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Effect of transformational leadership on job satisfaction and patient safety outcomes

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ABSTRACT

Background: Improving patient safety within health care organizations requires effective leadership at all levels.

Purpose: The objective of this study was to investigate the effects of nurse managers' transformational leadership behaviors on job satisfaction and patient safety outcomes.

Methods: A random sample of acute care nurses in Ontario (N = 378) completed the crosssectional survey. Hypothesized model was tested using structural equation modeling.

Discussion: The model fit the data acceptably. Transformational leadership had a strong positive influence on workplace empowerment, which in turn increased nurses' job satisfaction and decreased the frequency of adverse patient outcomes. Subsequently, job satisfaction was related to lower adverse events.

Conclusion: The findings provide support for managers' use of transformational leadership behaviors as a useful strategy in creating workplace conditions that promote better safety outcomes for patients and nurses.

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Introduction

Safety and quality of patient care is recognized as a priority for health care organizations worldwide. However, large studies across North America and Europe have shown that health care systems are prone to error and that the risk of adverse events is significant (de Vries, Ramrattan, Smorenburg, Gouma, & Boermeester, 2008; Kohn, Corrigan, & Donaldson, 1999). Adverse patient outcomes or events are defined as unintended injuries or complications caused by health care management rather than the patient's underlying disease process, resulting in prolonged hospital stay, disability, or death (Baker et al., 2004). The Institute of Medicine (IOM) landmark report, *To Err is Human*, estimates that up to 98,000 patients die, and more than 1 million are injured each year in the United States as a result of preventable medical errors (Kohn et al., 1999). Equally alarming, the Canadian Institute for Health Information (CIHI)

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estimates that in more than 138,000 hospitalizations in Canada in 2014 to 2015, about 30,000—or one in every 18 patients suffered preventable harm that compromised their care (CIHI, 2016). Research has shown that the economic costs of adverse events are also significant, and the burden in developed countries remains high. For instance, the cost of adverse events to the Canadian health care system was estimated at $1.1 billion in 2009 to 2010 (Etchells et al., 2012). Analogous costs have been reported in the United States.

Despite progress in the past 15 years after the IOM report, patient safety remains an important public health challenge (Pronovost, Cleeman, Wright, & Srinivasan, 2016). Studies indicate that alarmingly high rates of adverse events in hospitals are a result of preventable incidents, some of which are likely because of nursing-related factors (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002; IOM, 2004). Researchers have linked patient safety outcomes to the quality of nursing work environments and lack of effective leadership (Aiken et al., 2002; IOM, 2004). In the organizational literature, relational leadership styles (i.e., transformational leadership) have been linked to reduced adverse patient outcomes (Cummings et al., 2010). Few studies, however, have investigated the mechanisms through which leadership influences employee behavior and subsequent implications on patient safety outcomes (Wong, Cummings, & Ducharme, 2013). In the context of the foregoing, one of the biggest knowledge gaps is how nursing leadership and workplace factors influence health care quality and safety outcomes. Thus, the purpose of this study was to test a model linking transformational leadership and structural empowerment to nurses' job satisfaction and prevalence of adverse events in acute care settings. In this study, the researchers examined how transformational leadership influenced patient safety outcomes and job satisfaction through the mediator, structural empowerment.

Transformational leadership is a behavior-based approach to obtain performance beyond basic expectations of workers and to strive for excellence (Bass & Avolio, 1994). Studies have shown that transformational leadership is key in creating supportive work environments in which nurses are structurally empowered to provide optimal patient care (Cummings et al., 2010). Several authors (Gabel, 2013; IOM, 2004) have suggested that transformational leadership styles seem particularly relevant in current turbulent and stressful health care work environments. Applying the concept of transformational leadership to this issue may provide insight into the ways in which leadership can influence patient outcomes.

Theoretical Framework and Relevant Research

This study integrates concepts from the transformational leadership theory of Bass (1985) and theory of structural empowerment by Kanter (1993) to examine how workplace factors influence patient safety outcomes and job satisfaction. The theoretical underpinnings of the concepts in the proposed model are described in the subsequent paragraphs.

