

Relationships among leadership practices, work environments, staff communication and outcomes in long-term care

Ann Tourangeau¹, Lisa Cranley², Heather K. Spence Laschinger³, Jaime Pachis⁴

^{1,4}Lawrence S. Bloomberg Faculty of Nursing, University of Toronto, Toronto, Ontario, Canada

²Faculty of Nursing, University of Alberta, Edmonton, Alberta, Canada

³School of Nursing, University of Western Ontario, London, Ontario, Canada

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ABSTRACT

Aim: To examine the role that work relationships have on two long-term care outcomes: job satisfaction and turnover intention.

Background: It is easy to overlook the impact that human relations have in shaping work environments that are conducive to organizational effectiveness. Employee job satisfaction and retention are important organizational outcomes.

Methods: Six hundred and seventy-five nursing and other staff from 26 long-term care facilities were surveyed about their work environments, work group relationships, observed leadership practices, organizational support, job satisfaction, and turnover intention.

Results: Higher job satisfaction was associated with lower emotional exhaustion burnout, higher global empowerment, higher organizational support, higher psychological empowerment, stronger work group cohesion, and higher personal accomplishment. Higher turnover intention was associated with lower job satisfaction, higher emotional exhaustion burnout, more outside job opportunities, weaker work group cohesion, lower personal accomplishment, and higher depersonalization.

Conclusions: No relationship was found between leadership practices and job satisfaction or turnover intention. Stronger work group relationships, stronger sense of personal accomplishment, and lower emotional exhaustion have direct effects on increasing job satisfaction and lowering turnover intention.

Implications: To retain long-term care staff, attention should be paid to fostering positive work group cohesion, supporting and acknowledging staff accomplishments, and minimizing staff burnout.

Key Words: nursing homes, long-term care, work environment, team, cohesion, leadership, job satisfaction, turnover intention

Introduction

In times such as these when there are urgent fiscal constraints associated with on-going uncertainty in healthcare workplaces, it is easy to overlook the role that human relations have in shaping work environments that are conducive to organizational effectiveness. The importance of work cohesion and relationships may even be greater in environments such as long-term care (nursing homes) where employees and patients have longer term relationships. Work group relationships constitute an important work environment component. The aim of this paper is to examine the influence that work group cohesion and communication as well as other work environment characteristics have on two long-term care organizational outcomes: job satisfaction and turnover intention. Examination of work environments is a worthy endeavour because of the link between work environments and long-term care quality outcomes (Temkin-Greener et al. 2009; Scott-Cawiezell et al. 2004; Caspar & O'Rourke 2008). For example, leadership and work group cohesion have been found to be significant predictors of falls in nursing home settings (Harris 1989).

Background

This brief literature review is organized around descriptions of what is known regarding the following characteristics of long-term care work environments: burnout, work group cohesion and communications, empowerment, conditions for work effectiveness, organizational support, leadership, job satisfaction, and turnover intention.

Burnout

There is widespread recognition that nurses and healthcare providers are at heightened risk for burnout (van den Tooren & Jonge 2008). In a study examining emotional exhaustion among Dutch nursing staff working in acute care hospitals and in nursing homes, nursing home staff reported significantly higher emotional exhaustion than did acute care hospital staff (van den Berg et al. 2006).

Work group cohesion and work group communication

Forbes-Thompson et al. (2006) studied nursing home staff and found that administrative staff scored significantly higher on communication, teamwork (cohesion), and leadership

scales than direct care staff. They found that certified nurse aides had the lowest ratings of communication and teamwork.

Empowerment, conditions for work effectiveness and organizational support

According to Kanter's theory of empowerment (1993), employees need access to information, support, opportunity, and resources to be empowered to accomplish their work. DeCicco et al. (2006) explored nurse perceptions of empowerment and respect and their effect on organizational commitment in Ontario long-term care settings. They found that nurses reported moderate levels of structural and psychological empowerment, respect, and commitment. Nurses who had access to empowering work structures had positive attitudes toward their work including feelings of respect and organizational commitment. Similarly, Li et al. (2008) reported evidence of moderate levels of psychological and structural empowerment among nurses working in Taiwan nursing homes. Hollinger-Smith and Ortigara (2004) studied nurses and nursing assistants working in US nursing homes and found that a large proportion of nursing staff rated characteristics of work environments as excellent or above average including work empowerment (50%), leadership effectiveness (60%), organizational climate (57%), and work effectiveness (92%).

Temkin-Greener et al. (2009) studied relationships between work environments and perceived work effectiveness with staff working in New York nursing homes. They reported that higher perceived work effectiveness was associated with more years experience in the facility, longer professional experience, collegial management styles, better working conditions, and low turnover rates.

McGilton et al. (2007a) examined perceived supervisor support with unlicensed nursing aides in Ontario nursing homes. They reported that supervisory support scores were moderate to moderately high (mean = 60.4; theoretical range = 15-75).

