



AN EMPIRICAL ANALYSIS OF THE FACTORS THAT AFFECT NURSE RETENTION IN RURAL ENVIRONMENTS

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AN EMPIRICAL ANALYSIS OF THE FACTORS THAT AFFECT NURSE RETENTION IN RURAL ENVIRONMENTS

Michael J. Dotson, Ph.D

Professor, Marketing

Walker College of Business, Appalachian State University

Dinesh S. Dave, Ph.D

Professor, Computer Information Systems

Walker College of Business, Appalachian State University

Joseph A. Cazier, Ph.D

Associate Professor, Computer Information Systems

Walker College of Business, Appalachian State University

Trent J. Spaulding, Ph.D

Assistant Professor, Health Care Management

College of Health Sciences, Appalachian State University

Corresponding Author: Dr. Spaulding, Department of Nutrition and Healthcare Management, Appalachian State University, L.S. Dougherty, Room 201, 261 Locust Street, Boone, NC 28608. (spauldingtj@appstate.edu)

Abstract

Objective – Investigate the effects of stress, economic factors, altruism and value congruence on intentions to leave the profession in nursing.

Background – As the demand for nurses increases retaining nurses will be critical for healthcare organizations and the healthcare industry. We draw from a mature body of research on nurse retention to build the research model.

Method – We analyze data from a survey of 861 registered nurses in the southeastern United States. Structural equation modeling was used to analyze the survey.

Results – Results confirm the importance of stress and salaries. Strong evidence supports the importance of the fit between employer and nurse values. Finally, the analysis provides unexpected evidence of the reduction of opportunities nurses have to fulfill altruistic desires at work.

(Introduction)

The ability to retain registered nurses (RNs) is critical to both individual organizations and the healthcare industry as a whole. According to the Bureau of Labor Statistics, RNs will experience more growth than any other profession between 2010 and 2020 (BLS 2012). Although, the shortage described in the 90's and 2000's (HRSA 2002; Upenieks 2005) has been dramatically reduced, several pressures are keeping the issue forefront. A recent article in the *New England Journal of Medicine* claims that healthcare reform, retiring workforce, and the changing economy will continue to drive demand for RNs (Auerbach et al. 2013). New models of care, mandated by healthcare reform, call for more leadership by RNs in care coordination. The current economy has caused many nurses to put off retirement. If the economy continues as predicted, half a million nurses are likely to retire this decade (BLS 2012). The ability to retain the remaining workforce will greatly contribute to stability of individual organizations and the industry.

In spite of the recent growth in newly licensed RNs, retention rates for younger nurses are poor (Hinson and Spatz 2011; Read and Laschinger 2013). High levels of burnout lead RNs to consider leaving the profession (Kanai-Pak et al. 2008). The current work environment in the United States is having a significant impact on the American healthcare system (Andrews and Dziegielewski 2005; Bednash 2000; Buerhaus et al. 2000; Stretton and Bolon 2009). Upenieks (2005) claims that RNs are leaving their profession due to a lack of satisfaction with their clinical roles. "Nurses have felt physically exhausted and emotionally drained because of the increased patient load and the conditions under which they must work" (p. 22, Upenieks 2005).

A number of models regarding retention of RNs have been developed and tested in the literature. These models and other survey work have shown the importance of salaries (economic factors) and stress on RNs. The work has provided little insight into two factors that could provide further understanding of why nurses leave their positions and the profession. These factors include altruistic desires of nurses and how an RN's values match with those of their employer (value congruence).

The purpose of this study is to discover and quantify factors that influence RN job satisfaction, behavioral intentions to leave a current job, and behavioral intentions to leave the nursing profession. The research model is built from the literature on employee turnover and retention. A large survey of RNs in the Southeastern United States provides the data for this study. The data are analyzed using structural equation modeling. The results suggest that both value congruence and altruistic desires can impact nurse retention. The findings suggest that initiatives such as those focused on nurse autonomy and patient-nurse ratios could positively affect RN retention.

