still strong support for the model with higher AIC, from 4 to 7, there is only slight support for the higher model, and with a difference of 10 or more the model with lower AIC is decisively better fitting (Burnham & Anderson, 2004). Cut-off counterparts for BIC interpretation are very similar, with a difference of 0-2 implying little to no difference in model fit, 2 to 6, some evidence for the lower BIC model, 6 to 10, strong evidence, and greater than 10 implying a decisive better fit. With both of these interpretations in mind, the culture and social capital models both returned the best fits with negligible differences (ΔAIC and ΔBIC < 2); ACT Leadership showed a worse fit (ΔAIC and ΔBIC > 10 to best fit) and the evaluation

model returned the worst fit (ΔAIC and ΔBIC > 10 to best fit and to the leadership model).

Chapter 5. Discussion, Implications, and Conclusion

Research question 1

How do the four subscales of the Alberta Context Tool used in to measure Nova Scotian LTC nurses' organizational context in this thesis perform under factor analyses?

The results of the EFA and CFA supported the validity of the four ACT subscales (leadership, culture, evaluation, and social capital) for use within NS LTC nurses. EFA confirmed a four-factor solution when items were unconstrained, with only one item showed a noteworthy loading onto an unintended factor. This was satisfactory given the somewhat small sample size. This one unintended loading came from an item designed for the leadership subscale: "[the leader] focusses on successes rather than failures", and loaded onto the culture subscale. This team-wide, support-measuring item is arguably the item in the leadership subscale that is most similar to the culture subscale, as other leadership items more directly ask about the relationship between the individual respondent and the leader. For example, culture's somewhat broad definition of 'the way we do things' on a unit contains an item that reads: "I am a member of a supportive work group". This single, unintended loading is conceptually explainable, weak in magnitude, and overall is not representative of an issue in the construct of the ACT's leadership or culture scales.

When item-factor relationships were specified using CFA, all variables showed significant loadings into their intended constructs, and all standardized all-path item loadings showed a fairly consistent array of item loadings. The covariance matrix showed significant yet moderate correlations between factors, providing further evidence to their

use as related but unique concepts. Item fit statistics were satisfactory: the scaled robust CFI was 0.950 and scaled robust TLI was 0.944, both of which meet the desired cut-offs and are quite strong showings given the sample size, as do the RMSEA and SRMR. The data from this sample performed well within the intended structure of the ACT. Although only four dimensions of organizational context were available for this study, this is the first work confirming the validity of the instrument within the context of Atlantic Canadian LTC nurses.

The results shown in this paper are somewhat comparable to other factor analyses performed on the full, ten-dimensional ACT. A principal component analysis used in the development of the ACT reported similar values for internal consistency, and standardized factor loadings that showed higher ranges of values and were on average lower than those presented in this work (Estabrooks et al., 2009a). Table 12 outlines the results of other confirmatory factor analyses performed on the ACT with nurses, noting total sample and language where appropriate. Direct comparison is not appropriate due to all other CFAs including the Organizational Slack (staff, time, space) scales (all averaged ACT scales) in the factor analysis and have been excluded from Table 12, but would have impacted results, hindering direct comparison. Standardized item loadings were similar where reported. Squires et al. (2015) report item loadings from the English ACT while Igland et al. (2021) report item loadings from the Norwegian translation. Item loadings are similar in range (0.576-0.926) with the work of Squires et al. (0.584-0.902) and Igland et al. (0.421-0.854). Trends in item loadings appear similar as well: the evaluation scale tends to have stronger loadings and the social capital scale tends to have weaker loadings in all three studies. Despite the differences between studies (language, sample

size, other scales included in factor analysis), these results are encouraging. In addition to the two studies reporting item loadings, two more studies only report model fit statistics: one with a Japanese translation and used on hospital nurses (Futami et al., 2025), and one with emergency department nurses in Australia (Schadewaldt et al., 2019). CFIs, RMSEAs, and SRMRs were reported in all studies. Two studies (this work and Squires et al.) met the ideal fit cut-off 0.950, but none were lower than 0.900 which indicates a close fit. RMSEA values were <0.05 in four of five studies, and SRMR values were all <0.08, with two studies reporting values <0.05. Comparison of fit statistics indicates the ACT consistently meets desired cut-offs for good fit. The work presented in this thesis, despite the small sample size, can be included among the list of literature advancing and maintaining the argument for the validity and use of the ACT in LTC nurses.

