

# Predictors of Work Engagement Among Medical-Surgical Registered Nurses

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This descriptive, cross-sectional study examines the relationship of job satisfaction, turnover cognitions, job search behavior, and nurse demographics to work engagement among a sample of 167 registered nurses employed on medical and/or surgical units within six hospitals. Professional status, interaction, and thinking of quitting together explain 46%,  $F(3,160) = 47.546$ ,  $p < .001$ , of the variance in work engagement. Additionally, the job satisfaction components of professional status and interaction are shown to significantly moderate the relationship between thinking of quitting and work engagement ( $t = 1.96$ ,  $p < .05$ ). Results suggest improvements in work environment processes that are consistent with professional status and interaction at work, such as integration of a professional nursing practice model and development and positioning of transformational leaders at every level of the organization, are needed.

**Keywords:** *work engagement; turnover cognitions; thinking of quitting; job satisfaction; professional status; interaction*

Nurses' performance is critical to the delivery of quality patient care. The impact nurses' performance has on various patient outcomes within the hospital setting is widely recognized (Joint Commission on Accreditation of Healthcare Organizations, 2005; National Quality Forum, 2004). However, the factors that best predict optimal nurse performance remain elusive. Research focused on identifying factors that impact nurse performance has recently included the study of work engagement. Two findings have spurred this interest. First, the weak association between job satisfaction and job

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performance (Iaffaldano & Muchinsky, 1985; Judge, Thoresen, Bono, & Patton, 2001) has led investigators to search for better attitudinal predictors of job performance. Second, various service disciplines have shown significant relationships between engagement within the work role and job performance outcomes (Harter, Schmidt, & Hayes, 2002; Laschinger & Leiter, 2006; Salanova, Agut, & Peiro, 2005; Schaufeli & Bakker, 2004; Xanthopoulou, Bakker, Demerouti, & Schaufeli, in press).

Work engagement refers to a positive work-related state of mind characterized by feelings of vigor, dedication, and absorption and includes persistence while working, dedication to work, and immersion in work activities (Schaufeli & Bakker, 2003; Schaufeli, Salanova, Gonzalez-Roma & Bakker, 2002). Engagement within the employee work role has been investigated within various industries and employee types; however, it has been the subject of minimal nursing research. To develop and test interventions that impact nurses' work engagement, there is a need to first understand its antecedents.

Using Mobley's Model(s) of Turnover (1977; Mobley, Griffeth, Hand, & Meglino, 1979) as the framework, this study tested the relationships between four antecedent factors proposed as key influencers of work engagement or withdrawal at work (work disengagement). The antecedents included in this study were: job satisfaction and its six components (professional status, task requirements, interaction, autonomy, pay, and organizational policies; Stamps and Piedmont, 1986); turnover cognitions and its three components (thinking of quitting, intent-to-search, and intent-to-quit; Sager, Griffith, & Hom, 1998); job search behavior (Kopelman, Rovenpor, & Millsap, 1992); and nurse demographics (age, educational preparation, hours worked per week, length of work shift, work shift, years of experience).

Specifically, two hypotheses were tested:

*Hypothesis 1:* Registered nurses with lower job satisfaction, higher levels of turnover cognitions, and higher levels of job search behavior will have lower work engagement.

*Hypothesis 2:* There will be no difference in registered nurses' work engagement based on individual nurse demographics (age, educational preparation, hours worked per week, length of work shift, work shift, years of experience).

In addition to testing the above-stated hypotheses, following initial analyses, it was determined a more parsimonious model be defined through testing of the most significant predictors of work engagement. Based on

theoretical underpinnings of the factors impacting work engagement, the moderating impact of professional status and interaction on the thinking of quitting and work engagement relationship was evaluated.

## Study Model

Mobley's Model(s) of Turnover (1977; Mobley et al., 1979) offer a comprehensive description of the attitudinal, decisional, and behavioral turnover process. According to Mobley and colleagues, individuals begin with an evaluation of their present job. A negative evaluation of the present job leads to job dissatisfaction. Thoughts of quitting, evaluation of job-seeking expected utility (refers to the expectancy that seeking an alternative job will lead to the attainment of various positively or negatively valued outcomes), cost of quitting, intention to search, and then a search for job alternatives follows. A comparison of the options with the current job is made and the individual leaves if the alternatives are considered better than his or her present situation.

