Work, work environments and other factors influencing nurse faculty intention to remain employed: A cross sectional study

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ABSTRACT

Background: Given the role nurse faculty have in educating nurses, little is known about what influences their intention to remain employed (ITR) in academic settings.

Objectives: Findings from a nurse faculty survey administered to test a conceptual model of factors hypothesized as influencing nurse faculty ITR are reported.

Design: Cross-sectional survey design.

Setting: Colleges and universities in Ontario, Canada.

Participants: The population of Ontario nurse faculty who reported being employed as nurse faculty with the College of Nurses of Ontario (Canada). Of the 1,328 nurse faculty who were surveyed, 650 participated.

Methods: Participants completed a questionnaire with measures of work, work environment, job satisfaction, burnout and ITR. Regression analyses were conducted to test the model.

Results: Ten of 26 independent variables explained 25.4% of variance in nurse faculty ITR for five years. These variables included: proximity to retirement, quality of relationships with colleagues, being employed full time, having dependents, satisfaction with work-life balance, quality of education, satisfaction with job status, access to financial support for education from organization, access to required human resources and being unionized.

Conclusions: Although not all influencing factors are modifiable, academic leadership should develop strategies that encourage nurse faculty ITR. Strategies that support collegial relationships among faculty, increase the number of full time positions, promote work life balance, engage faculty in assessing and strengthening education quality, support faculty choice between full-time and part-time work, and ensure adequate human resources required to teach effectively will lead to heightened nurse faculty ITR.

Key Works: Work environments, intention to remain employed, job satisfaction, nurse education, nursing faculty, nursing education, personnel turnover

Introduction

An adequate supply of competent nursing personnel is needed to provide quality healthcare. Attaining an adequate supply of nurses is dependent on having an adequate supply of appropriately educated nurse faculty (Canadian Nurses Association [CNA] and Canadian Association of Schools of Nursing [CASN], 2012; CASN, 2010). Recent efforts to increase numbers of nurses entering the workforce have focused on increasing enrolment capacity in nursing education programs (CASN, 2003) as well as on implementing strategies to promote retention of employed nurses (Lartey et al., 2013). While considerable research has been undertaken to study factors influencing nurse retention in clinical settings, factors influencing retention of nurse faculty have not been well explored.

Around the world the shortage of faculty, researchers, and doctoral students is one critical problem facing the nursing profession (DeYoung et al., 2002; Kowalski et al., 2006; McDermid et al., 2012). The current deficit of nurse faculty limits the ability to educate nurses (CNA and CASN, 2012; Gerolamo and Roemer, 2011; Gwyn, 2011; Kowalski et al., 2006; Shipman and Hooten, 2008). In the US, more than 75,000 qualified applicants were turned away from nursing schools in 2010-2011, primarily due to an insufficient number of faculty (American Association of Colleges of Nursing [AACN], 2012).

In 2012, Canadian nursing schools required an additional 215 full-time faculty to meet the projected demand (CNA and CASN, 2012). Currently, the number of graduate students enrolled in Canadian nursing schools will not meet the demand for advanced practice nurses in clinical settings as well as the demand for faculty in the nursing education system (CASN, 2010). The nurse faculty workforce is rapidly aging, with 38.3% of faculty being over the age of 55 in 2011 and 17.8% eligible to retire (CNA and CASN, 2012). Further many nursing doctoral graduates pursue career paths other than education (DeYoung et al., 2002).

Across Canada, schools of nursing identified three main factors limiting their ability to recruit new faculty: a shortage of adequately prepared nurses seeking academic positions, non-competitive salaries, and lack of funds to create permanent

positions (CNA and CASN 2012). These concerns have been mirrored in other countries (McDermid et al., 2012; Wyte-Lake et al., 2013). This results in heavy workloads for existing faculty and further attrition (Candela et al., 2012, Gerolamo and Roemer, 2011).

To develop evidence-informed strategies that promote stronger nurse faculty ITR, and ultimately retention, factors influencing nurse faculty ITR must be identified. Strategies can then be implemented that manage modifiable influencing factors to promote higher faculty ITR. The purpose of this paper is to report findings from a nurse faculty survey administered to test a model of factors influencing nurse faculty ITR.

Background

Tett and Meyer (1993) defined ITR as an employee's conscious and deliberate willfulness to remain working at an organization. ITR has been established in the literature as a precursor to retention (Kim et al., 1996; Mueller and Price, 1990). According to the theory of reasoned action (Ajzen and Fishbein, 1980), attitudes affect decisions and ultimately, behavior and actions. Thus, nurse faculty who intend to remain employed are more likely to remain employed at their institution.