Table 12. Results from factor analyses of the Alberta Context Tool on nurse populations.

Authors		Current work	(Squires et al., 2015)	(Igland et al., 2021)	(Futami et al., 2025)	(Schadewaldt et al., 2019)
Language		English	English	Norwegian	Japanese	English (Australia)
Nurse population		LTC	LTC	LTC	Hospital	Emergency
Sample size		144	2361	956		471
Methodology		CFA using MLM adjustment	CFA	CFA	CFA	CFA
Leader-ship	… looks for feedback	0.650	0.751	0.679		
	… focusses on successes	0.752	0.712	0.611		
	… calmly handles stressful situations	0.712	0.782	0.757		
	… actively listens	0.793	0.863	0.824		
	… actively mentors or coaches	0.793	0.819	0.83		
	… effectively resolves conflicts	0.791	0.822	0.824		
Culture	… receive recognition	0.615	0.584	0.706		
	… supportive work group	0.616	0.630	0.569		
	… balances best practice and productivity	0.734	0.670	0.641		
	… supported [] professional development	0.723	0.671	0.66		
	… work to provide what residents need	0.705	0.606	0.543		
	… have control over [work]	0.664	0.591	0.421		
Evalua-tion	… receive information on team performance	0.800	0.741	0.744		
	… discusses data informally	0.888	0.783	0.657		

	… formal process for discussing data	0.779	0.808	0.845		
	… formulates action plans	0.926	0.902	0.821		
	… monitors our performance	0.866	0.899	0.83		
	…compares performance with others	0.586	0.747	0.624		
Social Capital	… share information with others	0.695	0.631	0.683		
	… taken seriously by authority	0.576	0.677	0.695		
	… other groups share information	0.586	0.589	0.474		
	… comfortable talking with [] authority	0.578	0.616	0.654		
	… take part in group activities	0.838	0.72	0.742		
	… team exchanges help others do their job	0.690	0.571	0.592		
Other scales in factor analysis		None	Organi-zational slack	Organi-zational slack	Organi-zational slack	Organi-zational slack
χ^2		298.905*	2783	1435.585	1037.28	
df		246	474	506	443	
p		0.012	<0.001	<0.001	<0.001	<0.001
CFI		0.95*	0.977	0.927	0.913	0.924
TLI		0.944*			0.902	
RMSEA		0.039*	0.0466	0.048	0.054	0.048
SRMR		0.069*	0.0417	0.047	0.053	0.053

*Scaled/scaled robust statistics after MLM adjustment

Examining the factor validity of the ACT in an Atlantic Canadian context comes at a good time. Recently, the Atlantic Research Collaboration on Long-term Care (ARC-LTC) was established as a sister program to TREC, with the first wave of data collection being completed in May of 2024 (Keefe et al., 2025). This program involved the completion of all ten dimensions of the ACT by LTC staff from all four Atlantic provinces, including 724 RNs and LPNs. The work of this thesis could be used as a template to perform further investigation on the ACT using this larger, more robust sample.

Research question 2

How do organizational context subscales of leadership, culture, evaluation, and social capital perform in a model with job satisfaction with a mediation path through psychological empowerment?

Psychological empowerment partially mediated the relationship between three ACT subscales (leadership, culture, and social capital) and job satisfaction, while completely mediating the relationship between the evaluation subscale and job satisfaction. The VAF for partially mediated variables ranged from 29.2% (leadership) to 43.5% (social capital). The total job satisfaction R^2 was between 25.3%-32.9% for all subscales, which is considerable for such an important and broad concept as job satisfaction and given only two explanatory variables.

This is the first study to find that positive perceptions of organizational context (leadership, culture, and social capital) directly benefit levels of job satisfaction, while also benefiting levels of psychological empowerment which in turn lead to higher levels

of job satisfaction. Drawing from Spreitzer's theory, where psychological empowerment is a response to support/empowerment from the organization, these three dimensions of organizational context make sense in actuating both the direct pathway influencing job satisfaction and the indirect pathway through psychological empowerment, as conceptualized through meaning, competence, self-determination, and impact.