As identified in Mobley's Turnover Models (1977; Mobley et al., 1979), three turnover cognitions (thinking of quitting, intent-to-search, intent-to-quit) are understood to represent the mental decisions occurring between an individual's attitude of his or her job (traditionally evaluated via job satisfaction), the decision to stay or leave, and/or withdrawing at work. To clarify, Mobley et al. (1979) hypothesized two end outcomes of the turnover process: 1) the act of turnover and, 2) the act of "alternative withdrawal," or, as suggested here, work disengagement. Minimal nursing research has focused on an end outcome other than that of turnover as a result of the turnover process. Considering work engagement and its antipode, work disengagement, as an alternative outcome to turnover, our understandings of the factors impacting nurses' day-to-day work role performance may be expanded.

## Work Engagement and Hypothesized Antecedents

### Work Engagement

Within the past 15 years, the concept of engagement, specific to the employee within his or her work role, has surfaced within the organizational psychology and business literature (Harter et al., 2002; Kahn, 1990, 1992;

Maslach & Leiter, 1997; Schaufeli et al., 2002). Work engagement, is a positive work-related state of mind comprised of three components: vigor, dedication, and absorption (Schaufeli et al., 2002). Vigor refers to high levels of energy and mental resilience, the willingness to invest effort, and persistence while working. Dedication is characterized by strong involvement in one's work along with experiencing feelings of significance, enthusiasm, inspiration, pride, and challenge. Absorption refers to full concentration, immersion, and happy engrossment in one's work.

The study of work engagement, as conceptualized by Schaufeli et al. (2002), is minimally noted within the nursing literature. However, a growing body of work engagement research exists outside the context of nursing research. Of particular importance is the empirical evidence supporting the relationship between work engagement and service-based (i.e., hotels, restaurants, airlines) organizational outcomes. Research findings indicate work engagement is a predictor of customer loyalty (Salanova et al., 2005) and objective financial performance (Xanthopoulou et al., in press). In addition, work engagement is negatively associated with turnover intention (Hallberg & Schaufeli, 2006; Schaufeli & Bakker, 2004) and burnout (Duran, Extremera, & Rey, 2004; Gonzalez-Roma, Schaufeli, Bakker, & Lloret, 2006; Schaufeli et al., 2002) and positively associated (albeit a weak association) with age (Schaufeli, Bakker, & Salanova, 2006).

## **Nurses' Job Satisfaction**

Job satisfaction is defined as a person's general attitude toward his or her job or toward specific dimensions of his or her job (Hodson, 1991; McCloskey & McCain, 1988; McNeese-Smith, 1996; Stamps, 1997). This construct taps into the positive or negative affect (how one feels) and cognitions (what one thinks) associated with particular aspects of work (i.e., satisfaction with co-worker relations, teamwork, salary, autonomy). This is in contrast to the measurement of a perceived feeling itself (i.e., happiness, sadness, energy, excitement) as experienced within the work role.

A plethora of job satisfaction measures exist. For this study, the Index of Work Satisfaction (IWS-R; Stamps, 1997), originally conceptualized and developed by Stamps and Piedmont (1986), was used. This measure was chosen for this study because it is a widely recognized and frequently used measure (Taunton et al., 2004), its psychometric evaluation is extensive (Stamps, 1997), and it provides useful information for developing strategies to address areas of lower satisfaction.

According to Stamps and Piedmont (1986), job satisfaction is comprised of six components: pay, autonomy, task requirements, organizational policies, professional status, and interaction. Pay is defined as the dollar remuneration and benefits received for work done. Autonomy refers to work-related independence, initiative, and freedom occurring in one's daily work activities. Task requirements refer to the aspects of the job that need to be done and are a regular part of the job. Organizational policies are characterized by limits imposed upon work activities by the organization's formal leadership. Professional status refers to the overall importance or significance felt about one's job—both in one's own view and in the view of others. Lastly, interaction is defined by opportunities presented for both formal and informal social and professional contact during working hours.

To limit the literature review, published studies that have included the IWS as the measure of job satisfaction were of focus. A significant amount of research has investigated satisfaction with and relative importance of the IWS components. Pay (Cowin, 2002; Oermann, 1995; Slavitt, Stamps, Piedmont, & Haase, 1978; Stamps, Piedmont, Slavitt, & Haase, 1978), organizational policies, and task requirements (Finn, 2001; Vahey, 2000) have been identified as the least satisfying of the nurse job satisfaction components, whereas nurses employed within the hospital setting reported highest satisfaction with professional status (Vahey). Similarly, Finn reported that professional status and interaction contributed most to nurses' job satisfaction. Autonomy and professional status follow pay in nurses' rank of importance, and organizational policies are ranked as least important (Flanagan & Flanagan, 2002).