Leadership / Supervision

Scott-Cawiezell et al. (2004) found that perceptions and ratings of nursing home leadership varied among different job role groups. They reported that licensed practical nurses, in comparison to other occupational groups, perceived that nursing home leadership was low in terms of clarity of expectations, encouragement of initiative, and support. McGillis Hall et al. (2005) examined supportive relationships between nursing staff and supervisors in long-term care facilities in Ontario and reported that nursing staff identified the following contributing factors for supportive supervisor behaviours: supervisor communication and feedback, supervisor knowledge, and supervisor control.

Job satisfaction and determinants

Hollinger-Smith and Ortigara (2004) reported that 79% of nursing staff in long-term care organizations rated their job satisfaction as excellent or above average. In a study examining job satisfaction among staff in Pennsylvania nursing homes, Castle et al. (2006) found that staff were satisfied with their

work and coworkers, but less satisfied with promotional opportunities, superiors, and compensation.

Kuokkanen (2003) posited the existence of three common job satisfaction influencing factors: professional, patient care related, and the work environment. Work-related factors including supervisor support, work-group cohesion, variety of work, and autonomy, explained over 40% of variance in work satisfaction with registered nurses in US nursing homes (Kovner et al. 2006). McGilton et al. (2007b) found that supervisor job satisfaction increased when perceived supervisory support was higher. They concluded that supportive supervision is critical for job satisfaction among supervisors in long-term care settings. McGilton et al. (2007a) also reported that supervisory support was a significant predictor of job satisfaction with long-term care nursing aides.

There is evidence supporting the conclusion that employees who perceive their work environments as empowering experience higher levels of job satisfaction. Empowerment as a predictor of job satisfaction has been supported in a number of studies in other healthcare sectors (Larrabee et al. 2003; Laschinger et al. 2001a,b,c,d) and similar evidence has been found in long-term care settings. In a study examining the relationship between psychological empowerment, service quality, and job satisfaction in nursing homes, Kostiwa and Meeks (2009) reported that nursing assistants' perceptions of empowerment and service quality were strongly and positively related to job satisfaction. Kuo et al. (2008) also reported that nursing assistants working in long-term care experienced higher levels of job satisfaction when they also reported a moderate level of organizational empowerment.

Turnover intention and determinants

Findings from a national (US) nursing assistant survey reported that the following factors affected nursing assistant retention in nursing homes: poor pay and benefits, problems with working conditions, too many residents to care for, and problems with supervisors (Stearns & D'Arcy 2008). Anderson et al. (2004) found that facility characteristics, administrative characteristics, resource-allocation variables, and director of nursing tenure explained registered nurse turnover in a sample of Texas nursing homes. They concluded that managers can influence turnover by addressing climate and communication patterns as well as by encouraging stable leadership.

In some studies, general job satisfaction was explored as a predictor of turnover intention. For example, Castle et al. (2007) found that low job satisfaction was associated with high turnover intention among unlicensed nursing aides. In their examination of job satisfaction and turnover among nursing assistants working in nursing homes, Parsons et al. (2003) found that as job satisfaction decreased, turnover increased. They also reported that as satisfaction increased with task rewards, social rewards, supervision and management, as well as with pay and benefits, intention to quit decreased.

In this study, we hypothesize and test two models explaining the influence that work environment characteristics have on job satisfaction (Figure 1) and turnover intention (Figure 2) for nurses and other staff working in Ontario long-term care settings. First, we examine the following hypothesized



Figure 1 Model of determinants of job satisfaction among long-term care staff.

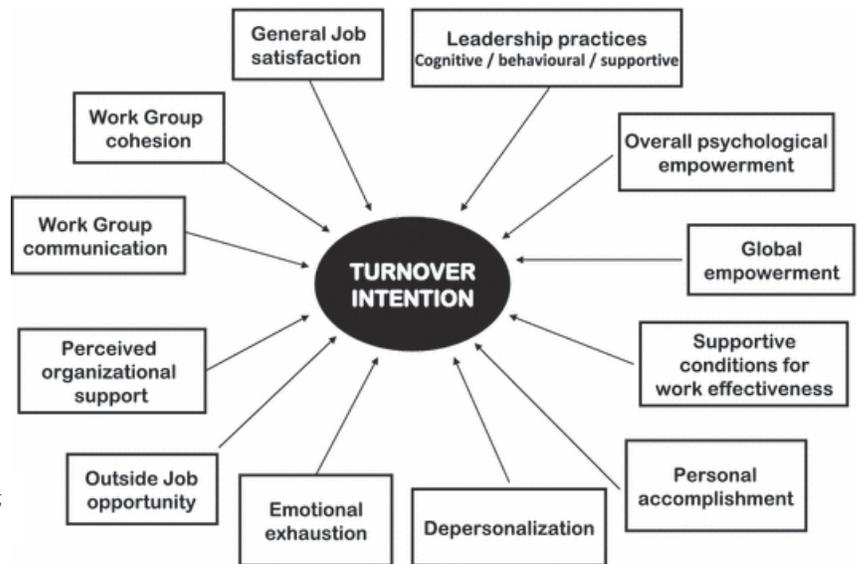


Figure 2 Model of determinants of turnover intention among long-term care staff.

determinants of job satisfaction: burnout, work group cohesion, work group communication, perceived organizational support, psychological empowerment, supportive conditions for work effectiveness, global empowerment, and leadership practices. Second, we examine determinants of turnover intention and include the same predictor variables as above and propose that two additional variables influence turnover intention: general job satisfaction and outside job opportunities. The purposes of this paper are to report on characteristics of long-term care (nursing home) work environments and to test the hypothesized models of the influence that work environment characteristics have on two organizational outcomes in long-term care settings: job satisfaction and turnover intention.