There has been considerable research and theory development explaining nurse intention to remain in or leave employment in clinical settings (Boyle et al., 1999; Ellenbecker et al., 2008; Hayes et al., 2006; Sourdif, 2004; Tourangeau and Cranley 2006; Tourangeau et al., 2010). Categories of factors in the literature which were found to influence nurse ITR include: nurse characteristics such as age, education level, and job satisfaction, extrinsic conditions such as salary and benefits, satisfaction with leadership, exposure to external employment opportunities, and organizational characteristics including leadership support. Although one might want to generalize knowledge of factors influencing clinical nurse ITR to nurse faculty situations, differences in role expectations and work settings may make this extrapolation inappropriate.

Recent publications exploring factors influencing nurse faculty retention suggest that job satisfaction (Falk, 2007; Garbee and Killacky, 2008; Kowalski et al., 2006), leadership behavior (Cash et al., 2011; Garbee and Killacky, 2008), workload (Garbee and Killacky, 2008; Gerolamo and Roemer, 2011; Tourangeau et al., 2012), work-life balance (Brady, 2007; Bittner and O'Connor, 2012; Gerolamo and Roemer, 2011; Tourangeau et al., 2012), and relationships with co-workers (Bittner and O'Connor, 2012; Lane et al., 2010; Tourangeau et al., 2012) influence nurse faculty ITR.

Tourangeau et al. (2012) hypothesized a conceptual model of *Factors Influencing Nurse Faculty Intention to Remain Employed.* Four thematic categories of influencing factors were reported: personal characteristics, work environment and organizational support, job content, and external characteristics. In this study, we test an adapted version of the Tourangeau et al. (2012) model examining factors influencing nurse faculty ITR (see Figure 1).

Methods

Design

A cross-sectional design was employed to collect nurse faculty survey data.

Participants and Setting

The accessible Ontario nurse faculty population was identified through the College of Nurses of Ontario 2010 registration database and study packages were mailed to all 1,328 potential participants. Eligibility criteria included (1) was a Registered Nurse (RN), Registered Practical Nurse (RPN), or Nurse Practitioner (NP), (2) was employed full-time or part-time with an Ontario college or university, and (3) agreed to be contacted for research purposes. No age restriction was placed on potential participants.

Nurse faculty are employed in both college and university settings as multiple educational pathways lead to entry-level nursing practice in Canada. Presently, to practice as a RN in Ontario, a baccalaureate degree is required. Prior to 2005, either a 3-year college degree, or a 4-year baccalaureate degree was sufficient to write the RN registration exam. Colleges previously offering RN diploma programs are now offering collaborative programs with degree granting universities to educate nurses, with a component of the program being administered by the university. RPNs receive a diploma after completing 2-year program at an Ontario college, which allows them to write the RPN exam.

Data Collection

Surveys were mailed to nurse faculty home addresses. The Tailored Design Method (Dillman et al., 2009) was used to guide data collection. Invited participants received a maximum of four mailings over a twelve-week period between October and December 2010. The first and third mailings included an information letter, a survey, and a paid-postage return envelope. The second and fourth mailings included a reminder postcard to non-responders.

Measurement of Study Concepts

Below is a brief description of study concepts and their measurement. Table 1 lists instruments used including number of items and reliability coefficients found in this study. Confirmatory factor analyses were completed on all study scales to ensure validity. Table 2 outlines each study concept measured with single-item indicator including item response options.