Emotionally intelligent leadership practices may help bolster multiple aspects of psychological empowerment. When a leader supports nurses to perform their job well, actively learn, and provide an environment of trust, it follows that a nurse might feel more able to tackle challenges (competence) and feel confident in their work (self-determination). Positive perceptions of culture, where staff feel mutual support and goals of care, may work through bolstering feelings of shared meaning in their work and support to perform their job to the best of their abilities (competence and impact). Social capital, feeling and harnessing informal power through relations and connections, may help to provide autonomy (self-determination) and information-sharing opportunities to perform well (competence).

The significance of the direct effects from these three dimensions of organizational context and job satisfaction shows that there is further impact than explained through psychological empowerment, either through true direct impact or through other mechanisms not accounted for within this analysis. Given the correlation between ACT dimensions, an untold amount of this direct effect may be due to this shared measurement captured by these subscales. This makes speculation on the mechanisms behind the direct impacts for these three dimensions challenging, beyond acknowledging they represent a direct impact when accounting for psychological empowerment.

Meanwhile, evaluation only impacted job satisfaction through the psychological empowerment mechanism; all significant impact that evaluation and feedback processes have on LTC nurse job satisfaction is actuated through their feelings of psychological empowerment within this sample. This too is a novel finding. Detailed, engaging feedback mechanisms might help nurses learn how to refine their practices to improve outcomes (competence) and track progress and provide concrete evidence of the impact of their work. The total effect on job satisfaction was significant and 25.3% of the variance of job satisfaction was explained by the model, and this taken into consideration with the significant impact of evaluation into psychological empowerment, implies that evaluation still contributes to job satisfaction in an important way.

The importance of psychological empowerment was consistent across all models. Not only did all four models show a significant indirect effect, but the coefficient representing the association between psychological empowerment and job satisfaction was consistently strong (0.49-0.66). Positive levels of psychological empowerment are important to LTC nurse job satisfaction, including by helping nurses take advantage of their organizational context and translate it into higher job satisfaction.

This work adds to the literature on the potential of psychological empowerment to mediate work environment and job satisfaction but is the first to look at organizational context. In past research, similar levels of partial mediation to leadership, culture, and social capital were found with structural empowerment. Chang et al. (2010) reported a 27.1% mediation for a sample of Taiwanese school nurses, similar to that of the ACT Leadership scale in this thesis but lower than the other ACT scales. Orlowska & Laguna (2023) found a mediation effect with a 95% confidence interval between 0.19 and 0.79 in

Polish hospital nurses, firmly within the bounds of partial mediation, while Orgambídez et al. (2024) found a 41.4% mediation in a longitudinal sample of various Spanish employees. However, one cross-sectional and one longitudinal study found no ability of psychological empowerment to mediate structural empowerment and job satisfaction (Dahinten et al., 2016; Laschinger et al., 2004). My hypothesis that the more personal experience of organizational context would see mediation by psychological empowerment was correct.

Research question 3

How do any differences in how leadership, culture, evaluation, and social capital act in this model imply or not imply some dimensions of organizational context to be more important than others in modifying job satisfaction?

Total effects on job satisfaction were highest for culture (0.54), social capital (0.55), and leadership (0.48), with evaluation only slightly lower (0.43). The broad 95% confidence intervals imply that any differences between total effects, particularly between the three variables partially mediated by psychological empowerment, are not strong enough to make claims on one dimension providing a truly higher total effect. However, evaluation has no significant direct effect on job satisfaction, while the direct effects for leadership, culture, and social capital are comparable when looking at 95% confidence intervals. Lastly, the model with the highest R^2 value and only model to explain over 30% of variance in job satisfaction used leadership as the explanatory variable. R^2 values for the culture and social capital models were only marginally lower. Evaluation had the lowest R^2.