Perspectives on Retention

Many models have been developed to explain retention rates in nursing. We do not attempt to replicate any of these models entirely, but rather use key principles emphasized by several models including the Price and Muller (1981) model, the anticipated turnover model ([Hinshaw and Atwood 1985](#)), the unfolding turnover model (Lee and Mitchell 1994), and the absence and turnover model (Borda and Norman 1997). A recent review provides details about these models and how they have been applied in nursing ([Gilmartin 2013](#)). We view the theory of reasoned action ([Fishbein and Ajzen 1975](#)) as a common foundation of the turnover models. The model developed and tested here includes the effects of stress, economic factors, altruism, and value congruence on job satisfaction and behavioral intentions to continue in a job and the profession.

Job stress is one of the most common factors explaining job satisfaction. Most models regarding turnover address stress either directly or indirectly through constructs like “work environment”, “shock”, or “sacrifice”. Read and Laschinger (2013) show that two types of stress (incivility and bullying) lead to decreased job satisfaction. Inpatient nursing includes many examples of stress. In the hospital environment, nurses are not always treated with respect by physicians. As nurses spend time with their patients they get a sense of what the patient needs. That sense and their education is not often acknowledged by the physicians. Further, as patient-nurse ratios increase, time management can become very difficult as demands of documentation, medications, and other care management activities pile up. Anecdotal evidence suggests that nursing is often chosen by graduates as a field where they feel they can make a difference not only in what they do but also in how they do it. Many new RNs find they do not have time to dedicate to personal interactions with patients—which leads to further decreases in satisfaction.

We also expect stress to affect behavioral intentions (BI) to leave a position outside of the effect of job satisfaction. The unfolding turnover model predicts that leaving a job can start with a shock ([Lee and Mitchell 1994](#)). Shocks can occur without the build-up of stress. Environments which have higher stress are more likely to produce such shocks. Shocks such as patients dying, extreme disrespect by physicians or managers, or mistakes leading to patient injury may cause nurses to leave their job immediately.

The turnover models suggest two different kinds of economic factors affect the decision to stay or go. One factor is the balance of what an individual is paid for their time and energy. This could be framed as the question “Do I get paid enough to do this?” Filling positions is difficult when hourly pay or salaries are not sufficient to justify the schedule, stress, or other costs. [Hinson and Spatz \(2011\)](#) show salary as the most important factor affecting retention. Therefore, economic factors will affect a RNs’ satisfaction with their current job. The second economic

factor is the availability of jobs outside of nursing. Both the unfolding turnover model and the absence and turnover model suggest that employment opportunities outside of nursing will be weighed when making a decision to leave. Economic factors will also affect BI to leave the profession, not just an individual position.

A nurse's sense of altruism can lead to higher satisfaction with a job and to increased BI to stay in the profession. The job embeddedness model recognizes job fit as a substantial factor in retention (Mitchell et al. 2001). Many nurses chose nursing because of the opportunity to help others, particularly those in vulnerable positions. A sense of altruism in the nursing environment can balance possible negative effects of economic factors and stress. Further, altruism may have independent effects on satisfaction, BI to leave a job, and BI to leave the profession. If a nurse is not satisfied with a job, she may have no intentions to leave the job because it fulfills her sense of altruism. Further, if a job is no longer attractive, a sense of altruism may keep the nurse looking for other positions or types of positions in nursing.

Value congruence can lead to another type of fit. As we interpret turnover models used in the field of nursing, this second type of fit is also critical. Value congruence means that the nurse's values fit with those of the employer. Moneke and Umeh (2013) show that relationships with managers effect job satisfaction. One difficulty often faced by nurses in the hospital environment is the disconnect between the purpose of nursing (to care for patient wellbeing) and the need for tight management of costs and efficiencies by managers. These goals do not have to be entirely independent of each other. Nevertheless, both priorities have to be recognized and respected for healthcare organizations to succeed. Different organizations emphasize different priorities. Value congruence should be inversely associated with BI to leave and job satisfaction. If a nurse feels that he or she fits in the organization, they are more likely to be satisfied with their job. Even when they are not satisfied with their job, a strong sense of fit with organizational values would encourage the nurse to stay in their current position.

Finally, several turnover models point to the fact that poor job satisfaction leads to BI to leave a position. In the unfolding turnover model, low job satisfaction can take the place of shocks or stressors in causing an employee to consider leaving. Further, for many new nurses, stress experienced in the first job can affect their perception of the field of nursing as a whole (Gilmartin 2013). Poor job satisfaction will also make an impact on a nurse's BI to leave the profession.