Transformational Leadership

Transformational leadership is a relational leadership style in which followers have trust and respect for the leader and are motivated to do more than is formally expected of them to achieve organizational goals (Bass, 1985). Transformational leadership consists of four core dimensions: *idealized influence (attributes and behaviors)* describes a manager who is exemplary role model for followers, sets high standards of conduct, and is able to articulate the vision of the organization in an effort to win the trust of the followers. The second dimension, *inspirational motivation*, reflects a leader's clear articulation of a compelling vision through words, symbols, and imagery (Bass, 1985) to inspire followers to act. The third dimension, *intellectual stimulation*, reflects the extent to which a leader solicits employees' perspective on problems and considers a wide variety of opinions in making decisions (Bass, 1985). Finally, leaders engaging in *individualized consideration*, the fourth dimension of transformational leadership, attend to the individual differences in the needs of their employees and seek to coach or mentor them in an effort to help them reach their full potential (Avolio, Bass, & Jung, 1999).

Transformational leadership has consistently been linked to employee attitudes and behaviors in both management settings and nursing. Researcher suggests that the four dimensions of transformational leaders may serve as antecedents to creating structurally empowering work environments. For instance, through intellectual stimulation, a transformational leader encourages employees to participate in the decision-making process, which fosters critical thinking and development of skills and knowledge. Such leader creates empowering conditions for nurses by shaping the quality of support, information, and resources available in the workplace. Transformational leadership behavior is frequently associated with higher levels of employee satisfaction (Walumbwa, Orwa, Wang, & Lawler, 2005), organizational performance, follower work engagement (Zhu, Avolio, & Walumbwa, 2009), and employees' willingness to exert extra effort to reach a given goal. In a study of more than 700 nurses from seven Canadian acute care hospitals, McCutcheon, Doran, Evans, Hall, and Pringle (2009) found important relationships between transformational leadership behaviors of nurse managers and job satisfaction. More recently, Higgins (2015) found that transformational leaders improve the quality of patient care by creating supportive practice environment and organizational citizenship behaviors. These studies highlight the importance of transformational leadership in creating work environments that support professional nursing practice and thus, promote better outcomes for patients and nurses.

By developing positive relationships, transformational leaders gain trust of their followers and anticipate their needs by providing access to structurally empowering factors (i.e., information, support, resources) necessary for employees to accomplish their work in a meaningful manner.

Structural Empowerment

The theory of structural empowerment by Kanter (1993) explains how leaders can influence employees to accomplish their work effectively by providing access to these four organizational structures: information, support, resources, and opportunities. Access to information refers to having knowledge of organizational goals, values, and policies as well as the technical knowledge and expertise required to be effective at work. Access to support includes guidance and feedback provided by peers, subordinates, and supervisors, as well as social and emotional support from colleagues. Access to resources refers to having materials, supplies, money, time, and equipment needed to accomplish the job. Finally, access to opportunities for mobility and growth entails access to challenges, rewards, increased status, recognition for competence and skills, and professional development opportunities that increase one's knowledge and skills (Kanter, 1993; Laschinger, Finegan, Shamian, & Wilk, 2001).

Numerous studies have been conducted to test the structural empowerment theory by Kanter in a variety of nursing populations and settings. Structural empowerment has been associated with magnet hospital characteristics, such as higher levels of nurse autonomy, control, and better relations with physicians (Laschinger, Almost, & Donnalene, 2003; Upenieks, 2003). When working in empowering environments, nurses have collegial support and adequate resources required for high-quality patient care (Armstrong & Laschinger, 2006; Laschinger et al., 2003). Structural empowerment has been shown to be a significant predictor of higher nurse job satisfaction (Cicolini, Comparcini, & Simonetti, 2014; Laschinger, Finegan, Shamian, & Wilk, 2004), work engagement (Boamah & Laschinger, 2014), organizational trust and commitment (Laschinger et al., 2001), turnover intentions (Laschinger, 2012), and improve quality of care (Donahue, Piazza, Griffin, Dykes, & Fitzpatrick, 2008). Researchers suggest that nurses led by transformational leaders may experience increased structural empowerment leading to improved working conditions and high-quality outcomes (Laschinger & Leiter, 2006; Spence Laschinger, 2008).