Investigation of demographical antecedents to job satisfaction is widely evident within the literature. Dating back to Blegen's (1993) meta-analysis, age, education, and tenure were found to have the weakest relationship to job satisfaction. A more recent review of the literature suggests there is no consensus regarding the nurses' educational preparation and job satisfaction (Coomber & Barriball, 2007). Considering the relationship between nurses' job satisfaction and length of shift, Stone et al. (2006) report nurses working 12-hour shifts are more satisfied (than nurses working less than 12-hour shifts) with their job.

Turnover intention is among the most commonly studied outcome of nurses' job satisfaction, with study findings demonstrating a consistent relationship between lower job satisfaction and higher intent-to-quit (Hinshaw, Smeltzer, & Atwood, 1987; Irvine & Evans, 1995; Larrabee et al., 2003; Shader, Broome, Broome, West, & Nash, 2001). Of additional interest is

Cowin's (2002) findings indicating that the greater the satisfaction with professional status, the more likely the intent to stay in nursing.

## Turnover Cognitions

Turnover cognitions (thinking of quitting, intent-to-search, intent-to-quit) refer to mental decisions occurring between the attitude a person has of his or her job and the act of staying or leaving that job (Sager et al., 1998). The conceptual and empirical distinction between these cognitions has received minimal research attention. Subsequently, intent-to-quit has been the focus in this line of research. Accordingly, the literature reviewed in this section centers upon the concept of intent-to-quit.

As is the case for the relationship between nurses' educational preparation and job satisfaction, the relationship between educational preparation and intent-to-quit also remains inconclusive—as negative, positive, and neutral associations have been found (Blegen, 1993; Blegen & Mueller, 1987; Borkowski, Amann, Song, & Weiss, 2007; Coomber & Barriball, 2007; Ingersoll, Olsan, Drew-Cates, DeVinney, & Davies, 2002; Rambur, Palumbo, McIntosh, & Mongeon, 2003; Tourangeau & Cranley, 2006). Concerning tenure, a nurse with more years of nursing experience indicates less intention to quit his or her job (Anderson, Corazzini, & McDaniel, 2004; Davidson, Folcarelli, Crawford, Duprat, & Clifford, 1997). Lastly, the relationship between nurses' job satisfaction and intent-to-quit has consistently resulted in a moderate and negative association (Larrabee et al., 2003; Rambur et al., 2003; Shader et al., 2001). In the end, amidst all of these studied relationships, it is important to recognize that although intent-to-quit is consistently related to turnover, it has also been shown to be a weak predictor ( $R^2 = .02$  to  $.06$ ; Hinshaw et al., 1987; Irvine & Evans, 1995).

## Job Search Behavior

Job search behavior, also identified within Mobley's Model(s) of Turnover (1977; Mobley et al., 1979), refers to specific behaviors or acts that are likely to transform intentions into outcomes (Kopelman et al., 1992). This variable is moderately related to job satisfaction, organizational commitment ( $r = -.33$ ,  $r = -.41$ , respectively), and intention to leave ( $r = .49$ ; Kopelman et al., 1992). Job search behavior also explained 37% and 23% of the variance in intra-organizational job change and organizational turnover, respectively. In Griffeth, Hom, and Gaertner's (2000) meta-analysis of turnover antecedents, job search methods were found to out-predict quit intentions.

## Summary

A significant amount of research has provided information about the variable relationships identified in Mobley's Model(s) of Turnover (1977; Mobley et al., 1979). The associations between nurse demographic variables and job satisfaction and turnover intention and the interrelationships between job satisfaction and turnover intention have been empirically considered. However, as supported by Hinshaw et al. (1987) and Irvine and Evans (1995), the small link between turnover intention and turnover (which demonstrates that not all nurses who intend to quit actually do) suggests that a second outcome, referred to by Mobley et al. (1979) as "alternative withdrawal," warrants research attention. As presented in this study, the concepts of work engagement and its antipode work disengagement may offer insight into the alternative withdrawal phenomenon originally depicted by Mobley et al.

A growing body of research in organizational psychology has addressed outcomes of work engagement. However, very few researchers have studied nurses and/or antecedents to nurses' work engagement. Therefore, to extend the lines of inquiry beyond turnover as the only outcome of interest identified within Mobley's Model(s) of Turnover (1977; Mobley et al., 1979) and further our understandings of the work attitude and performance relationship, research is needed to identify the antecedents that enhance nurses' positive attitude at work (work engagement) and minimize attitudinal withdrawal (work disengagement).

## Method

This study employed a descriptive, cross-sectional design to examine the influence of nurses' job satisfaction, turnover cognitions, job search behavior, and demographic variables on work engagement. Using Tabachnick and Fidell's (2001) guidelines for sample-size estimate, based on the number of independent variables, a minimum convenience sample size of 150 was targeted.