Autonomy, defined as having flexibility and independence in the nurse faculty role, was measured using the Self-Determination Subscale of Spreitzer's (1995) Empowerment at Work Scale. The seven response options range from strongly disagree to strongly agree. Fields (2002) reports strong psychometric properties for this scale.
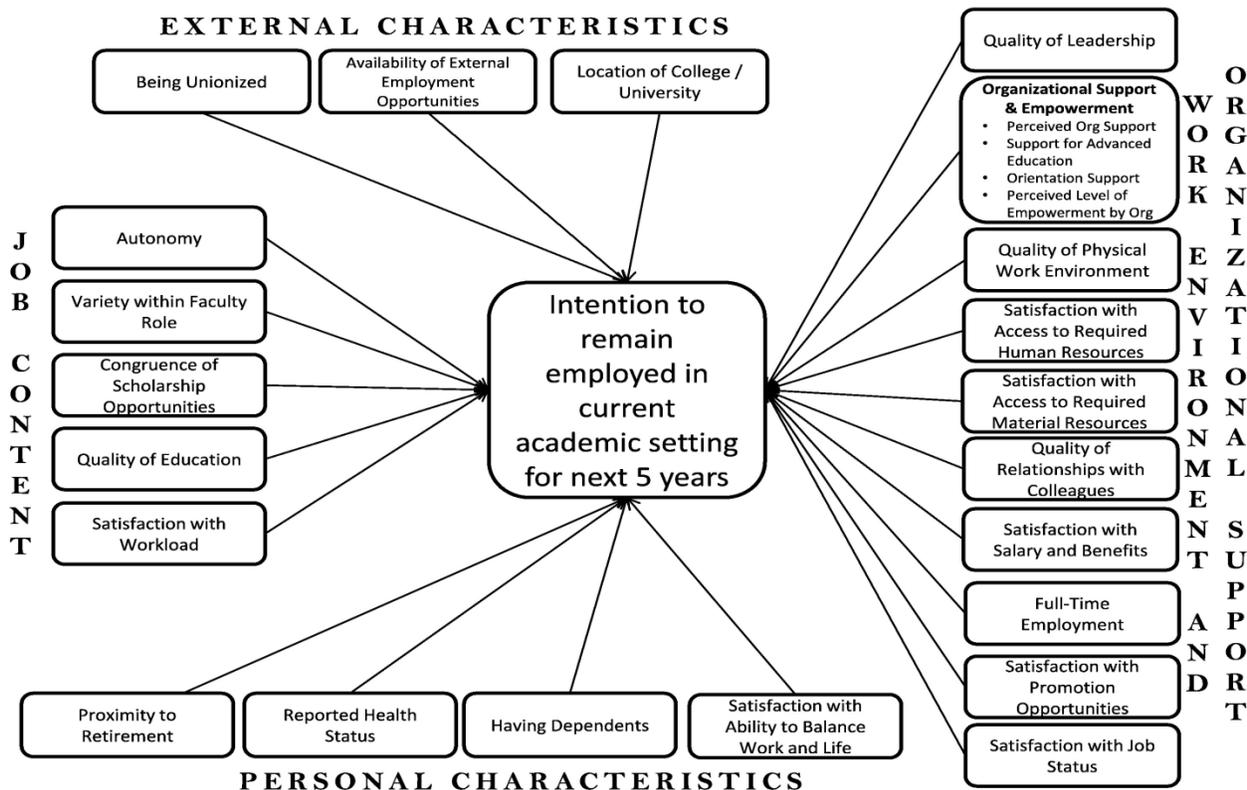
Being Unionized | Availability of External Employment Opportunities | Location of College / University

Quality of Leadership

Organizational Support & Empowerment
• Perceived Org Support
• Support for Advanced Education
• Orientation Support
• Perceived Level of Empowerment by Org

JOB CONTENT

Autonomy
Variety within Faculty Role
Congruence of Scholarship Opportunities
Quality of Education
Satisfaction with Workload

Intention to remain employed in current academic setting for next 5 years

WORK ENVIRONMENT AND

ORGANIZATIONAL SUPPORT

Quality of Physical Work Environment
Satisfaction with Access to Required Human Resources
Satisfaction with Access to Required Material Resources
Quality of Relationships with Colleagues
Satisfaction with Salary and Benefits
Full-Time Employment
Satisfaction with Promotion Opportunities
Satisfaction with Job Status

Proximity to Retirement | Reported Health Status | Having Dependents | Satisfaction with Ability to Balance Work and Life

PERSONAL CHARACTERISTICS

Fig. 1. Model of factors influencing nurse faculty intention to remain employed

Variety within the faculty role, defined as the level of diversity in day-to-day work, was measured using a 3-item version of the Job Routinization and Formalization Scale (Bacharach, et al., 1990). The seven response options range from strongly disagree to strongly agree. Strong psychometric properties have been reported (Bacharach, et al., 1990; Bacharach and Bamberger, 1995; Fields, 2002).

Quality of leadership was defined as faculty assessments of the degree of emotional intelligence demonstrated by leadership. Emotionally intelligent leaders are aware of emotions in situations, manage their own emotions, are able to build trusting relationships, and are empathetic (Boyatzis and McKee, 2005; McKee and Massimilian, 2006). Quality of leadership was measured using the 10-item Resonant Leadership Scale (Cummings et al., 2005). A strong reliability score with a nurse sample has recently been reported (Squires et al., 2010).