Adverse Patient Outcomes

The primary concern of any health care delivery system, and in essence nursing, is the achievement of optimum patient outcomes (WHO, 2005). Patient outcome research has attributed most adverse patient outcomes to factors in the work environment (Aiken, Sloane, Bruyneel, Van den Heede, & Sermeus, 2013) and lack of effective and visible leadership (IOM, 2004; Kohn et al., 1999). Aiken et al. (2001) found that the poor working conditions and inadequate nurse staffing were predictors of adverse patient outcomes, such as medication errors, pressure ulcers, pneumonia, failure to rescue, and mortality. In a subsequent subanalysis of Canadian data from this study, similar results were reported (Laschinger & Leiter, 2006). In the present study, nurse-assessed adverse patient outcomes or events include patient falls, medication errors, hospital-acquired infections, pressure ulcers, and patient and/or family complaints as perceived by nurses not from administrative or regulatory database sources. Nurse ratings of quality of care provide related yet distinct information about patient outcomes because nurses are involved virtually at all points of patient care, which make their perspective a valuable source of information. In a study of more than 16,000 nurses in 396 U.S. hospitals, McHugh and Stimpfel (2012) found that nurse-assessed quality of patient care was associated with objective hospital quality indicators, such as patient satisfaction, failure to rescue, and mortality rates, suggesting that the actual and nurse-perceived evaluation of patient outcomes are entwined.

Job Satisfaction

Job satisfaction is an important nursing outcome, which is affected by quality of the work environment. Despite the voluminous research that has been conducted on job satisfaction, high levels of job dissatisfaction among nurses still persist (Hayes, Bonner, & Pryor, 2010; Lu, Barriball, Zhang, & While, 2012). A growing body of research has linked the quality of nurse work environment and nurse job satisfaction (Laschinger et al., 2004, 2012). It was found that the characteristics of the work environment, pace, balanced workload, relations with coworkers, professional opportunities, and the ability to meet patients' needs influenced job satisfaction. Researchers (Boamah, Read, & Laschinger, 2017; Cicolini et al., 2014) have shown strong positive relationship between structural empowerment and nurses' job satisfaction. Job satisfaction of nurses is critical to meeting the challenges of quality outcomes, patient satisfaction, and retention of nurses in hospitals (Aiken et al., 2002; Cicolini et al., 2014; Hayes et al., 2010). Although it is well acknowledged that effective nursing leadership is the driving force for creating healthy work environment that fosters positive nurse and patient outcomes, little empirical studies have been undertaken that clearly describe and identify the direct and indirect mechanisms by which leaders effect change in individuals and patient outcomes. The present study draws from theory and research to propose a theoretical model linking transformational leadership to workplace empowerment and, subsequently, to nurse job satisfaction and nurse-assessed adverse patient outcomes.

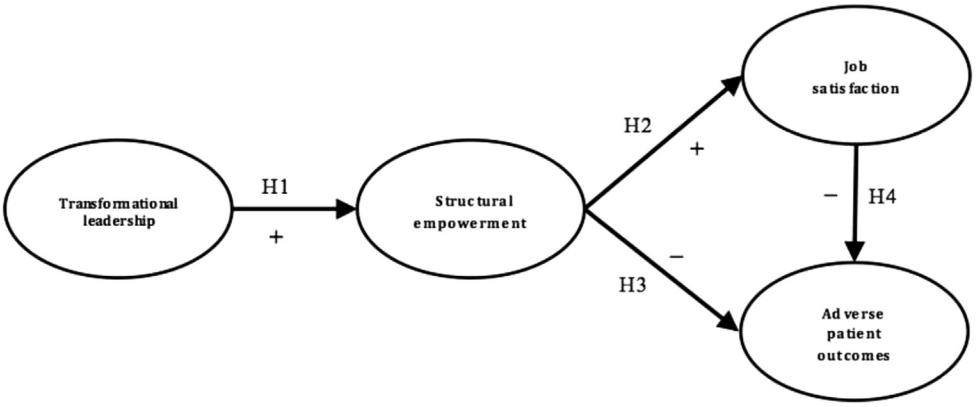

Figure 1 – Hypothesized theoretical model.