Oversampling was planned to account for a subject response estimate of 28% for institutional surveys that offer anonymity (Sudman & Bradburn, 1982). To achieve the necessary sample size, 479 registered nurses, employed within six hospitals and 16 medical and/or surgical units located in one Midwestern state, were recruited for participation.

## Setting and Sample

Hospitals were targeted for inclusion based on size, service type (i.e., general medical), and relative proximity to the researcher. All hospitals in this study ( $N = 6$ ) were categorized as not-for-profit. Five hospitals had their service type categorized as medical-surgical and one was full-service tertiary. Fifty percent of the hospitals sampled were considered small ( $\leq 199$  staffed beds) and 50% as medium (200 to 499 staffed beds).

Registered nurses who met the following criteria received the study survey through interdepartmental mail or at a unit staff meeting: (a) employed for at least 3 months (and completed initial orientation) as a registered nurse on an inpatient, adult medical, and/or surgical unit; (b) employed in a budgeted position on a medical and/or surgical unit; and (c) scheduled for at least 16 hours per week (or 32 hours in 2 weeks) within a staff nurse role in which direct patient care is provided. Pre-addressed, stamped envelopes were provided with each survey packet for their return. An information sheet was included in each survey packet to inform potential participants of the purpose of the study and to ask for anonymous participation. Before data collection began, the study was approved by institutional review board (IRB) of each of the hospital and/or health care systems and of the university. Data collection occurred between January 2007 and March 2007.

## Measures

*Work engagement.* The 9-item Utrecht Work Engagement Scale (UWES-9) is grouped into three subscales: vigor (3 items), dedication (3 items), and absorption (3 items; Schaufeli & Bakker, 2003). Likert-scaled items range from 0 indicating “never” to 6 indicating “always”. Possible scores range from 0 to 54, with higher scores indicating higher work engagement. Internal consistency of the scale was supported by a Cronbach’s alpha of .92 for the total scale and .86 for vigor, .86 for dedication, and .79 for absorption subscales. Factor analysis of the data in this study for the UWES-9 items supported the established three-factor structure previously confirmed by Schaufeli and Bakker (2003). With eigenvalues greater than 1.00, a three-factor solution was supported with 70.6% of the variance explained.

*Turnover cognitions.* Turnover cognitions were measured by an adapted Turnover Cognitions Scale (TCS; Sager et al., 1998). Six items comprise this scale, with 2 items each representing the components of thinking of quitting, intent-to-search, and intent-to-quit. Consistent with Sager et al.



scale development, Likert-scaled items range from 1 indicating “*strongly disagree*” to 5 indicating “*strongly agree*” for the thinking of quitting and intent-to-search items and from 1 indicating “*excellent*” to 7 indicating “*terrible*” for the intent-to-quit items. Possible scores range from 6 to 34, with higher scores indicating higher turnover cognitions. Internal consistency of the scale was supported by a Cronbach’s alpha of .91 for the total scale and .88 for thinking of quitting, .90 for intent-to-search, and .94 for intent-to-quit subscales. Factor analysis of the data in this study confirmed a three-factor model of turnover cognitions. With eigenvalues greater than 1.00, a three-factor solution was supported with 85.1% of the variance explained.

*Job satisfaction.* Nurses’ job satisfaction was measured by the IWS-R (Stamps, 1997). This scale is comprised of 44 items and six components: pay, professional status, interaction, task requirements, organizational policies, and autonomy. Likert-scaled items range from 1 indicating “*strongly disagree*” to 7 indicating “*strongly agree*”. Possible scores range from 44 to 308, with higher scores indicating higher job satisfaction. Internal consistency of the scale was supported by the Cronbach’s alpha of .89 for the total scale. The Cronbach’s alphas for the individual subscales ranged from .63 to .86, with professional status, task requirements, and autonomy subscales resulting in alphas < .70. Construct validity of the IWS-R has been established previously (Stamps, 1997).

*Job search behavior.* The 10-item Job Search Behavior Index (JSBI; Kopelman et al., 1992) was used to measure job search activity. In reference to a list of job search activities, nurses responded *yes* (they have participated in this activity in the past 3 months) or *no* (they have not participated in this activity in the past 3 months). Examples of job search activities include: revised your resume, read the classified/help wanted advertisements in the newspaper, gone on a job interview. Possible scores range from 0 to 10, with higher scores indicating more job search behavior. Internal consistency of the scale was supported by a Cronbach’s alpha of .77.