Model fit statistics provide a different approach to model comparison. Culture and social capital had the best model fit by both AIC and BIC; leadership had poorer fit, while evaluation had the poorest fit of all four models. This means that, with organizational context impacting job satisfaction directly and indirectly through psychological empowerment, models containing the culture and social capital scales capture more of the relationship between data points than leadership or evaluation, which are subject to more statistical noise in their fits. This may be due to the more experiential nature of culture and social capital, captured through items about perceptions and feelings, relating more to the experiential scales of psychological empowerment and job satisfaction. In contrast, the leadership and evaluation scales contain more objective measures about specific behaviours (leadership) or have/have nots like in feedback (evaluation), potentially creating enough statistical noise with the experiences of psychological empowerment and job satisfaction to result in poorer model fit. It is challenging to understand how these model fit statistics may influence interpretation of model comparisons using direct/total effects and R^2 values; more research needs to be done on this subject.

The results of this analysis do not provide evidence for one dimension of organizational context as the ‘most important’ to focus on for improvements to job satisfaction. However, due to the comparatively low total effect and R^2 for the evaluation model alongside the lack of significant direct effect, I argue that evaluation and feedback mechanisms are the least viable target for interventions directed at job satisfaction. Leadership, culture, and social capital are all modifiable elements of organizational context with similar ability to impact job satisfaction after accounting for psychological empowerment. Psychological empowerment itself can be modified (Huang et al., 2024),

which may help LTC nurses take advantage of positive organizational context and lead to better organizational outcomes.

This finding is unique. A study that used generalized estimating equations and included both the ACT and Spreitzer's psychological empowerment as covariates found that of the ACT scales presented here, only Culture was significant onto job satisfaction when controlling for other factors; leadership and social capital were insignificant (Aloisio et al., 2019). A 2021 literature review on indicators of LTC nurse job satisfaction found four studies that measured leadership in some way (Aloisio et al., 2021b), with only two showing significance; one being a single item asking about a "good manager or leader" with work environment and demographic covariates (Choi et al., 2012), the other being a measure of authentic leadership (Authentic Leadership Questionnaire) not dissimilar to the ACT's Leadership scale (Wong et al., 2020). The same literature found an additional two studies that looked at the impact of social connections on job satisfaction and found both to report insignificant relationships (Aloisio et al., 2021b). There were no measures of culture captured or reported on in this literature review.

One possible contributor to the unique findings in this thesis is that this research sets up relationships in individual models and compared strength. Most other models included more than two covariates. Researchers using multivariate modelling have found different results. The ACT culture subscale was found to significantly predict job satisfaction but not leadership, evaluation, or social capital in a model of Western Canadian LTC nurses including 27 total covariates. A measure of leadership and a measure of intra-facility participation similar to ACT Culture which was found significant in a model with 13 covariates by Choi et al. (2012). A measure of job autonomy with parallels to the ACT

culture subscale was found to significantly predict job satisfaction by Elliot et al. (2017), who also found a measure of social support akin to the social capital measure used in this thesis was not significant. There is little consistency in these findings, and this thesis serves to add another fresh perspective onto how work environment impact job satisfaction.

Implications and applications

It can be argued that the modifiability of leadership, social capital, and culture are not the same. The ACT's leadership subscale can largely be summed up specifically as a measure of transformative, emotionally intelligent leadership and all items reflect this concept. It is important to note that measures of transformative leadership differ than other leadership styles: a 2018 literature review by Cummings et al. found that studies reporting relational-focussed, transformative, or emotionally intelligent leadership tended to report positive relationships with job satisfaction, but task-oriented leadership was more often linked to lower job satisfaction. Emotionally intelligent leadership skills can be directly taught to managers of LTC nurses through coaching interventions without overly complicated implementation (Cummings et al., 2014; Helfenbaum et al., 2025). Social capital, in the context of the ACT, measures team cohesion within teams but also connections to other teams and leaders. Social capital is also targetable through interventions, from simple team-building exercises to broader, organization-wide pushes to improve communication and collaboration (Hofmeyer & Marck, 2008). Culture is a broad term, and the ACT subscale contains six items covering topics including coworkers, professional development, job autonomy, and organizational goals. While culture is modifiable, it comes from other nurses but also from other care staff,

managers/administrators, and organization-level beliefs. The systemic influence on culture can be challenging to modify. Culture change models in LTC found some popularity in the 2000s and early 2010s, and researchers have identified many barriers to shifting organizational and work culture (Miller et al., 2010), while leadership and team connections are framed as smaller pieces of broader culture change (Hofmeyer & Marck, 2008; White-Chu et al., 2009). Leadership and social capital are more easily targetable.