Hypothesized Model

The hypothesized model illustrating the proposed relationships is depicted in Figure 1. Overall, it is hypothesized that higher staff ratings of their manager's transformational leadership would be related to greater structural empowerment (hypothesis 1), which in turn, would contribute to increased job satisfaction (hypothesis 2), and lower adverse events (hypothesis 3). Higher job satisfaction would lead to lower adverse patient outcomes (hypothesis 4).

Methods

Design and Sample

A cross-sectional predictive survey design was used to test the hypothesized model. A random sample of registered nurses (n = 1,000) working in direct patient care in acute care hospitals across Ontario was selected from the College of Nursing provincial registry database and invited to participate in this study. A total of 378 nurses responded to the questionnaire for a response rate of 38%. Eligible participants were nurses working in direct patient care settings. After obtaining ethics approval, participants were mailed a survey package to their home address, including a letter of information, a questionnaire, and prepaid addressed envelope. Respondents had two options of participating in this study either by completing a questionnaire booklet or by an online survey. Using the procedure of Dillman, Smyth, and Christian (2014) to optimize response rates, nonresponders received a reminder letter 3 weeks after the initial mailing, followed by a second survey package 4 weeks later.

Measures

Transformational Leadership
The Multifactor Leadership Questionnaire-5X Short Rater measures the five dimensions of transformational leadership: idealized influence—*attributes* (four items), idealized influence—*behaviors* (five items), inspirational motivation (four items), intellectual stimulation (four items), and individualized consideration (four items). Participants rated items on a five-point Likert scale ranging from 0 = not at all to 4 = frequently, if not always. Previous research has supported the reliability and validity (Avolio & Bass, 2004) of this instrument among nurses (Cronbach α = 0.74–0.87) (AbuAlRub & Alghamdi, 2012; Boamah, 2017). In the present study, the Cronbach α coefficient was 0.97.

Structural Empowerment
Structural empowerment was measured using the Conditions of Work Effectiveness-II (CWEQ-II) (Laschinger et al., 2001). The CWEQ-II is a 12-item measure that consists of four core subscales (information, support, resources, and opportunity), which reflects the dimensions of work empowerment structures. Each subscale consists of three items rated on a five-point scale ranging from 1 = none to 5 = a lot, averaged to create subscale scores. Total empowerment score is measured by summing the means of the four subscales that range from 4 to 20. Higher overall scores represent higher perceptions of empowerment construct. Acceptable internal consistency has been reported, as evidenced by Cronbach α ranging from 0.78 to 0.93 in studies conducted between 1996 and 2013 (Laschinger et al., 2001, Laschinger, Wong, & Grau, 2013). The construct validity was established using confirmatory factor analysis (CFA) (Boamah, 2017; Laschinger et al., 2001). For the present study, the Cronbach alpha reliabilities were adequate (0.72–0.84) for the subscales and overall scale (0.84).

Nurse-Assessed Adverse Patient Outcomes
Staff nurses' ratings of adverse patient outcomes were measured using an instrument developed by Sochalski (2001) and derived from the Nursing Quality Indicators formulated by the American Nurses Association (American Nurses Association, 2000). This scale comprises five items that assess the nurses' perceptions of

the incidence of common adverse patient outcomes or complications during the past year. Nurses were asked to rate the frequency of occurrence of specific adverse events (medication error, patient falls with injuries, pressure ulcers after admission, health care-associated infections, and complaints from the patient and/or family), which has occurred within the past year on a scale from 1 (never) to 4 (frequently). An overall score was computed by averaging the five items. In studies of Canadian hospital-based nurses, Cronbach alpha coefficients of 0.75 (Laschinger & Leiter, 2006) and 0.81 (Wong & Giallonardo, 2013) were obtained, which is within satisfactory limits. This scale has shown acceptable validity (Aiken et al., 2001, 2013; Wong & Giallonardo, 2013). In the present study, the scale reliability was 0.80.