Perceived organizational support refers to nurse faculty perceptions of the extent which the organization values their contribution (Fields, 2002) and was measured with the 9-item version Perceived Organizational Support Scale (Eisenberger et al., 1986). The seven response options range from strongly disagree to strongly agree and strong reliability scores have been reported (Fields, 2002).

Nurse faculty empowerment imparted by the educational organization was measured by the 2-item Global Empowerment Scale (Laschinger et al., 2001). The five response options range from strongly disagree to strongly agree. Strong psychometric properties have been reported (Laschinger, et al. 2001; Roberston, 2003).

Quality of the physical work environment, defined as faculty assessments of the adequacy of desired work environment features such as safety, comfort, and access to food was measured using a 7-item scale developed by the researchers. The five response options range from strongly disagree to strongly agree.

Quality of relationships with colleagues was defined as faculty assessments of the degree of trust and respect experienced with work colleagues. The 11-item Work Group Relationships Scale (Riordan and Weatherly, 1999) was used to measure quality of relationships with colleagues. The seven response options range from strongly disagree to strongly agree.

Satisfaction with salary and benefits was measured using the 3-item Salary and Benefits Subscale of the McCloskey Mueller Satisfaction Scale (Mueller and McCloskey, 1990; Tourangeau et al., 2006). The five response options range from very dissatisfied to very satisfied.

Table 1 Study concepts, instruments, number of items and alpha reliability coefficients

Study concept	Instrument	Number of items	Study reliability coefficient
Autonomy	Psychological Empowerment Scale — self-determination subscale (Spreitzer, 1995)	3	.92
Variety within faculty role	Job Routinization and Formalization scale — routinization subscale (Bacharach et al., 1990)	3	.80
Quality of leadership	Resonant Leadership Scale (Cummings et al., 2005)	10	.96
Perceived organizational support	Perceived Organizational Support Scale (Eisenberger et al., 1986)	9	.93
Perceived level of empowerment by organization	Conditions for Work Effectiveness Questionnaire — global empowerment subscale (Laschinger et al., 2001)	2	.83 (correlation)
Quality of physical work environment	Physical Work Environment Scale (Developed by authors)	7	.82
Quality of relationships with colleagues	Work Group Relationships Scale (Riordan and Weatherly, 1999)	11	.97
Satisfaction with salary and benefits	McCloskey/Mueller Satisfaction Scale — salary and benefits subscale (Mueller and McCloskey, 1990)	3	.78

The remaining study concepts were measured with single-item indicators (see Table 2).

Data Management and Analysis

All data were double entered into SPSS® Version 18 (SPSS Inc., Chicago, IL, USA) to ensure accuracy. Descriptive statistics were used to describe the sample and to summarize results of study model variables. Simultaneous and stepwise multiple regression were used to test hypothesized relationships between the independent variables and dependent variable, 5-year ITR.

Independent variables with a probability less than 0.05 were retained in the final regression model.

Ethical Considerations

Ethical approval was obtained yearly between 2009 and 2012 from the University of Toronto Health Sciences Ethics Review Board. Included in survey packages was a letter explaining study risks and benefits, as well as a description of strategies undertaken to assure participant anonymity and confidentiality. Return of a completed survey indicated consent to participate.

Table 2 Concepts, single item indicators used to measure concepts and response options