Methods

Sample and settings

In 2007-2008, nursing and other staff members (e.g., non-professional, allied health professionals, managers) in 26 Ontario

long-term care facilities were invited to participate in a study examining work environments and leadership practices in long-term care settings. Long-term care staff were invited to complete a survey that was distributed by research assistants at each site. Potential participants were invited to complete and return the survey while research assistants were on site but were also given the opportunity to complete the survey, if desired, at another time and return the survey in a stamped and addressed envelope that was provided. Almost 90% of participants completed the survey while research assistants were on site. In all, 675 long-term care staff completed a survey. Long-term care facilities were selected to participate in the study based on their willingness to participate and their geographical location. The 26 long-term care facilities were located in all parts of the Province of Ontario (urban, rural, east, west, north and south).

Survey and measurement

To strengthen data reliability, data were coded and double entered into an electronic database to assess for and correct

Table 1 Concepts, instruments, reference sources and reliability coefficients as used in this study

Concept	Instrument Name	Reference Sources
Emotional exhaustion burnout	Maslach Burnout Inventory	Maslach <i>et al.</i> 1996
Depersonalization burnout	Maslach Burnout Inventory	Maslach <i>et al.</i> 1996
Personal accomplishment	Maslach Burnout Inventory	Maslach <i>et al.</i> 1996
Work group cohesion	Work Group Cohesiveness Scale	Riordan & Weatherly 1999
Work group communication	Work Group Communication Scale	Riordan & Weatherly 1999
Perceived organizational support	Perceived Organizational Support Scale	Eisenberger <i>et al.</i> 1986, Rhoades & Eisenberger 2002
Overall psychological empowerment	Psychological Empowerment Scale	Spreitzer 1995
Supportive conditions for work effectiveness	Conditions of Work Effectiveness Questionnaire II	Laschinger <i>et al.</i> 2001d
Global empowerment	Conditions of Work Effectiveness Questionnaire II	Laschinger <i>et al.</i> 2001d
Cognitive leadership practices	Leadership Practices Inventory	Kouzes & Posner 2000, Tourangeau & McGilton 2004
Behavioural leadership practices	Leadership Practices Inventory	Kouzes & Posner 2000, Tourangeau & McGilton 2004
Supportive leadership practices	Leadership Practices Inventory	Kouzes & Posner 2000, Tourangeau & McGilton 2004
General job satisfaction	General Job Satisfaction Scale	Hackman & Oldman 1975, 1980
Outside job opportunity	Single item from Michigan Organizational Assessment Questionnaire	Seashore <i>et al.</i> , 1983
Turnover intention	Michigan Organizational Assessment Questionnaire	Seashore <i>et al.</i> 1983

inaccurate data entry. The survey was 13 pages in length and included some items asking respondents general questions about who they were (sex, age), their work roles, job-related information (part-time or full-time employment status, and years experience) as well as a number of established instruments to measure the following work-related concepts: burnout, work group cohesion, work group communication, organizational support, empowerment, leadership practices, general job satisfaction, and turnover intention.

Each instrument was selected based on appropriateness of use in settings with staff having diverse backgrounds, including education and English language literacy. All instruments were worded at the grade 8 level. Table 1 contains summary descriptions of each study concept, the name of the instrument used to measure each concept, and reference sources that support goodness of psychometric properties of each instrument. To facilitate understanding of what each scale score means, each scale score with the exception of the three burnout subscales, was scored by summing item scores (reverse coding first as needed) and then calculating a participant score for that scale out of 100.

Burnout is conceptualized as having three components: emotional exhaustion, depersonalization, and personal accomplishment. Emotional exhaustion burnout was measured using the 9-item emotional exhaustion subscale of the *Maslach Burnout Inventory* (MBI). Depersonalization burnout was measured using the 5-item depersonalization subscale of the MBI. Personal accomplishment, a positive scale, was measured using the 8-item subscale of the MBI. The MBI is a well-validated 22-item instrument. Respondents were asked to rate how frequently they had experienced specified job-related feelings on a 7-point scale ranging from never to everyday. Psychometric properties of the MBI have been consistently

established (Maslach *et al.* 1996). These subscale scores were summed.