Job Satisfaction

Job satisfaction was measured using the Global Job Satisfaction (GJS) questionnaire adapted from the Job Diagnostic Survey by Hackman and Oldham (1976). The GJS is a four-item global measure of respondents' satisfaction with their jobs and their coworkers. Respondents rate items on a five-point Likert scale, with a rating of 1 (strongly disagree), indicating the lowest score and a rating of 5 (strongly agree), indicating the highest score for job satisfaction. The GJS survey has been used in nursing populations and found to have acceptable internal consistency reliability of 0.78 and 0.85 (Laschinger et al., 2004; Purdy, Spence Laschinger, Finegan, Kerr, & Olivera, 2010). In the present study, the Cronbach α was 0.86.

Data Analysis

Descriptive statistics and scale reliabilities were analyzed using the Statistical Package for the Social Science, version 22.0 software (SPSS Inc., Chicago, IL) (IBM, 2014). Before testing the hypothesized model, a preliminary CFA of the factor structure of all measures was conducted using structural equation modeling (SEM) analysis in AMOS (version 21.0), SPSS Inc. (Arbuckle, 2012). SEM with maximum likelihood estimation was used to test the fit between the data and the hypothesized model. To estimate the significance of indirect effects in the model, the bias-corrected bootstrapping method with 1,000 iterations was performed because it has greater statistical power in small samples and maintains reasonable control over type 1 error rate (Mackinnon, Lockwood, & Williams, 2004).

Using the recommendations by Hoyle (1995), the following criteria were used to assess the model fit: chi-square (χ^2), the chi-square/degrees of freedom, the incremental fit index (IFI), the comparative fit index (CFI) (Bentler & Bonett, 1980), the Tucker–Lewis index (TLI) (Tucker & Lewis, 1973), and the root mean square error of approximation (RMSEA) (Browne & Cudeck, 1989). The generally agreed on critical value for IFI and CFI is 0.90 or higher. A perfect fit means that there is no discrepancy between the hypothesized model and the observed. The RMSEA measures the lack of fit between the data and the model, and values less than 0.06 indicate a good fitting model (Hu & Bentler, 1999).

Results

Participant Characteristics

The demographic characteristics of the sample are presented in Table 1. On average, nurses were 46 years old with 21 years of nursing experience and 12.2 years working on their current hospital unit. Most nurses were females (94%), and about 45% were baccalaureate prepared and worked full time (68%) in medical–surgical units (30%) and critical care units (30%). Overall, characteristics of this study cohort are relatively similar to those reported for all Ontario nurses (CIHI, 2016).

Descriptive Results for Major Study Variables

Table 2 displays the means, standard deviations (SDs), and Cronbach α reliabilities for the study variables. On average, nurses reported a moderate degree of transformational leadership in their managers ($\overline{X} = 2.05$; SD = 0.99). Overall access to work environment factors that empower nurses to work effectively was slightly above the midpoint of the scale ($\overline{X} = 11.91$; SD = 3.77; range, 4–20). During the past year, nurses reported that patient and/or family complaints (36%) and nosocomial infections (28%) occurred occasionally to

Table 1 – Participant Characteristics

Demographic Characteristic	Mean	SD
Age	46.0	11.3
Years of nursing experience	21.0	11.9
	n	%
Gender		
Female	356	94.2
Male	22	5.8
Highest level of nursing education		
College nursing diploma	178	47.1
Bachelor degree in nursing	171	45.2
Master's degree in nursing	24	6.3
PhD	5	1.4
Current employment status		
Full-time	258	68.3
Part-time	90	23.8
Casual	30	7.9
Specialty of current unit		
Medical–surgical	115	30.4
Critical care	113	29.9
Maternal–child	38	10.1
Mental health	10	2.6
Geriatric/rehabilitation	7	1.9
Other/float resource unit	95	25.1

Note. SD, standard deviation.