Concept	Survey item	Response options
Satisfaction with workload	Please indicate your level of satisfaction with the following aspect of your work. −Workload	1.Very dissatisfied 2.Dissatisfied 3.Neutral 4.Satisfied 5.Very Satisfied
Satisfaction with access to required human resources	Please indicate your level of satisfaction with the following aspect of your work. - Availability of human resources to support your work.	As above
Satisfaction with access to required material resources	Please indicate your level of satisfaction with the following aspect of your work. - Availability of equipment and supplies needed to do your work.	As above
Satisfaction with job status	Please indicate your level of satisfaction with the following aspect of your work. - Opportunities to work your choice of full-time, part-time, or job-share hours.	As above
Satisfaction with ability to balance work and life	Please indicate your level of satisfaction with the following aspect of your work. - Ability to balance work with other important life components.	As above
Satisfaction with promotion opportunities	Please indicate your level of satisfaction with the following aspect of your work. - Opportunities for career advancement.	As above
Age	In what year were you born? * Year of birth was converted to age in year 2011	Numerical response
Proximity to retirement	1) At what age are you planning to retire? 2) In what year were you born? (year of birth was converted to age in year 2011) *Proximity to Retirement variable was calculated by subtracting respondent current age from desired retirement age. This resulted in a numerical response indicating the amount of years until retirement.	Numerical response
Location of college/university	What is the population of the local area in which this college/university is situated?	0 —Population less than 1,000,000 1 —Population equal to or greater than 1,000,000
Quality of education	In general, how would you describe the quality of education provided to nursing students in this college/university?	1 —Poor 2 —Fair 3 —Good 4 —Very good 5 —Excellent
Reported health status	In general, how would you rate your overall health compared to other people your age?	As above
Having dependents*	1)Do you have any dependent children living with you? 2)Do you have any dependent adults of seniors living with you or for whom you are involved with on a daily basis? *Having Dependents variable was created from the above two survey items. Having dependents was identified as having either dependent children OR having dependent adults.	0 —No 1 —Yes
Orientation support	Please indicate your level of agreement with the statement: - This college/university provides adequate orientation and support for new faculty/teachers.	1 —Strongly disagree 2 —Disagree 3 —Neutral 4 —Agree 5 —Strongly agree
Support for advanced education	Please indicate your level of agreement with the statement. - This college/university offers financial support for participation in educational opportunities.	As above
Being unionized	Does a collective agreement (e.g. union contract) exist at this college/university?	0 —No 1 —Yes
Employed full time	Are you employed full-time or part-time? 1.Full Time 2.Part Time	0 —not employed full time 1 —employed full time
Availability of alternate employment	How much opportunity is there outside this college/university for new job opportunities, challenges or career advancement?	1 —None 2 —A little 3 —Some 4 —A lot

Table 2 (continued)

Concept	Survey item	Response options
	1) What forms of scholarship do you regularly participate in within your role at this college/university	
	a. Teaching	
	b. Research	
	c. Clinical Practice	
	d. Administration/Leadership	
	2) How important is each of the following forms of scholarship to you?	
Congruence of scholarship opportunities	1. Very unimportant	0 —Not congruent
	2. Unimportant	1 —Congruent
	3. Neutral	
	4. Important	
	5. Very important	
	*Congruence of Scholarship Opportunities variable was created by determining if a match existed between nurse faculty's current forms of scholarship and forms of scholarship identified as important or very important.	
	Please check off all formal education credentials you have completed both in nursing and outside of nursing.	
	1 — Practical nurse diploma	
	2 — Nursing diploma	
	3 — Baccalaureate degree in nursing	
	4 — Nurse practitioner (EC)	
	5 — Master's degree in nursing	
	6 — Doctorate degree in nursing	
Level of educational preparation — Graduate degree	7 — Post-doctoral training in nursing	0 = no graduate degree
	8 — Diploma/certificate outside nursing	1 = graduate degree
	9 — Baccalaureate degree outside nursing	
	10 — Master's degree outside nursing	
	11 — Doctorate degree outside nursing	
	12 — Post-doctoral training outside nursing	
	*A dichotomous variable was created where 0 = no graduate degree; and 1 = Master's degree in nursing *or* doctorate degree in nursing *or* post-doctoral training in nursing *or* master's degree outside nursing *or* doctorate degree outside nursing *or* post-doctoral training outside nursing.	

Results

A total of 650 useable surveys were returned (response rate = 49%). Sample characteristics are presented in Table 3. To facilitate understanding and comparison, where appropriate, values for model variables were standardized to be out of 100. Overall, the sample of nurse faculty rated their likelihood of remaining employed in their current academic settings for the next five years as 69.1 (SD = 34.7; 0 being lowest likelihood and 100 being highest likelihood). Table 4 provides a summary of the mean and standard deviation for each model variable.

Initially, all 27 hypothesized predictor variables were forced to enter a simultaneous regression model. However, collinearity diagnostics revealed a significant correlation (-.899) between the variables age and proximity to retirement. Age was removed

from subsequent regression modeling. Proximity to retirement was included instead of age as many faculty planned to work past the normal age of retirement.