Work group cohesion refers to employee perceptions related to the nature and goodness of their work relationships and the level of commitment and identification experienced as part of a team. The *Work Group Cohesiveness Scale* was used to measure work group cohesion. This well-validated 8-item instrument measures the degree of attractiveness, willingness to work together, and commitment to task and goal achievement that employees feel within their work group (Riordan & Weatherly 1999). Scores for each participant were calculated by summing all eight items and standardizing the total to be out of 100.

Work group communication refers to the effectiveness of information transmission in the workplace among employees. The *Work Group Communication Scale* is a well-validated 4-item scale used to assess the degree to which information is transmitted among work group members (Riordan & Weatherly 1999). Scores for each participant were calculated by summing all four items and standardizing the total to be out of 100.

Organizational support refers to how much employing organizations value employee contributions and employee well-being. The *Perceived Organizational Support Scale*, an 8-item instrument, was used to assess work participants' perceptions of the extent to which employer organizations valued their contributions to the organization and cared about their well-being (Eisenberger *et al.* 1986; Rhoades & Eisenberger 2002). Scores for each participant were calculated by summing all eight items and standardizing totals to be out of 100.

Psychological empowerment refers to the meaning employees ascribe to their work, the competence they feel they have to complete their work as expected, the amount of self-determination they have with regards to their work and the impact that they believe their work has on organizational and

other goals. The *Psychological Empowerment Scale* is a well-validated and frequently used 12-item scale that measures the four known dimensions of psychological empowerment: meaning, competence, self-determination, and impact (Spreitzer 1995). A total psychological empowerment score was calculated for each participant by summing scores for all 12 items and standardizing the total to be out of 100.

Structural empowerment refers to work conditions made that promote employee empowerment to do their jobs effectively, including opportunities, information, support, and so on. The *Conditions of Work Effectiveness Questionnaire II* was used in this study to measure supportive conditions for work effectiveness. This 3-item support subscale is a well-validated subscale used to measure supportive conditions for work effectiveness (Laschinger et al. 2001a,d). Included in this instrument is also a 2-item subscale that measures overall global empowerment. Both scales were calculated by summing items and standardizing totals to be out of 100.

Leadership practices refer to those observable attitudes and behaviours that leaders engage in as they provide support to employees to enable them to accomplish their work effectively. According to Kouzes and Posner (2002), exemplary leaders demonstrate a set of specific attitudes and behaviours including modeling the way, inspiring a shared vision, challenging the process, enabling others to act, and encouraging the heart. They developed an instrument to measure the extent that leaders use these exemplary behaviours. The original *Leadership Practices Inventory* (LPI) consisted of 30-items with 10-point response options to measure use of leadership practices by one’s manager. These 30-items comprise five subscales reflecting the five expectations of exemplary leaders (Kouzes & Posner 1995; Kouzes & Posner 2000). However, when the LPI was used in a Canadian study, psychometric test results suggested that there were only three distinct concepts being measured using 21 items: cognitive, behavioural, and supportive leadership practices (Tourangeau & McGilton 2004). In this study, the 21-item version of the LPI was used to measure participant perceptions of their managers’ cognitive, behavioural and supportive leadership practices. To calculate scores for each subscale, item scores were summed and totals were standardized to be out of 100.

General job satisfaction was measured using the 5-item *General Job Satisfaction Scale* developed by Hackman and Oldman (1975; 1980). This short scale has been used extensively including with long-term care staff (Schaefer & Moos 1996).

Scores for each participant were calculated by summing all five items and standardizing totals out of 100.

Intention to turnover was measured using two items of the *Michigan Organizational Assessment Questionnaire* (Seashore et al. 1983). These two items focus on behavioural intention regarding plans to leave one’s job. Respondents were asked to respond to the two items (I will probably look for a job in the next year and I often think about quitting) on a 7-point scale ranging from not at all likely to extremely likely. Scores for both items were summed and a score for each respondent was calculated out of 100.

In addition, one concept was measured using a single item. To measure the amount of outside job opportunity, participants were asked to respond to the following question: How likely is it that you would find a job with another employer with the same or better pay and benefits than you now have? Response options were on a 7-point scale ranging from not at all likely to extremely likely. An outside job opportunity score was calculated as a score out of 100 (not at all likely = 0 and extremely likely = 100). This item originated from the *Michigan Organizational Assessment Questionnaire* (Seashore et al. 1983).

Analyses

Analyses were completed using SPSS Version 16.0 (Chicago, IL). Descriptive statistics were used to describe the sample and to describe participant grouped responses to each study variable. Analysis of variance was used to examine differences in responses to study concepts across five job categories (registered nurses, registered practical nurses, leaders, non-professional staff, and allied health professionals). Bivariate regression analyses were completed to explore relationships among study concepts. Regression modeling was used to evaluate the hypothesized impact that work environment characteristics have on each of the two dependent variables: job satisfaction and turnover intention. In each of the two hypothesized model tests, all hypothesized independent variables were forced to enter a regression model. Although each of these two models explained considerable amounts of variance in the dependent variables, it was clear that some of the hypothesized variables did not add to the explanation of the dependent variable. Therefore, ‘stepwise’ regression modeling was implemented to develop more parsimonious explanations of those factors influencing both dependent variables.