*Registered nurse demographics.* A demographic questionnaire, developed for this study, was included as the final part of the survey. Questions regarding age, educational preparation, years worked as a registered nurse, hours worked per week, work shift, and length of work shift were asked. Educational preparation was defined as the highest level of nursing education completed. Years of experience was defined as the number of years practicing as a registered nurse. Work shift was defined as days, evenings, or

nights, and length of work shift as the number of hours worked per shift as defined within the hired position. Length of shift options included: 4, 6, 8, 10, or 12 hours.

## Data Analysis

Data from 167 registered nurse surveys (35% response rate) were used in the data analysis. Consistent with the demographic profile of nurses in the United States (U.S. Department of Health and Human Services, 2004), registered nurses were predominantly female ( $n = 158$ , 94.6%), 52% ( $n = 87$ ) were educationally prepared for nursing practice at the associate degree level, and 42% ( $n = 71$ ) at the baccalaureate level. In this study, nurses averaged 38.63 ( $SD = 11.6$ ) years of age (7 years younger than the national average; U.S. Department of Health and Human Services, 2004), 9.76 years ( $SD = 10.29$ ) of experience in nursing, and worked 34.43 ( $SD = 7.05$ ) hours per week. The majority of nurses worked either 8-hour ( $n = 98$ ) or 12-hour shifts ( $n = 63$ ).

The complete scale scores for the UWES, TCS, IWS, JSBI, and the subscale scores for the TCS and IWS, were used in the correlation and regression analyses. Data analyses were completed at the individual level; a conventional alpha level of .05 was adopted as the standard for all one-tailed significance testing; and the assessment of normality, linearity, and homoscedasticity were evaluated prior to analysis. When more than two subscale items were missing from a single survey (present in four individual cases), the case was excluded in the bivariate and multiple regression analysis. Bivariate correlations were examined between work engagement, job satisfaction, turnover cognitions, job search behavior, and nurse demographic variables. Multiple regression analyses were used to test Hypothesis 1. To test Hypothesis 2, analysis of variance was performed.

Once initial analyses were complete, it was determined that the development of a more parsimonious model would be of value. This decision was guided by theoretically based underpinnings of the significant factors impacting work engagement. Through further multiple regression analysis, a test of the moderating influence of the job satisfaction components of professional status and interaction variables on the thinking of quitting and work engagement relationship was conducted. For this test, three cases with missing data on the UWES were mean replaced.

To investigate the moderating impact of the job satisfaction components of professional status and interaction on thinking of quitting and work engagement, the combined (summed) job satisfaction components of

**Table 1**  
**Mean, Standard Deviation, Scale Range, and Cronbach's**  
**Alpha for Main Study Variables**

Variable	<i>M</i>	<i>SD</i>	Scale/Subscale Range	Cronbach's Alpha
Work engagement	38.58	8.58	0-54	.924
Job satisfaction	185.92	27.81	44-308	.892
Autonomy	37.23	6.52	8-56	.694
Interaction	48.00	8.55	10-70	.795
Organizational policies	24.41	6.57	7-49	.723
Pay	19.75	7.12	6-42	.862
Professional status	34.19	5.95	7-49	.628
Task requirements	22.22	5.18	6-42	.684
Turnover cognitions	15.95	6.84	6-34	.913
Thinking of quitting	5.43	2.09	2-10	.876
Intent-to-search	5.41	2.40	2-10	.904
Intent-to-quit	5.11	3.25	2-14	.943
Job search behavior	2.53	2.22	0-10	.773

professional status and interaction, thinking of quitting, and the interaction term (Professional Status/Interaction  $\times$  Thinking of Quitting) were entered in the regression model. Because of the presence of multicollinearity when using interaction terms, the professional status/interaction and thinking of quitting variables used in the analyses were mean centered for each work engagement score (raw score – mean for work engagement). The interaction term was formed by taking the product of the centered variables.

## Results

Descriptive and internal consistency results of the main study variables are reported in Table 1. Overall, registered nurses reported moderate levels of work engagement and were somewhat satisfied with their job. Nurses were least satisfied with pay, followed by task requirements and organizational policies. On average, nurses sometimes think about quitting and intend to search for a job. While nurses reported moderate levels of intent-to-quit, job search activity was low.

Cronbach's alpha was used to check for internal consistency and to evaluate the degree to which each of the instrument items used in this study was measuring the same construct and/or subconstruct. Overall, the Cronbach's

alpha scores for the UWES, TCS, IWS, and JSBI complete scales ranged from .77 to .92; the lowest score attributed to the JSBI and the highest to the UWES. These alpha scores are considered to be within the acceptable level for instrument reliability (Nunnally & Bernstein, 1994).