Methodology

Development of the Instrument

As part of a larger study, a survey instrument was developed based upon a review of the literature and focus group results. The survey was used in a small pilot study. The questions were then modified as necessary. Multiple questions were asked in each dimension to allow the calculation of unobservable factors and, if necessary, the trimming of questions before testing the final model. Table 1 shows a list of the final survey questions used for this research. Items were developed for this study using the approaches prescribed by Gable and Wolf (1993). The scales were tested and further validated using confirmatory factor analysis (CFA) as outlined by Bollen (1989) and Mueller (1995). As a verification of the reliability of the scales, we calculated the Cronbach α reliability coefficients for the constructs. These values are presented in Table 1. All but one of the coefficients exceed the threshold of 0.7 which indicates they are acceptable for survey items (Peterson 1994). The items relating to altruism scored slightly lower and are less consistent, but are not unusable. According to Peterson's (1994) review of the literature, coefficients below 0.6 are unacceptable. Because altruism is above that threshold, we continue with the analysis noting that the measures of altruism have less consistency than the other factors. After testing the reliability of the scales, the results were then analyzed using structural equation modeling (SEM) (Hoyle 1996).

[Table 1 about here]

Data Collection

Responses were gathered via an online survey in 2009 based on a list of nurses provided by a regional health agency located in the southeastern United States. This list consisted of 3,292 nurses who indicated that they were willing to be contacted. Of these, 3,120 were successfully distributed and 861 usable surveys were received for a response rate of 27.6%. Table 2 provides a profile of the total sample, representing a relatively diverse group of nurses. The average number of years of experience was 21.5 years. Over half of the nurses in the sample had reported working

in hospitals. Due to the location of the study, the data are weighted more to rural nursing than we would expect the national population to be.

[Table 2 about here]

[Table 3 about here]

Results

We used SEM to analyze the data. SEM is used to work with survey data to measure constructs which can only be observed indirectly (latent factors) (Kelloway 1998). Essentially an SEM model can be interpreted as a series of equations, with the expanded value that they are all estimated simultaneously. This allows for a comparison and weighting of the importance of various factors. The predicted relationships were therefore tested using structural equations (see Figure 1). Estimates of the coefficients were generated using maximum likelihood estimators.

[Figure 1 about here]

The model appears to fit the data well. The overall fit indices (CFI, IFI) are sufficient when compared to general guidelines which recommend a score above 0.90 (Bollen 1989; Kelloway 1998; Mueller 1995). The RMSEA fit statistic is below 0.10, the recommended maximum (Bollen 1989; Kelloway 1998; Mueller 1995). Because of the number of potential relationships, we have slightly trimmed the model for discussion and presentation (removed several relationships that were not significant). Because post-hoc modification of the model can lead to fitting the model to data anomalies, we have not added any relationships. After trimming, the model still solidly reflects the theory of reasoned action (Fishbein and Ajzen 1975) and the turnover models.

Most of the coefficients are significant and confirm the relationships suggested in the literature. All coefficients related to job satisfaction are significant at $\alpha = 0.01$ in the predicted direction. Stress and value congruence both exhibit the expected relationships with BI to leave a job. The effect of altruism on BI to leave a job nears

significance at $\alpha = 0.05$, but is not significant. The relationships of both value congruence and altruism on BI to leave the profession are unexpected. These relationships were both expected to be negative.

Stress has the strongest effect on BI to leave a job. This finding differs somewhat from the literature which finds a strong effect of salaries (Buffington et al. 2012). Economic factors had no significant impact and BI to leave a job except through job satisfaction and were trimmed from the model in figure 1. Job Satisfaction has the strongest impact on BI to leave the profession which confirms previous findings (Gilmartin 2013). Altruism has the strongest effect on job satisfaction. Value congruence is similar to economic factors and stress in its effect on job satisfaction. The results underscore the importance of both value congruence and altruism in a field where stress and economic factors are so critical.

Discussion and Conclusions

The analysis confirms many points known to affect nurse turnover. The analysis also reveals the importance of value congruence. Finally, the structural model provides a surprising insight regarding the impact of altruism among nurses. In applying these findings, we recognize limitations. The measure of altruism is new and needs refining as evidenced by the analysis. Further, the survey is somewhat balanced between rural and urban nursing. This may not reflect the national nursing demographics. Lastly, the model needs further refinement as evidenced by several unexpected results. Future research should address each of these.