Leadership, particularly transformative leadership like that measured by the ACT, has strong potential for improving LTC nurse job satisfaction. The distinction between leadership styles is important. Cummings et al. (2018) report that general healthcare nurses report higher satisfaction with their leaders when they embody authentic, resonant, or transformational leadership, and that these leadership styles are more strongly linked to higher psychological empowerment and higher job satisfaction than more task-oriented leadership styles. These 'relational' leadership styles focus on interpersonal encouragement, understanding the work and personal needs of employees, transparency from leaders, leading by example, and collaboration instead of top-down communication (Cummings et al., 2018a). LTC interventions targeting the development of these traits have shown to have success. Some of these interventions frame the leadership role as that of a coach for team members. A coaching intervention by Cummings et al. (2014) that focussed on identifying Albertan LTC nurse managers' perceptions of themselves as a coach, with the importance of personal relationships emphasized, resulted in managers spending less time spent dealing with issues, reporting fewer resident injuries, and having improved perception as self as coach. A follow-up data collection found increased instances of coaching staff years after the initial intervention, although frequency of

coaching had an inverse relationship with job satisfaction, emphasizing the coaching can still be a challenging experience for staff (Cummings et al., 2018b). Another coaching-based intervention, this time in Ontarian LTC homes, included manager-set coaching goals and a focus on active listening, team involvement, and frequent use of team huddles; this intervention was developed in part by LTC nurse managers and was received well (Helfenbaum et al., 2025).

Other LTC leadership interventions have had a broader focus on positive leadership. A leadership program reported on by Johannessen et al. (2021) focussed on facing the challenges reported by the LTC nurse managers in attendance, such as engaging employees, managing team relationships and politics, and dealing with internal and external demands. This was also the case for a leadership support program described by Dewar et al. (2019). Their intervention focussed on the experience of seen and unseen power differentials for nurse managers, and how to bridge gaps, actively listen, and improve the culture of care through harnessing their and their employees' confidence. A long-term intervention discussed by Crowne et al. (2017) included the development of a peer network and accountability check-ins for action plans developed in the program. Participants showed improved emotional intelligence at work. An intervention for hospital nurse managers led to nurses under their direction reporting increasing structural empowerment (Dahinten et al., 2014; MacPhee et al., 2014). Leadership-focussed interventions vary in scope and implementation, but consistently see benefits to staff or resident/patient outcomes.

Peer-reviewed interventions focussing on social capital are comparatively scarce, especially so in LTC. An intervention to improve staff communication and relationship

networks in American LTC found that some homes saw improved quality of communication and staff participation in decision-making (Colon-Emeric et al., 2013). The Safer Care for Older Persons in Residential Environment intervention, implemented in Western Canadian LTC homes, aimed to help frontline care aides participate more in decision-making processes, but also succeeded in creating and fostering teams of LTC staff across job roles and broadening social networks (Yousefi Nooraie et al., 2024). Social capital and similar concepts tend to be addressed as part of larger quality improvement interventions targeted at resident outcomes, rather than focused on directly for staff wellbeing (Toles et al., 2021).

Within Nova Scotia, there are already efforts underway to help improve LTC work environment. Culture was noted as a piece of the larger puzzle of improving staff quality of work life in a 2018 review of the LTC system (Nova Scotia Department of Health and Wellness, 2018), although it was not discussed in any depth and was not the target of any of the recommendation points. While team building events and programs linked to improving social capital exist within homes and organizations, there is a lack of any publicly-available information regarding any provincial initiative. Leadership, however, is receiving focus as a target for improvement within the province's LTC system. Nova Scotia Health (NSH), who operate the publicly-owned LTC homes in the province, promotes and educates staff on the LEADS in a Caring Environment (LEADS) framework. The Nursing Homes of Nova Scotia Association (NHNSA) has also been involved in various leadership development programs.