Among the IWS subscales, the Cronbach's alpha for professional status, task requirements, and autonomy were less than .70. These lower Cronbach's alphas are consistent with previous studies and as reported by Stamps (1997). Elimination of single or pairs of items for each of these subscales did not result in any improvement of the Cronbach's alpha. The reliability of these subscales must be considered when interpreting the results of this study.

## Hypothesis 1

Hypothesis 1 is supported. Registered nurses with lower job satisfaction, higher levels of the turnover cognitions, and higher levels of job search behavior have lower work engagement.

The correlation of main study variables to work engagement is reported in Table 2. Significant relationships exist between work engagement and overall job satisfaction, turnover cognitions, and job search behavior. As job satisfaction increases, work engagement increases. As turnover cognitions increase, work engagement decreases. Closer evaluation of the relationships between work engagement and the job satisfaction and turnover cognitions components demonstrated professional status and thinking of quitting had the strongest correlation to work engagement. As thinking of quitting increases, work engagement decreases. Higher satisfaction with professional status is related to higher work engagement. Task requirements and interaction were also positively related to work engagement, but to a lesser degree than professional status. Pay and organizational policies demonstrated the weakest relationship to work engagement. Job search behavior had a small, negative relationship; demonstrating that as job search behavior increases, work engagement decreases.

Hierarchical multiple regression analysis was performed to determine the contribution of the independent variables of overall turnover cognitions, thinking of quitting, intent-to-search, and intent-to-quit; overall job satisfaction, professional status, task requirements, interaction, autonomy, pay, organizational policies; and job search behavior in predicting work engagement. The variables of job search behavior, intent-to-search, intent-to-quit, autonomy, pay, organizational policies, and task requirements were removed from the model because of their lack of contribution to the overall model. Three significant and theoretically based multiple regression equations

**Table 2**  
**Correlation of Work Engagement With Main Study Variables**

Variable	<i>r</i>	<i>n</i>	<i>p</i>
Job satisfaction (overall)	.533	162	< .001
Autonomy	.342	163	< .001
Interaction	.417	164	< .001
Organizational policies	.213	165	< .001
Pay	.186	164	< .01
Professional status	.577	162	< .001
Task requirements	.464	164	< .001
Turnover cognitions (overall)	-.439	163	< .001
Thinking of quitting	-.558	163	< .001
Intent-to-search	-.319	163	< .001
Intent-to-quit	-.340	163	< .001
Job search behavior	-.248	164	< .001
Age	.196	158	< .01
Hours worked per week	.177	158	< .05

resulted and are depicted in Table 3. As shown in Table 3, Model 3 predicts work engagement based on professional status, interaction, and thinking of quitting. When thinking of quitting was added to the model in which professional status, task requirements, and interaction were included (Model 2), task requirements was no longer a statistically significant contributor to the overall model. Task requirements was then eliminated from the equation. With professional status, interaction, and thinking of quitting as predictors of work engagement, a significant regression equation resulted,  $F(3,160) = 47.546$ ,  $p < .001$ , with an  $R^2$  of .461. This model indicates that 46% of the variability in work engagement is accounted for by registered nurses' satisfaction with their professional status and interaction at work and thinking of quitting. Otherwise stated, nurses' work engagement increases as satisfaction with professional status and interaction at work increases and thinking of quitting decreases.

## Hypothesis 2

Hypothesis 2 is partially supported. There is no difference in registered nurses' work engagement among registered nurses based on the individual nurse demographics of work shift, length of work shift, or years of experience. A marginally significant difference in work engagement was found when comparing registered nurses educationally prepared at the associate

**Table 3**  
**Hierarchical Regression Results for Models Predicting**  
**Nurses' Work Engagement ( $N = 163$ )**

Variable	<i>B</i>	$\beta$	$R^2$ Change	$R^2$ /Adjusted $R^2$
Model 1				
Overall job satisfaction	.132	.413**	.277	
Overall turnover cognitions	-.285	.288**	.070	
Full model				.347/.338
Model 2				
Professional status	.582	.396**	.333	
Task requirements	.339	.119*	.037	
Interaction	.189	.185**	.028	
Full model				.398/.386
Model 3				
Professional status	.514	.349**	.333	
Interaction	.171	.168*	.037	
Thinking of quitting	-1.479	-.358**	.102	
Full model				.471/.461

\* $p < .01$ . \*\* $p < .001$ .