Table 2 — Means, SDs, and Pearson's Correlations Between Main Study Variables

Study Variable	Mean	SD	α	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Transformational leadership	2.05	0.99	0.98	—												
2. Idealized influence—attribute	2.20	1.05	0.87	0.91*	—											
3. Idealized influence—behaviour	2.17	1.09	0.90	0.91*	0.81*	—										
4. Inspirational motivation	2.30	1.08	0.93	0.87*	0.74*	0.80*	—									
5. Intellectual stimulation	1.90	1.08	0.91	0.91*	0.79*	0.78*	0.74*	—								
6. Individualized consideration	1.69	1.19	0.92	0.89*	0.79*	0.73*	0.67*	0.81*	—							
7. Structural empowerment	3.00	0.67	0.84	0.62*	0.54*	0.57*	0.55*	0.56*	0.56*	—						
8. Information	3.38	0.98	0.84	0.29*	0.23*	0.29*	0.29*	0.27*	0.22*	0.66*	—					
9. Support	2.54	0.89	0.73	0.59*	0.50*	0.54*	0.53*	0.54*	0.54*	0.74*	0.36*	—				
10. Resources	2.47	0.88	0.80	0.51*	0.46*	0.46*	0.43*	0.46*	0.48*	0.74*	0.26*	0.45*	—			
11. Opportunity	3.52	1.02	0.82	0.41*	0.38*	0.38*	0.33*	0.36*	0.39*	0.73*	0.24*	0.35*	0.45*	—		
12. Job satisfaction	3.05	0.97	0.86	0.57*	0.53*	0.54*	0.47*	0.50*	0.55*	0.61*	0.25*	0.41*	0.60*	0.49*	—	
13. Adverse events	1.83	0.63	0.80	−0.13†	−0.10	−0.14*	−0.13†	−0.12†	−0.11†	−0.14*	−0.1	−0.09	−0.11†	−0.13†	−0.28*	—

Note. SD, standard deviation; α, Cronbach alpha.
* Correlation is significant at the .01 level (2-tailed).
† Correlation is significant at the .05 level (2-tailed).

frequently. On average, nurses were moderately satisfied with their jobs ($\overline{X} = 3.05$; SD = 0.97) as 55% of nurses agreed or strongly agreed with statements regarding their satisfaction with the job.

Testing the Hypothesized Model

Measurement Model

Transformational leadership was modeled as a second-order latent construct with five dimensions described by Bass (1985). The measurement model results revealed acceptable factor loadings for all transformational leadership subscales (0.85–0.94). Structural empowerment was also modeled as a second-order latent variable with subscales as reflective indicators. Factor loadings for structural empowerment subscales were acceptable (0.48–0.77). Finally, the item factor loadings for adverse events (0.65–0.73) and job satisfaction (0.74–0.86) were acceptable.

Structural Model

The hypothesized model was supported by the model fit statistics ($\chi^2_{(128)} = 267.454$; $p = .001$; IFI = 0.964; TLI = 0.957; CFI = 0.964; and RMSEA = 0.054), indicating that the data were a good fit to the model. All path estimates were significant and in the hypothesized direction (Figure 2). As predicted, transformational leadership had a strong and significant positive direct effect ($\beta = 0.77$; $p < .001$) (H1) on structural empowerment, which in turn, had a positive effect on job satisfaction ($\beta = 0.86$; $p < .001$) (H2), and a negative direct effect on adverse events ($\beta = -0.35$; $p < .05$) (H3). Subsequently, nurses' job satisfaction decreased the occurrence of adverse events ($\beta = -0.63$; $p < .05$) (H4). The hypothesized indirect effects of transformational leadership and structural empowerment on adverse events and job satisfaction were significant (Table 3).

Discussion

The goal of this study was to investigate the effect of transformational leadership on job satisfaction and nurse-assessed adverse patient outcomes using mediating mechanism of structural empowerment. To our knowledge, this is the first study to provide empirical support for this proposition. Perhaps the most important finding in this study was the significant indirect effect of transformational leadership on adverse patient outcomes through structural empowerment. Although transformational leadership offers a tangible solution for creating empowering nursing work environments, and thus improving patient safety outcomes (IOM, 2004; Wong et al., 2013), limited studies have examined the effect of transformational leadership on structural empowerment. Past studies (Attari, 2013; Morrison, Jones, & Fuller, 1997) linking transformational leadership to empowerment focus on another concept of empowerment from a psychological perspective.