Simultaneous multiple regression was then conducted with the remaining 26 hypothesized predictor variables. ITR over the next five years was entered as the dependent variable. Simultaneous multiple regression resulted in a statistically significant model (p<.0001) with an adjusted R-square of 0.252, indicating that 25.2% of variance in nurse faculty ITR was explained by this model. Regression model results, including standardized coefficients (β), standard errors (**SE**), t-statistics and p-values for each independent variable are outlined in Table 5. Of the 26 independent variables included in the model, eight had parameter estimates that were statistically significant at the 0.05 level: quality of relationships with colleagues, satisfaction

Table 3 Nurse faculty sample characteristics

	Total sample n = 650	College faculty n = 395	University faculty n = 255
Mean age (SD)	52.4 (9.7)	52.2 (9.3)	52.7 (10.2)
Mean desired age of retirement (SD)	63.3 (4.2)	62.7 (4.0)	64.1 (4.4)
Generational membership			
Veterans 1924–1945 (%)	4.9	2.8	8.2
Baby boomers 1946–1964 (%)	69.4	72.9	63.9
Generation X 1965–1979 (%)	23.1	21.3	25.9
Generation Y 1980–2000 (%)	2.6	3.0	2.0
Proportion female (%)	97.4	98.0	96.5
Mean number of years in current position (SD)	10.4 (8.7)	11.3 (9.1)	9.2 (8.0)
Proportion working full-time (%)	64	68.1	57.6
Highest level of educational preparation			
Practical nursing diploma (%)	1.4	2.3	0.0
Registered nurse diploma (%)	8.2	13.2	0.4
Baccalaureate nursing degree (%)	18.9	21.8	14.5
Master's degree (%)	53.8	59.2	45.5
Doctorate degree or higher (%)	17.7	3.5	39.6

Table 4 Descriptive statistics for model variables

Variable	Theoretical range	Mean (SD) or proportion
Autonomy	0–100	78.4 (20.9)
Variety within faculty role	0–100	64.2 (21.6)
Quality of leadership	0–100	55.5 (24.5)
Perceived organizational support	0–100	51.5 (23.0)
Perceived level of empowerment by organization	0–100	61.8 (24.6)
Quality of physical work environment	0–100	62.9 (19.5)
Quality of relationships with colleagues	0–100	62.8 (26.3)
Satisfaction with salary and benefits	0–100	67.8 (23.0)
Satisfaction with workload	0–100	53.8 (28.3)
Satisfaction with access to required human resources	0–100	48.2 (28.2)
Satisfaction with access to required material resources	0–100	55.7 (27.7)
Satisfaction with job status (e.g., full-time, part-time)	0–100	56.7 (29.0)
Satisfaction with ability to balance work and life	0–100	57.5 (27.2)
Satisfaction with promotion opportunities	0–100	53.3 (26.5)
Age (in 2011)	–	52.4 (9.7)
Proximity to retirement	–	10.9 (8.8)
Location of college/university (population greater than 1,000,000)	–	40.3%
Quality of education	0–100	70.1 (22.2)
Reported health status	0–100	68.0 (23.8)
Having dependents	–	49.4%
Orientation support	0–100	47.2 (33.1)
Financial support for advanced education	0–100	53.6 (31.8)
Being unionized	–	34.8%
Employed full-time	–	64%
Availability of alternate employment	0–100	69.8 (25.1)
Congruence of scholarship opportunities	–	70.8%
Level of educational preparation	–	71.5%
Intention to remain employed in current academic setting for next 5 years	0–100	69.1 (34.7)

SD = standard deviation

Table 5 Simultaneous multiple regression model results (26 independent variables forced to enter model together).

Independent variable	β	SE	t statistic	P-value
Autonomy	.034	.066	.861	.389
Variety within faculty role	.036	.060	.963	.336
Quality of leadership	− .056	.069	− 1.138	.256
Perceived organizational support	.059	.086	1.046	.296
Perceived level of empowerment by organization	.087	.080	1.534	.126
Quality of physical work environment	− .031	.082	− .665	.506
Quality of relationships with colleagues	.129	.059	2.849	.005*
Satisfaction with salary and benefits	− .014	.068	− .308	.758
Satisfaction with workload	− .035	.067	− .652	.514
Satisfaction with access to required human resources	.069	.058	1.470	.142
Satisfaction with access to required material resources	.069	.061	1.421	.156
Satisfaction with job status (e.g., full-time, part-time)	.084	.047	2.127	.034*
Satisfaction with ability to balance work and life	.112	.063	2.261	.024*
Satisfaction with promotion opportunities	.003	.059	.068	.946
Proximity to retirement	.319	.149	8.452	< .001*
Location of college/university (population greater than 1,000,000)	− .020	2.866	− .568	.570
Quality of education	.080	.063	1.995	.047*
Reported health status	− .051	.053	− 1.402	.161
Having dependents	.144	2.529	3.951	< .001*
Orientation support	− .060	.043	− 1.444	.149
Financial support for advanced education	− .091	.044	− 2.238	.026*
Being unionized	.070	2.635	1.939	.053
Employed full-time	.225	3.335	4.859	< .001*
Availability of alternate employment	.000	.050	− .008	.994
Congruence of scholarship opportunities	.009	2.671	.245	.807
Level of educational preparation	.037	2.946	.966	.334

Adjusted R^2 = .252: overall F-statistic for model = 9.406: P < .0001.
ß (standardized coefficient), SE (standard error).

with job status, satisfaction with ability to balance work and life, proximity to retirement, quality of education, having dependents, financial support for advanced education, and being employed full-time.