Table 2 Sample description by staff job category

Variable	Job category					Total sample
	RN	RPN	Leaders	Non-professionals	Allied professionals	
Mean years employed – facility (SD)	7.8 (7.5)	9.5 (7.7)	7.1 (6.6)	9.1 (8.0)	12.0 (9.2)	8.7 (7.7)
Mean years employed – job (SD)	5.7 (6.3)	5.6 (6.0)	3.9 (3.9)	6.7 (6.7)	8.9 (8.0)	6.0 (6.3)
Mean age (SD)	44.4 (11.6)	41.6 (10.3)	46.9 (9.4)	43.9 (10.7)	46.1 (9.5)	44.2 (10.6)
Number (percentage) full-time	83 (74.8%)	81 (68.6%)	95 (88.8%)	243 (80.7%)	29 (87.9%)	531 (79.3%)
Number (percentage) female	105 (95.5%)	113 (95.0%)	101 (94.4%)	270 (89.4%)	27 (81.8%)	616 (91.8%)

SD, standard deviation; RN, registered nurse; RPN, registered practical nurse.

Table 3 Descriptive characteristics of model variables by job category

Variable	Job category						Significant differences?
	RN	RPN	Leaders	Non-professionals	Allied professionals	Whole sample	
Emotional exhaustion (SD)	20.7 (11.6)	21.6 (11.5)	17.5 (11.3)	16.6 (10.5)	22.0 (10.5)	18.6 (11.4)	$P < 0.01$ A>D; B>D; B>C
Depersonalization (SD)	4.8 (5.0)	4.4 (4.9)	4.1 (4.2)	3.8 (3.8)	5.2 (5.4)	4.2 (4.4)	Not statistically different
Personal accomplishment (SD)	38.4 (5.6)	38.3 (7.0)	40.3 (4.9)	38.0 (7.6)	41.2 (5.2)	38.6 (6.7)	$P < 0.01$ C>D
Work group cohesion (SD)	65.7 (19.3)	62.7 (21.6)	72.3 (16.7)	65.9 (21.5)	68.2 (19.3)	66.4 (20.5)	$P < 0.01$ C>A; C>D
Work group communication (SD)	76.1 (17.8)	77.3 (17.4)	78.8 (14.9)	71.4 (21.6)	73.9 (21.2)	74.5 (19.5)	$P < 0.01$ B>D; C>D
Organizational support (SD)	70.5 (24.0)	64.0 (22.5)	80.2 (18.1)	67.8 (22.3)	75.7 (21.2)	69.9 (22.5)	$P < 0.01$ C>A; C>B; C>D
Psychological empowerment (SD)	81.7 (12.7)	82.5 (11.9)	85.0 (10.5)	80.9 (13.5)	88.7 (7.3)	82.3 (12.6)	$P < 0.01$ E>A; C>D
Supportive conditions (SD)	65.1 (24.0)	58.8 (22.0)	67.6 (20.3)	60.7 (24.4)	66.2 (23.3)	62.5 (23.3)	$P = 0.02$ C>B
Global empowerment (SD)	72.2 (22.3)	61.8 (26.9)	77.0 (19.8)	69.5 (24.4)	79.2 (21.1)	70.2 (24.2)	$P < 0.01$ A>B; C>B; D>B; E>B; C>D
Cognitive leadership practices (SD)	69.8 (21.1)	65.2 (23.8)	71.9 (18.2)	66.6 (25.9)	72.1 (23.2)	68.0 (23.7)	Not statistically different
Behavioural leadership practices (SD)	76.6 (17.2)	75.4 (21.1)	80.4 (14.8)	75.7 (23.4)	79.2 (22.0)	77.0 (20.8)	Not statistically different
Supportive Leadership practices (SD)	73.8 (22.9)	67.5 (27.3)	75.5 (18.1)	70.7 (26.2)	74.1 (24.1)	71.6 (24.7)	Not statistically different
General job satisfaction (SD)	67.8 (18.1)	63.6 (18.7)	75.4 (16.1)	70.6 (16.8)	74.2 (16.2)	69.9 (17.6)	$P < 0.01$ C>A; C>B; D>B; E>B
Outside job opportunities (SD)	61.2 (31.3)	58.1 (36.5)	61.8 (32.0)	48.9 (35.2)	62.5 (28.7)	55.3 (34.4)	$P < 0.01$ A>D; C>D
Turnover intention (SD)	27.3 (23.0)	30.4 (28.9)	21.9 (23.6)	21.6 (25.3)	20.3 (24.4)	24.1 (26.1)	$P = 0.01$ B>D

SD, standard deviation; RN, registered nurse; RPN, registered practical nurse

Ethical consideration

Ethical approval for this study was secured from the University of Toronto Health Sciences Research Ethics Board.