The LEADS framework was developed by the Canadian College of Health Leaders (Vilches et al., 2016) and used by NSH as a broader organizational model and "standard

for measuring leadership expectations" (Nova Scotia Health, n.d.). LEADS exemplifies several of the key facets of positive leadership styles, including leading by example, active listening and communication, and fostering team collaboration. Online resources within NSH online spaces include infographics and writeups, and a self-assessment checklist. The Canadian College of Health Leaders offers personalized workshops, coaching, and other organizational support, although information on use of these additional services by NSH is not readily available. The LEADS framework has been successful in improving leadership and workplace culture in participating organizations (Vilches et al., 2016). However, only 14% of LTC homes in Nova Scotia are publicly owned (Canadian Institute for Health Information, 2021), limiting the provincial reach of the LEADS program within a provincial LTC context.

Alternatively, the NHNSA is a not-for-profit collective of stakeholders and professionals that bring together Nova Scotian LTC homes from all regions and owner-operator models to advocate for quality of operation and development of provincial LTC (NHNSA, n.d.). The 2022-2025 Strategic Plan outlines leadership development as one of their goals (NHNSA, 2022). The NHNSA annual reports from 2022 to 2025 outline their commitments to this strategy, including their role in launching the Leadership in Continuing Care Administration Certificate at Dalhousie University (NHNSA, 2022a), and multiple leadership development workshops and programs that were posed as being important pieces to a broader culture shift (NHNSA, 2023, 2024). The leadership development programs supported by the NHNSA include topics ranging from basic, fundamental leadership skills to personal development reflective of facets of transformative, relational, and emotionally intelligent leadership as outlined by literature

(Bourgeault et al., 2022) or measured in the ACT. Partnerships with organizations like the Dalhousie University School of Health Administration, the Nova Scotia Centre on Aging, Healthcare Excellence Canada, and the Nova Scotia Department of Labour and Advanced Education strengthen the theoretical background of programs offered by the NHNSA. While there is no available documentation on the effectiveness of these programs, quotes in annual reports suggest positive feedback from participants (NHNSA, 2022a).

Leadership development and interventions in Nova Scotia are present but lack data-based vetting or a truly unified, standardized vision of improvement. These could be areas for future projects and could harness the impressive network created by the NHNSA and other collaborators in the government, sector, and academia. Additionally, future leadership interventions would do well to consider the evolving demographics of NS LTC nurses. Recent changes to licensing processes have allowed faster and easier transition for some foreign-born nurses to maintain their nurse role upon immigrating to Canada, with LTC as one landing place (Cameron, 2023). General increases in immigration over the last decade also pose an increase in culturally diverse residents within LTC homes. Systemic barriers like racism and cultural insensitivity exist within healthcare still, and transformative leadership can act as a positive force for making changes and improving the wellbeing and empowerment of staff (Ballout, 2025).

Limitations

The primary limitation of this work is the sample. The participating care homes were a convenience sample and are not representative of the overall distribution of NS LTC homes by size, location, or owner-operator model. This limits applicability of findings to the broader NS context, as these facility-level demographics have undetermined impacts

on concepts like organizational context and job satisfaction. Within LTC homes, nurses were recruited using a convenience sample as well, meaning the representation of this sample to the overall population of NS LTC nurses is incomparable at worst, and unknown at best as there is no current readily available data on details of specifically LTC nurses within the province. Future work should consider using the recent dataset from ARC LTC, in which homes were selected through stratified random sampling, and recruitment goal cut-offs for each care home attempt to minimize selection bias.

In addition, this sample is fairly small. The results of the analysis show significance, which was encouraging despite the sample size, but the methodology had to be grossly simplified compared to typical methods like structural equation modelling, which typically requires much larger samples. I was able to choose the methodology that best fit my sample, but other approaches would have held more statistical strength and help to better understand the relationships between concepts.