To identify a more parsimonious solution, stepwise regression was conducted by entering the 26 independent variables into a regression model. After ten iterations, the final model included ten independent variables and accounted for 25.4% of variation in faculty ITR for five years. Final model results including standardized coefficients (β), standard errors (**SE**), t-statistics and p-values for each independent variable are presented in Table 6.

Higher nurse faculty ITR for the next five years was associated with a longer period until retirement, higher reported quality of relationships with colleagues, being employed full-time, having dependents, greater satisfaction with balancing work and life, higher nurse faculty reported quality of education, greater satisfaction with current job status (full-time or part-time), greater satisfaction with access to required human resources (such as teaching assistants and support staff), being unionized, and less access to financial support for advanced education. Contrary to what was expected, the direction of the relationship between financial support for advanced education and ITR was negative.

Discussion

Much previous research exploring nurse faculty retention offers suggestions for improving faculty retention by focusing on job satisfaction as a key determinant of ITR (Bittner and O'Connor, 2012; Falk, 2007; Garbee and Killacky, 2008; Lane et al., 2010; Kowalski et al., 2006). In contrast to previous research, the findings of this study do not support an overall single concept of job satisfaction as a factor influencing nurse faculty ITR. Rather, it is satisfaction with specific aspects of employment that influences nurse faculty ITR. This finding mirrors results of Tourangeau et al. (2010) who found that acute care nurses did not identify an overall concept of job satisfaction as influencing their ITR.

Findings from this study support previous research on nurse ITR in academic and healthcare settings (Boyle et al., 1999; Ellenbecker et al., 2008; Lane et al., 2010; Tourangeau and Cranley, 2006; Tourangeau et al., 2010). Similar to nurses working in other healthcare settings, nurse faculty identified satisfaction with job status and supportive collegial relationships as important to their ITR.

These study findings add to current understanding of the importance of supportive collegial relationships on nurse faculty ITR (Bittner et al., 2012; Cash et al., 2011; DalPezzo and Jett, 2010; Garbee and Killacky, 2008; Gazza, 2009; Gerolamo and Roemer, 2011; Gwyn, 2011; Hessler and Ritchie, 2006; Lane et al., 2010; McDermid et al., 2012). Employers of nurse faculty should ensure that nurse faculty have opportunities to develop and strengthen collegial relationships. Strategies could include efforts such as teambuilding activities, formal and informal mentorship programs and providing physical space for faculty to interact.

Age has been identified in previous research (Ellenbecker et al., 2008; Tourangeau and Cranley, 2006) as influencing nurse

Table 6 Final stepwise regression model results

Independent variable	β	SE	t statistic	P-value
Proximity to retirement	.314	.142	8.696	< .001
Quality of relationship with colleagues	.156	.051	4.021	< .001
Employed full-time	.238	2.638	6.512	< .001
Having dependents	.147	2.479	4.111	< .001
Satisfaction with ability to balance work and life	.088	.048	2.338	.020
Quality of education	.104	.058	2.806	.005
Satisfaction with job status	.092	.044	2.520	.012
Financial support for advanced education	− .079	.040	− 2.173	.030
Satisfaction with access to required human resources	.090	.048	2.317	.021
Being unionized	.070	2.553	1.987	.047

Adjusted R^2 = .254: overall F-statistic for model = 23.150: P < .0001.

ITR. However, caution should be exercised when interpreting age as a predictor for faculty ITR, as age may not take into account the personal circumstances of individual nurse faculty. Removal of mandatory retirement for many organizations has resulted in many faculty working past normal retirement age (Kowalski et al., 2006). In this study, to reflect the trend of delayed retirement among university and college faculty (Kershaw, 2009), we asked respondents to identify their planned age of retirement. Proximity to retirement better reflects the closeness of the respondent to their planned age of retirement. These study results can be interpreted as the further nurse faculty are from their planned age of retirement, the more likely they intend to remain employed.