degree ( $M = 39.75$ ,  $SD = 7.93$ ) and the bachelor degree levels [ $M = 37.10$ ,  $SD = 9.06$ ;  $F(1, 153) = 3.774$ ,  $p = .054$ ]. Work engagement was weakly and positively related with age and hours worked per week. As age of the nurse increases, work engagement increases. Similarly, as hours per work week increases, work engagement increased. No significant differences were found in levels of work engagement based on work shift [day:  $M = 39.35$ ,  $SD = 8.31$ ; evening:  $M = 37.70$ ,  $SD = 8.61$ ; night:  $M = 37.70$ ,  $SD = 9.16$ ;  $F(2, 161) = .757$ ,  $p > .05$ ], or length of work shift [8 hours:  $M = 39.14$ ,  $SD = 8.93$ ; 12 hours:  $M = 37.68$ ,  $SD = 8.28$ ;  $F(1, 156) = 1.051$ ,  $p > .05$ ]. There is no relationship between work engagement and years of nursing experience,  $r(160) = -.025$ ,  $p > .05$ .

### Revised Model

The multiple regression analysis demonstrated that the antecedent variables of interaction, professional status, and thinking of quitting were useful in accounting for 46% of the variance in work engagement. However,

the development of a more parsimonious structural model was deemed of value. To develop a revised model, testing of the moderating impact of professional status and interaction on the thinking of quitting and work engagement relationship was conducted. As stated by Baron and Kenny (1986), moderation implies that the casual relation between two variables changes as a function of the moderator variable. With this in mind, it was determined the relation between thinking of quitting and work engagement may change as a function of the level of satisfaction with professional status and interaction. Stated otherwise, the level of satisfaction with professional status and interaction affects the strength of the relation between thinking of quitting and work engagement.

Theoretically, professional status and interaction are components of job satisfaction that exist simultaneously. To clarify, the six components of nurses' job satisfaction (as conceptualized by Stamps and Piedmont, 1986) co-occur to make up the construct of job satisfaction. At any point in time, a nurse may be satisfied or unsatisfied with his or her pay, autonomy, task requirements, interaction, organizational policies, and professional status. Therefore, it was determined a variable be computed to represent the job satisfaction components of professional status and interaction. This was accomplished by summing the professional status and interaction factors.

Professional status/interaction was found to significantly influence the relationship between thinking of quitting and work engagement,  $t(3,163) = 1.96, p < .05$ . Standardization and recoding of thinking of quitting according to high, neutral, and low professional status/interaction groups demonstrated that the lower the satisfaction with professional status/interaction, the stronger the negative relationship between thinking of quitting and work engagement. When satisfaction with professional status/interaction is high, thinking of quitting has a weaker relationship to work engagement.

## Discussion

The intent of this study was to determine significant antecedents to nurses' work engagement. The factors that were the best predictors of work engagement included the job satisfaction components of professional status and interaction and the turnover cognition component thinking of quitting. Together they explained 46% of the variance in work engagement. Furthermore, professional status/interaction moderated the relationship between thinking of quitting and work engagement.

Professional status has consistently been ranked by nurses as one of the three most important components of nurse job satisfaction (Goodell & Van Ess Coeling, 1994) and has been a component nurses have been most satisfied with (Finn, 2001; Vahey, 2000). Interaction has also been identified as an important component of nurses' job satisfaction (Blegen, 1993; Manojlovich, 2005; McNeese-Smith, 1999; Mueller & McCloskey, 1990; Stamps & Piedmont, 1986; Tourangeau & Cranley, 2006; Tovey & Adams, 1999). The findings of this study depict moderate satisfaction with professional status and interaction and also highlight the variability that exists in nurses' perception of these job satisfaction factors. Of additional interest, pay and autonomy, both job satisfaction components frequently discussed in colloquial discussions, were not significant contributors in explaining nurses' work engagement.

The results of this study are consistent with the previously reported relationship between intent-to-quit and work engagement (Schaufeli & Bakker, 2004) and with prior research supporting the small impact that individual nurse demographic variables have on nurses' work-related attitude (Blegen, 1993; Coomber & Barriball, 2007; Irvine & Evans, 1995; Larrabee et al., 2003). Although very little research has considered the earlier turnover cognition of thinking of quitting, its significant impact on nurses' work engagement should be recognized. Findings from this study suggest that nurses who have more frequent thoughts of quitting their job are not only more likely to be intending to search for and/or to quit their job, they are also more likely to be on the alternative path from that of turnover—and have, or are becoming, disengaged at work. Paying attention to this earlier turnover cognition previously not considered in either the research or practice setting may aid in developing strategies for decreasing turnover and disengagement among nurses.