Results

Sample characteristics

The sample of 675 included five job categories of long-term care staff: 111 registered nurses (16.4% of sample); 119 registered practical nurses (17.6%); 107 leaders and managers such as advanced practice nurses, educators, and team leaders (15.9%); 305 non-professional support staff such as personal support workers, aides, housekeeping, and clerical staff (45.2%); and 33 allied health professionals such as occupational and physical therapists, social workers, dieticians, and pastoral care (4.9%). Table 2 provides a description of the study sample by each of the five job categories and for the total sample in relation

to the following: years experience in the facility, years experience in the current job, mean age, proportion of full-time staff, and proportion of female participants.

Analysis of variance and Tukey post hoc tests were implemented to examine whether there were differences among the five job categories for continuous variables and Kendall's Tau-b was used to examine differences among job categories for nominal variables. There were some statistically significant differences among job categories. First, allied health professionals had worked significantly longer in facilities than had leaders ($p=.02$). Second, leaders had been in their current jobs for significantly less time than both non-professional support staff ($p=.01$) and allied health professional staff ($p<.01$). Third, mean age of the leader group was significantly older than the mean age of the registered practical nurse group ($p<.01$). Fourth, a lower proportion of registered practical nurses reported working full-time than leaders, non-professional support staff, and allied health professionals ($p=.02$). Fifth, a lower proportion

of allied health professionals were female than all other job categories ($p < .01$).

Descriptive results of model variables

Table 3 outlines the mean and standard deviation of each variable in the two models by job category. Analysis of variance was used to determine whether there were significant differences in variable scores across the five job categories. When significant differences were found, Tukey post hoc tests were implemented to determine which job categories differed on each variable ($p < .05$). Each statistically significant difference is identified in the last column of Table 3.

Correlations among variables

Bivariate correlation analysis was used to examine correlations among all 15 study variables. Table 4 details the resulting correlation matrix, the whole sample means and standard deviations for all variables, as well as the reliability coefficients (Cronbach alpha) of instruments as used in this study. Any correlation equal to or greater than .80 was considered evidence of collinearity. In such cases, if both correlated variables are included in a regression model, the precision of the estimated coefficient for each variable may be degraded because both variables jointly provide important information explaining the dependent variable (Vittinghoff et al. 2005).

Most of the 15 study variables were significantly correlated with each other with coefficients ranging from .12 ($p < .01$) for the relationship between cognitive leadership practices and depersonalization to .88 ($p < .001$) for the relationship between supportive leadership practices and behavioural leadership practices. Three correlation coefficients exceeded the value of .80: supportive leadership practices and cognitive leadership practices ($r = .87$), supportive leadership practices and behavioural leadership practices ($r = .88$), and behavioral leadership practices and cognitive leadership practices ($r = .87$). Because all three leadership practices scales were highly correlated with each other, two of the three had to be removed before regression analyses were implemented. The supportive leadership variable was selected to remain in regression analyses because this variable conceptually reflects relationships between leaders and staff more than do the variables cognitive and behavioural leadership practices. All other correlation coefficients among study variables were less than .70.

Regression analyses: testing the models

First, all 10 hypothesized variables from the 'Model of Determinants of Job Satisfaction among Long-Term Care Staff' were entered together into a regression with the variable 'general job satisfaction' as the dependent variable. The model was highly significant ($p < .001$) and the adjusted R Square was .56 indicating that 56% of variance in job satisfaction among long-term care staff was explained by these variables. However, not

Table 4 Descriptives, reliability coefficients and correlation matrix for all study variables

	Mean	SD	α	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Emotional exhaustion	180.6	110.4	0.91	-	-													
2. De-personalization	40.2	40.4	0.72	0.61*	-	-												
3. Personal accomplishment	380.6	60.7	0.73	-0.14*	-0.16*	-	-											
4. Work group cohesion	660.4	200.5	0.95	-0.37*	-0.33*	0.24*	-	-										
5. Work group communication	740.5	190.5	0.88	-0.26*	-0.28*	0.26*	0.62*	-	-									
6. Organizational support	690.9	220.5	0.91	-0.42*	-0.29*	0.30*	0.38*	0.33*	-	-								
7. Psychological empowerment	820.3	120.6	0.86	-0.24*	-0.18*	0.38*	0.32*	0.36*	0.45*	-	-							
8. Supportive conditions	620.5	230.3	0.86	-0.29*	-0.16*	0.17*	0.36*	0.30*	0.56*	0.37*	-	-						
9. Global empowerment	700.2	240.2	0.89	-0.47*	-0.26*	0.25*	0.45*	0.32*	0.62*	0.44*	0.53*	-	-					
10. Cognitive leadership practices	680.0	230.7	0.96	-0.23*	-0.12*	0.24*	0.34*	0.27*	0.39*	0.32*	0.39*	0.38*	-	-				
11. Behavioral leadership practices	770.0	200.8	0.95	-0.25*	-0.18*	0.20*	0.36*	0.30*	0.37*	0.28*	0.36*	0.36*	0.87*	-	-			
12. Supportive leadership practices	710.6	240.7	0.95	-0.28*	-0.18*	0.19*	0.37*	0.27*	0.41*	0.30*	0.44*	0.40*	0.87*	0.88*	-	-		
13. General job satisfaction	690.9	170.6	0.78	-0.63*	-0.42*	0.31*	0.45*	0.32*	0.57*	0.42*	0.37*	0.59*	0.35*	0.34*	0.35*	-	-	
14. Outside job opportunity	550.3	340.4	N/A	0.06	0.02	0.16*	-0.04	-0.04	-0.05	0.06	-0.05	-0.05	0.07	-0.04	0.01	-0.03	-	-
15. Turnover intention	240.1	260.1	0.81	0.55*	0.41*	-0.22*	-0.25*	0.22*	-0.40*	-0.30*	-0.28*	-0.42*	-0.19*	-0.19*	-0.22*	-0.69*	0.17*	