The cross-sectional nature of the dataset also weakens my conclusion of partial mediation. Full investigation of a mediation hypothesis is best suited for longitudinal data, where the change of measured values over time helps to tease out causality. Currently, only two studies report testing the mediation hypothesis (structural empowerment-psychological empowerment-job satisfaction) using this type of data and have opposite conclusions. Future work would do well to address this important statistical gap in methodology present in this thesis, between the sample, methods used, and type of data. Longitudinal analysis would provide a deeper understanding; however, starting with the 2023-2024 wave of data collection in both Western and Atlantic Canada, Spreitzer's psychological empowerment scale was dropped from the TREC Measurement

System. This change means the direct application of the theory explored in this thesis is impossible for the first full wave of data from all four Atlantic provinces through the ARC-LTC, or in assessing how the relationships presented here might have changed in Western Canada from a pre-, peri-, and post-COVID landscape. That said, psychological empowerment is not alone in concepts with mediation potential between structural empowerment and job satisfaction. Burnout has been proposed to fit this role by Orgambídez et al. (2022), essentially acting inversely to psychological empowerment: while high psychological empowerment can help someone take advantage of resources of their work environment, high burnout was posed as reducing the uptake of job resources as per the job demands-resources model. This applies similarly to Kanter's theory of structural empowerment: where psychological empowerment may come from a reaction to adequate structural empowerment, burnout may arise from a lack of structural empowerment. The study of 177 Spanish social workers used the emotional exhaustion and cynicism subscales of the Maslach Burnout Inventory, the same scale used in TREC research and available in their data, and found that 23% and 15% of the relationship between the CWEQ-II and a measure of job satisfaction was acting through burnout in public and private centers, respectively. In lieu of psychological empowerment, future research on the larger Atlantic Canadian dataset or longitudinal research including TREC's recent wave of data might explore burnout as a mediator between organizational context and job satisfaction.

Conclusion

Long-term care is a complex environment. Demands on staff are high and this is represented by statistics like burnout and turnover. Researchers have long attempted to

understand how the LTC workforce can be best supported and how quality of work life can be improved. In this thesis, I demonstrated that four subscales of the Alberta Context Tool (leadership, culture, evaluation, social capital) accurately represented their intended constructs within my sample Nova Scotia LTC nurses. At a time when a large-scale Atlantic Canadian research program has recently been established and centers around the ACT, factor validity of this tool is important. Moving forward, future work could take this analysis one step further within Atlantic Canada, this thesis does provide evidence in favour of the use of the ACT in Atlantic Canada and bolters the work of the Atlantic Research Collaboration on Long-term Care.

I found that psychological empowerment partially mediated the relationship between leadership, culture, and social capital, and the outcome variable of job satisfaction. The relationship between evaluation and job satisfaction was completely mediated by psychological empowerment. My work is the first to my knowledge to report on this mediation hypothesis using organizational context. This finding emphasizes that care work is an emotionally driven field, and that uptake of workplace support through organizational context is, in part, dependent on one's personal experience of empowerment. Methods to improve LTC nurse psychological empowerment might help to improve uptake of positive organizational context.

I also found that there was little meaningful difference in how leadership, culture, and social capital acted within the mediation model. Direct effects and total effects were similar with broad confidence intervals. Total R^2 values for job satisfaction were highest for leadership, but comparable across leadership, culture, and social capital. These three

dimensions of organizational context have similar statistical ability to impact job satisfaction when accounting for psychological empowerment; this is a unique finding.

One of the benefits of the ACT is its focus on modifiable dimensions of organizational context. I showed that Nova Scotia is already putting effort into improving the work environment of nurses with a focus on emotionally intelligent leadership of LTC nurses, but programming contains some key gaps. The province could benefit from a unified, structured vision of leadership improvement with indirect improvements to social capital and culture that carries from program-based education prior to entering the workforce, to on-the-job skills training using coaching methods that have been shown to work in prior literature. Future work in this area could benefit from larger samples and looking at the impact of other variables (demographics, other job-related measures) in how organizational context leads to job satisfaction. In the meantime, Nova Scotia appears to be on the right track to best supporting its LTC nurse workforce, and with some effort could stand on a strong, united platform of leadership and empowerment to help this vital workforce prepare for the current and future demands of the LTC system.

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