Study results indicated nurse faculty are influenced by the quality of education provided at their educational institution. Positive interactions with students, being part of student success and finding value in their work may contribute to nurse faculty assessments of quality of education provided at their institution. Previous research indicates that nurse faculty value the interactions they have with students (Bittner and O'Connor, 2012, Garbee and Killacky, 2008, Lane et al., 2010), are committed to contributing to the profession (Gazza, 2009), and derive a sense of accomplishment and satisfaction from the work they do (Bittner and O'Connor, 2012). By providing opportunities for faculty to be involved in curriculum design as well as assessments of teaching quality, faculty leaders can foster the provision of quality education in their institutions and promote faculty ITR.

Candela et al (2012) found nurse faculty who reported higher levels of productivity were more likely to stay. In this study, satisfaction with access to human resources such as administrative support, technology support, teaching assistants, and library resources were found to be associated with nurse faculty ITR. These findings are related. Without access to human resources required to do their job efficiently and effectively, nurse faculty may be burdened by administrative tasks, feel devalued and report less time for other responsibilities (Gazza, 2009). Ensuring that nurse faculty have appropriate support may reduce undesirable workload and may strengthen ITR.

Study results also support previous literature about the importance of work life balance to nurse faculty retention (Falk, 2007; Gerolamo and Roemer, 2011; McDermid et al., 2012). Nurse faculty's multiple roles of teacher, researcher, clinician, and administrator can lead to heavy workloads which may carry-over to their personal lives (Gazza, 2009). Strategies to support competing faculty role requirements such as providing necessary human and material resources to complete work may increase ITR. Additionally, setting and clearly communicating realistic role expectations amongst faculty may result in more desirable work life balance and ultimately stronger ITR.

Study results also introduce factors not previously identified as influencing nurse faculty ITR including full-time employment, financial support for advanced education, satisfaction with employment status (part-time, full-time), having adult and/or child dependents, and being unionized. Full time employment strengthens nurse faculty ITR by providing job security and organizational commitment. Being a member of a union is also associated with greater job security, and consequently, results in stronger ITR (Dressler and Cole, 2008). Earlier research has found unionized employees are less likely to leave their jobs than non-unionized employees (Rees, 1994).

Nurse faculty satisfaction with full or part-time job status reflects congruence between the faculty members' current and desired employment. When faculty preference for working full-time or part-time is congruent with their current employment status, they report being more likely to remain employed. Nurse faculty employers should ask nurse faculty about their preferred job status. Open discussion and planning for the future relative to preferred and actual job status may foster a stronger commitment among faculty as well as allow organizations to engage in succession planning. Providing options of phased in retirement or short term contracts may allow older nurse faculty nearing retirement the flexibility they desire while providing mentorship for junior faculty.

Contrary to the expected relationship, financial support for advanced education was associated with lower nurse ITR. This finding may be explained by the additional job opportunities made available with advanced education. Perhaps, nurses who received funding from one organization to complete advanced education, may plan to leave that organization and move to a more desirable organization because they now have the qualifications. Alternatively, educational organizations providing funding for advanced education may put additional strain on faculty who feel they must continue their formal education while concurrently continuing their role as a faculty member.

There are a number of study limitations. The final regression model explained less than 26% of variance in nurse faculty ITR for the next five years indicating that 74% of variance remains unexplained. Previously tested models of nurse retention in other healthcare settings explained more variance (34% to 52%) than the model tested in our study (Boyle et al., 1999; Tallman and Bruning, 2005; Tourangeau and Cranley, 2006). Our findings suggest there is much to discover about nurse faculty and the particular factors that influence their ITR. Further, factors influencing nurse faculty ITR differ from nurses employed in healthcare settings where direct patient care is provided.

Further research is required to discover and explain factors influencing nurse faculty ITR. Such knowledge is needed to plan and implement strategies that lead to stronger nurse faculty ITR. Nurse faculty ITR can be best strengthened by managing modifiable factors known to influence faculty ITR. Findings

From this study can provide a foundation for future studies about nurse faculty ITR.

Conclusion

Nurse faculty are essential to the development of a high performing and effective nursing workforce. As such, employers of nurse faculty should focus on developing and implementing retention-promoting strategies that modify known factors influencing nurse faculty ITR. Our findings and those of others suggest a multi-faceted approach to retaining nurse faculty is needed. Providing nurse faculty with opportunities to interact with each other, advocating for and ensuring appropriate access to human resources, promoting the development and implementation of high quality education programs, and addressing nurse faculty's preferred job status are all strategic areas that employers can modify to strengthen nurse faculty ITR.

Funding statement

Conflict of Interest

There are no known conflicts of interest with any of the authors.

Acknowledgments

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