SD, standard deviation
x refers to Cronbach alpha coefficient value. *Correlation is significant at the 0.01 level (2 tailed).

all variables contributed to the explanation of job satisfaction including depersonalization burnout, work group communication, supportive conditions of work effectiveness, and supportive leadership practices. Therefore, a second regression model was implemented using stepwise methods. On the sixth model iteration, 6 of the 10 hypothesized predictors remained in the model and explained 56% of variance in job satisfaction. Table 5 identifies this final regression model, including the standardized coefficient, the t-value, and the significance for each predictor variable retained in the model. Higher job satisfaction was associated with lower emotional exhaustion burnout, higher global empowerment, higher perceived organizational support, higher psychological empowerment, stronger work group cohesion, and higher perceptions of personal accomplishment. Similar to what was found in the first regression model, the four hypothesized variables found not to be directly related to long-term care staff job satisfaction were: depersonalization burnout, work group communication, supportive conditions for work effectiveness, and supportive leadership practices.

Table 5 Final stepwise regression analysis results: determinants of job satisfaction

Variable	Standardized coefficient	t-value	P-value
Constant	35.7	8.7	<0.01
Emotional exhaustion	-6.0	-12.7	<0.01
Global empowerment	0.14	5.2	<0.01
Perceived organizational support	0.14	5.0	<0.01
Psychological empowerment	0.14	3.0	<0.01
Work group cohesion	0.08	3.1	<0.01
Personal accomplishment	0.24	3.0	<0.01

Model summary: F -value = 136.4, P < 0.01

Second, all 12 hypothesized variables from the ‘Model of Determinants of Turnover Intention among Long-Term Care Staff’ were entered into a regression model with the variable turnover intention as the dependent variable. The model was highly significant (p <.001) and the adjusted R Square was .53 indicating that 53% of variance in turnover intention among long-term care staff was explained by these variables. However, seven predictor variables did not contribute to the explanation of turnover intention including depersonalization burnout, work group communication, perceived organizational support, psychological empowerment, supportive conditions for work effectiveness, global empowerment, and supportive leadership practices. Therefore, a second regression model was implemented using stepwise regression methods. On the sixth model iteration, 6 of 12 hypothesized predictors remained in the model and explained 53% of variance in turnover intention. Table 6 identifies this final regression model, including the standardized coefficient, the t-value, and the significance for each predictor variable retained in the model. Higher turnover intention among long-term care staff was associated with lower general job satisfaction, higher emotional exhaustion burnout,

more outside job opportunities, weaker work group cohesion, lower perceptions of personal accomplishment, and higher depersonalization burnout. In this second regression model, one additional variable, depersonalization burnout, was retained using stepwise regression (p =.049) but was not found to be significant in the first regression model (p =.053) when all variables were forced to enter simultaneously. The hypothesized variables found not to be directly related to long-term care staff turnover intention were: work group communication, perceived organizational support, psychological empowerment, supportive conditions for work effectiveness, global empowerment, and supportive leadership practices.

Discussion

Limitations

External validity or generalizability of study findings is a potential limitation in this study. Long-term care facilities were selected for inclusion because of their geographic location and willingness of facility leadership to receive the research study. Furthermore, participants within facilities volunteered to participate. Both situations provide considerable self-selection bias risks. It is not known whether participants are representative of all employees working in long-term care facilities. The perceptions of non-participants may be similar or different than those expressed by participants (Polit & Beck 2004).

A second limitation relates to potential inaccuracy of data collected. Although efforts were undertaken to select instruments that had been previously used and validated in similar settings with diverse employee groups, individuals completing a survey may still not fully understand survey items or may choose to answer items in a manner that does not reflect their true perceptions (e.g., social desirability). Such potential inaccuracies in data may threaten study internal validity (Polit & Beck 2004).