The results of this study suggest that hospital and nursing administration should target their efforts to enhance nurses' professional status and interaction at work, thereby improving nurses' work engagement. As defined by Stamps and Piedmont (1986), professional status refers to the overall importance or significance felt about one's job—both in one's own view and in the view of others; interaction refers to the opportunities presented for both formal and informal social and professional contact during working hours. Although there is limited empirical evidence delineating strategies for enhancing professional status and interaction at work among nurses, recommendations are offered here. Also, though suggestions for enhancing nurses' professional status and interaction are discussed separately, it is important to reiterate that it is professional status and interaction together that significantly impact thinking of quitting and work engagement.



To enhance nurses' professional status, integration of a professional nursing practice model within the health care organization infrastructure is strongly recommended. Building on the *Scope and Standards of Practice* (American Nurses Association, 2004), professional status may be improved through the inclusion of nursing philosophy in the mission, vision, and values delineated by the health care organization and individual units functioning within the organization. In addition, patient care delivery processes and nursing practice documentation that are based upon current nursing and other health care evidence are imperative.

As it relates to interaction at work, the importance of supportive working relationships and team cohesiveness is not new. However, empirical evidence supporting methods of how to create and maintain these relationships is elusive. Kahn (1993) suggests that to create networks of supportive relationships within the caregiving organization, attending to the caregivers so that they can give care to others is needed. Providing "care" to the caregiver—in this case the registered nurse providing direct patient care—falls within the realm of nursing leadership.

Nursing leadership, at every level of the organization, should be targeted for improving and developing supportive and cohesive coworker interaction. Specifically, transformational leadership is recognized as the more effective type of leadership style among nursing leaders (Institute of Medicine, 2004; Larrabee et al., 2003; McNeese-Smith, 1996). This style of leadership is characterized by charisma, inspirational motivation, intellectual stimulation, and individualized consideration (Avolio & Bass, 1988; Bass, 1985). Although these characteristics offer insight into effective leadership practices, more research is needed to clearly describe nurse leaders' day-to-day actions/behaviors that are consistent with the characteristics of transformational leadership.

A number of limitations of this study must be acknowledged. First, a convenience sampling approach was used. Though the response rate of 35% is comparable to other nursing studies (Asch, Jedrzejewski, & Christakis, 1997), it is below recommendations (Polit & Beck, 2004). This sample of nurses could have included those who were among the more dissatisfied and disengaged and the accessible population in this study included nurses working in hospitals on medical and/or surgical units in one Midwestern state. Additionally, registered nurses in this sample averaged 7 years younger than the national average age of 46.8 years. The generalizability of this study's findings to nurses working in different geographical locations, in different practice settings, and at different points in time, should be carefully considered.

Second, although controlled through procedural efforts (i.e., protection of respondent anonymity, reducing evaluation apprehension, counterbalancing survey question order, use of different scale endpoints for scales), the action of common method variance (refers to the variance that is attributable to the measurement method rather than to the constructs the measures represent; Bagozzi & Yi, 1991) may have biased the results.

Third, the findings of this study do not imply causality—it is unknown whether these findings are random or persist over time. Fourth, although 46% of the variation in work engagement was explained in this study, it indicates we do not have a broad and complete understanding of the predictors of nurses' work engagement. This study did not include potentially important work environment factors or other unknown predictors of nurses' work engagement.

Finally, professional status is an important component of the model predicting work engagement. However, its low (.63) Cronbach's alpha must be considered when interpreting the findings of this study. Though professional status has been empirically shown to be a valid component of job satisfaction, its reliability has consistently been inconsistent (Stamps, 1997).

Future research should examine the influence of work engagement on patient-centered outcomes. This would provide important empirical evidence regarding the factors impacting nurses' day-to-day work role performance. Investigating the effectiveness of nurse leadership interventions developed to enhance nurses' professional status and interaction would provide hospital and nursing administration with evidence on which to base management practices.

A finding of this study included a higher mean work engagement among associate degree registered nurses. The large proportion of associate degree nurses employed within one Magnet hospital included in the study sample may aid in explaining this finding. Consideration of work environment factors (i.e., as measured by the Nursing Work Index-R [Aiken & Patrician, 2000]) and their impact on thinking of quitting, professional status, interaction, and work engagement may contribute to delineating whether it is the educational preparation of the nurse and/or work environment factors that are important antecedents to work engagement. Finally, this study sample included registered nurses working on medical and/or surgical units. Future research should examine work engagement among different types of nursing staff (i.e., licensed practical nurses, certified nursing assistants) and within different health care settings (i.e., long-term care).

The growing body of research supporting the link between higher work engagement and increased productivity, higher customer satisfaction, and

decreased turnover attends to several issues receiving increased attention by both public and private health care stakeholders. Hospital and nursing administrators should recognize the impact an engaged and disengaged nursing workforce may have on health care organizational outcomes, including quality of patient care.

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