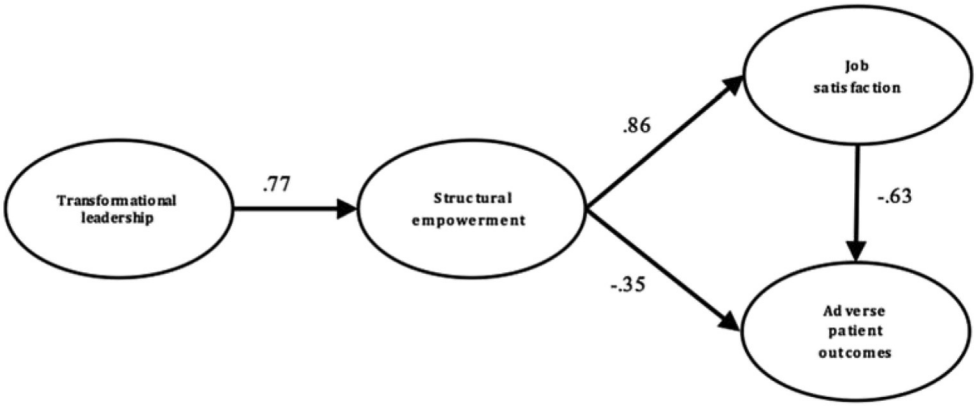

Figure 2 – Structural equation modeling results of the hypothesized model.

The findings of this study suggest that transformational nurse managers improve patient care quality by creating work environments that enable nurses to feel empowered to provide optimal care. Consistent with other studies, positive leadership styles, including transformational leadership behaviors, have been linked to better patient outcomes and fewer complications. For instance, in a study of Canadian nurses, Higgins (2015) found that nurses' perceptions of their managers' transformational leadership behaviors had negative effects on objectively measured adverse events (i.e., patient falls and hospital infections) through supportive practice environments and organizational citizenship behaviors. Wong and Giallonardo (2013) found that authentic leadership was significantly associated with decreased nurse-assessed adverse events through trust in the manager and areas of work life. Others have shown that transformational leadership supports quality of nursing care and clinical expertise (McGuire & Kennerly, 2006).

In this study, nurses perceived their managers as moderately transformational. Notably, the transformational leadership component, inspirational motivation, had the strongest impact on nurse and patient outcomes, whereas individualized consideration was the lowest ranked factor. By means of inspirational motivation, transformational leaders communicate high expectations to followers, which inspire them to become committed to and involved in efforts to realize the shared vision in the organization (Avolio et al., 1999; Bass, 1998). Transformational leaders are charismatic and influential in their ability to encourage employees to do more than what is expected of them at work. To achieve success, transformational leaders provide employees with a clear sense of mission, how their work fits with the overall goals of the organization, a sense of commitment to those goals, and how to encourage others to follow. In addition, these leaders attend to the needs of nurses by acting as mentors and coaches, listening to staff concerns, and fostering a supportive environment for individual growth (Bass, 1998). When nurses perceive that their manager is taking interest in their self-development and empowering them to reach their full potential, they become more confident and engaged at work, which ultimately, improve patient care quality (Purdy et al., 2010; Spence Laschinger, 2008).

It is reasonable to expect that transformational nurse managers may influence the frequency of adverse events on their units because such leaders encourage evidence-based practice and for employees to think of alternative solutions for problems (Avolio et al., 1999) and ways to improve outcomes of care. A leader practicing transformational leadership emphasizes the benefits of collaboration that create a culture where dialog is open and new ways of thinking are encouraged. Such leaders empower nurses to solve problems, influence change in practice on their units (Cook, 1999), and take responsibility in the care of patient, and in doing so, may lead to fewer errors.