Table 6 Final Stepwise regression analysis results determinants of turnover intention

Variable	Standardized Coefficient	t-value	P-value
Constant	70.5	11.5	<0.01
General job satisfaction	-0.86	-15.4	<0.01
Emotional exhaustion	0.41	4.3	<0.01
Outside job opportunity	0.13	5.9	<0.01
Work group cohesion	-0.17	4.4	<0.01
Personal accomplishment	-0.35	-2.9	<0.01
Depersonalization	0.41	2.0	<0.05

Model summary: F -value = 118.9, P < 0.01

Interpretation of findings and implications for management practice

The mean general job satisfaction score reported was 70 out of 100 indicating that, on average, employees ‘slightly agreed’ that they were satisfied with their jobs. The leader group

reported highest levels of job satisfaction (75.5) and the registered practical nurse group reported lowest levels of job satisfaction (63.6). There were significant differences across job categories. Leaders reported being significantly more satisfied with their jobs than were both registered nurses and registered practical nurses. Both non-professional support staff and allied health professionals reported being more satisfied with their jobs than were registered practical nurses. These scores indicate that there are opportunities to promote increased job satisfaction among long-term care staff. Evidence for insight about how this might be accomplished can be found in the results of the regression models examining determinants of job satisfaction model. The models testing determinants of job satisfaction were tested first before the model of determinants of turnover intention was tested. This was deliberately done because of evidence from both long-term care and other settings of the consistent impact that job satisfaction has on turnover intention. We found that job satisfaction of long-term care employees was higher when they reported lower levels of emotional exhaustion burnout, higher feelings of personal accomplishment at work, higher levels of global empowerment, higher levels of psychological empowerment, higher levels of organizational support, and stronger work group cohesion. We did not find any relationship between job satisfaction and other potential influencing factors including feelings of depersonalization, work group communication, supportive conditions for work effectiveness, and supportive leadership practices. Understanding determinants of job satisfaction may be seen as unimportant until we acknowledge the impact that job satisfaction has on other important staff and organizational outcomes such as turnover intention. The utility of understanding factors influencing job satisfaction then becomes heightened.

The mean turnover intention score was 24 out of 100 indicating that, on average, employees reported feeling midway between disagree and slightly disagree that they intended to turnover or leave their jobs over the upcoming year. The registered practical nurse group reported the highest turnover intention (30.4) and allied health professionals reported the lowest levels of turnover intention (20.3) There was one significant difference in turnover intention across the job categories; the registered practical nurse group reported significantly higher turnover intention than did the non-professional staff group. When we tested the model of determinants of turnover intention, we found that higher long-term care employee turnover intention was associated with lower job satisfaction, higher emotional exhaustion burnout, more outside job opportunities, weaker work group cohesion, lower feelings of personal accomplishment at work and higher feelings of depersonalization burnout.

These findings suggest that psychological empowerment, global empowerment, and perceived organizational support have a direct effect on promoting increased job satisfaction and therefore an indirect effect on turnover intention. Emotional exhaustion burnout, work group cohesion, and personal accomplishment were found to have both indirect effects (mediated through job satisfaction) and direct effects on turnover intention. These findings of factors influencing both job satisfaction and turnover intention lead to identification of

potential strategies to improve job satisfaction and decrease turnover intention.

First, because of evidence of importance of work group cohesion on job satisfaction and on turnover intention, creating and supporting team building activities such as sponsoring celebrations and social events as well as group learning opportunities may lead to higher job satisfaction and lower turnover intention. Identification with and being an accepted member of a cohesive work group leads to higher job satisfaction and lower turnover intention. Second, higher feelings of personal accomplishment have been found to directly influence both higher job satisfaction and lower turnover intention. Managers and leaders who create, sustain, and reward accomplishments of employees promote increased job satisfaction and lower turnover intention. However, acknowledgement and reward for personal accomplishments do not necessarily have to arise from managers alone but may also come from peers and care recipients. Third, higher levels of emotional exhaustion are detrimental to both job satisfaction and retention. There is some evidence suggesting that higher burnout is associated with more face-to-face contact with patients as well as with weaker work group cohesion (Lasalvia et al. 2009). Developing strategies to appropriately lower face-to-face contact between staff and patients (e.g., ensuring staff take their coffee and meal breaks) may lessen staff risk of high burnout. Strategies that strengthen work group cohesion may also act to lower staff emotional exhaustion.

In comparison with findings of others (Kuokkanen 2003; Parsons et al. 2003), we found no relationship between leadership and either job satisfaction or turnover intention. It is possible that leadership and relationships with leaders affect these outcomes indirectly through other important and unmeasured variables such as providing adequate resources. Although leadership is important to other organizational outcomes, no impact was found on job satisfaction or turnover intention for this sample of long-term care staff. More important were the cohesion and relationships among all staff, including the sense of being a member of a cohesive team with members who can rely on each other.

Conclusions

Job satisfaction among long-term care employees could improve considerably. Promoting improved job satisfaction is important for a number of reasons but in this study, its importance is rooted in the impact that job satisfaction has on turnover intention. Efforts to promote employee job satisfaction can directly and indirectly promote lower staff turnover intentions. If having a stable long-term care workforce that promotes effective organizational goal accomplishment is important to long-term care facilities, then strategies managing the predictors of job satisfaction and turnover intention should be implemented to promote job satisfaction and discourage turnover intention.

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