In the present study, nurses reported moderate levels of empowerment in their workplace, which was similar to perceptions of empowerment reported in

Table 3 – Total Indirect Effect of Leadership on Outcome Variables

Structural Paths	*b*	*β*	SE	CR	*p*
Indirect effects					
Transformational leadership → Structural empowerment → Job satisfaction	0.620	0.613	0.033	12.743	<.001
Transformational leadership → Structural empowerment → Adverse patient outcomes	−0.069	−0.139	0.054	−2.573	<.01

Note. *b*, unstandardized coefficient; *β*, standardized coefficient; SE, standard error; CR, critical ratio.

other studies with Ontario nurses (Laschinger et al., 2009a, 2009b; Pineau Stam, Laschinger, Regan, & Wong, 2015). The results suggest that when nurses have access to information (i.e., clinical quality measures, budget, and financial information) and influence over resources supporting practice and ability to participate in organizational decisions, it encourages the use of clinical leadership practices at the bedside, thereby contributing to job satisfaction. More profoundly, the strong and direct relationship between staff empowerment and nurse job satisfaction indicates that enhancing the quality of the work environment may be the most important retention strategy. This is in line with previous research (Lautizi, Laschinger, & Ravazzolo, 2009; Pineau Stam et al., 2015), in which structural empowerment influences nurses' job satisfaction and organizational commitment (Laschinger et al., 2009a,b), work engagement (Boamah & Laschinger, 2014), lower levels of burnout and job strain (Laschinger et al., 2001), and turnover intentions (Cai & Zhou, 2009; Laschinger et al., 2009), all of which impact recruitment and retention of nurses.

The findings of this study are consistent with transformational leadership theory, which highlights the role of the leader in providing employees with supportive work environments resulting in higher levels of satisfaction and work effectiveness (Bass, 1998). By developing strong relationships, transformational leaders understand and anticipate the needs of their staff and make great efforts to influence the acquisition of resources needed to increase nurses' feelings of empowerment. Empowered nurses seek innovative approaches to perform their job, and thereby improving patient care outcomes and generating a greater sense of job satisfaction.

Limitations

The primary limitation of this study is the cross-sectional nature of the study design, which limits the interpretation of causality to the evidence of covariation in the study variables and the foundational theoretical associations (Polit & Beck, 2012). Longitudinal designs examining transformational leadership in managers and how they influence the work environment and nurse and patient safety outcomes during time should be considered for future research. Also, it is important to note that other important variables (i.e., staffing) could be added to the study model to provide a more comprehensive understanding of the effects of work environment on care quality. This should be addressed in further research. Another limitation is the use of self-report measures, which have potential for response bias (Podsakoff & Organ, 1986). However, having nurses anonymously complete the study questionnaire in the privacy of their home may have reduced bias by providing confidentiality and reducing fear of reprisal (Podsakoff & Organ, 1986). Despite the precise measurement of constructs in this study, the subjective or perception-based assessment (i.e., the use of nurse reports of adverse patient outcomes) represents only an estimate of adverse events, which might be subject to bias. Therefore, inclusion of multisource data such as objective ratings of actual patient outcomes could lessen this risk and add to the findings of this study. Finally, although the sample was representative of nurses in the province with respect to age, experience, and level of education, only 38% of the sample responded to the survey. In anticipation of lower response rates commonly associated with mail surveys particularly among health care professionals (Cho, Johnson, & VanGeest, 2013), measures were taken to promote responses (Dillman et al., 2014). This study also used a random sample of nurses working in acute care hospitals to decrease potential differences between responders and nonresponders.

Conclusion

In summary, the findings of this study underscore the important role that transformational leaders play in enhancing the quality of the work environment for nurses to produce better outcomes for patients. The results contribute to a small but growing body of empirical evidence showing an association between relational leadership and patient outcomes. Findings from this study suggest that transformational leadership is paramount for improving patient safety and increasing nurses' satisfaction at work. Given the prevalence of adverse events in hospitals and the critical shortage of nurses, it is crucial that managers engage in transformational leadership behaviors to ensure that work environments are empowering to support professional practice behaviors of nurses, which in turn, lead to better outcomes for patients and subsequently, improve nurse retention.

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