Important factors involved in keeping nurses in their jobs include job satisfaction, reduction of stress, and value congruence. Stress has long been a common complaint in the field of nursing, but especially for nurses who are unsatisfied with their current jobs. Job satisfaction is highly impacted by stress and economic factors. Given present economic conditions, many health organizations may not be able to offer more attractive compensation. The two areas that may be firmly in the control of healthcare organizations are stress and value congruence. Economic factors, though important, tend to be somewhat limited by the need for cost control. Anything organizations can do to reduce the amount of stress and increase value congruency in rural areas should help offset economic factors. Future research should focus more on the role of value congruence in the healthcare environment.

The results show that the hiring process is critical to the retention of RNs. In hiring individual RNs, organizations should find those who have altruistic natures and whose values match with the organization. The analysis shows the nurses who are more altruistic have a substantially higher level of job satisfaction. Job satisfaction in turn reduces RNs' intentions to leave a job. The analysis shows that RNs whose values don't match with the organization are likely to have lower job satisfaction and are more likely to have thoughts of leaving. Search and training costs are a substantial cost in the maintenance of the work force. Decreasing turnover rates by hiring the right RNs will provide valuable savings.

Value congruence is the factor that seems to hold the most untapped potential for increased job satisfaction and nurse retention (within their current jobs, not the field of nursing). This is a novel variable in the healthcare literature, but with its strong and important impacts, it appears to be one of the most important positive variables measured in this study. In job satisfaction, it is surpassed only by altruism. However, altruism is not in the control of healthcare organizations. We find that the nurses, who have high job satisfaction, are those that experience the greatest levels of value congruence with their organizations. These are the nurses least likely to be lost to another work place. If hospitals and clinics can find a way to increase the compatibility of organizational management with the nurses' perspective of patient care, they could increase both job satisfaction and the willingness of nurses to remain in their current jobs. Clearly the alignment of personal and organizational values is very important.

The surprising finding that altruism is associated with nurses leaving the profession has potentially significant and negative implications. Among the possible explanations for this strong effect seen in the results, is that nurses are no longer experiencing the fulfillment of their altruistic desires in the field of nursing. It is possible that regulations and financial pressures on care organizations have removed many opportunities for altruistic behavior in nursing. This conclusion cannot be confirmed from the analysis. However, if this is the case, we would expect to see nurses who experience more altruistic desires leaving the profession to look for more altruistic opportunities. In unstructured comments, a substantial number of respondents stated that they became nurses in order to "help people." A continued removal of altruistic opportunities and time to interact with patients would likely lead to more RNs leaving the profession.

Positive impacts on nurse retention could be realized through many initiatives. We discuss only two here: increased professional autonomy and reductions in patient-nurse ratios. Professional autonomy in the nursing environment could mean structuring care in a manner that allows the nurse to use his or her training to its fullest. Recent work has shown that nurse-physician teamwork leads to increases in perceptions of job satisfaction and autonomy of nurses (Ajeigbe et al. 2013). Increases in this autonomy may not just increase job satisfaction, but allow nurses with more altruistic desires to feel like they are making a difference in patient care. Managers and doctors must allow RNs to “do their job” and recognize nurses’ insight and contribution to patient wellbeing.

Healthcare organizations experience a perpetual and constant pressure to increase the amount of work done by each RN (efficiency). This constant pressure has led to higher patient-nurse ratios. The pressure for efficiency leads to differences in values and beliefs among managers and nurses (value congruence), decreased time to care for individual patients (fulfillment of altruistic desires), and increased stress through the number of tasks that need to be performed in a shift. In the case of value congruence and stress, the effects of pressure for efficiency will drive nurses to find other jobs. In the case of nurses with more altruistic desires the outcome may be more drastic. If nurses are continually asked to care for more patients and complete more tasks per hour at work, more altruistic individuals will find other professions in which they feel they can express those desires. The type of person filling the role of the RN may shift.

This study reports on a survey of over 800 RNs in the southeastern United States regarding retention of nurses in both their jobs and the field of nursing. Results confirm that stress and economic factors are still critical as still widely reported in the literature. Further, we show the importance of how a nurses values fit within the organization they work at. Finally, the analysis shows some evidence that it is becoming difficult to express altruistic desires in the field of nursing. Retention of the current workforce requires serious and critical attention to all four of these factors and development of initiatives to improve the environments in which RNs work.

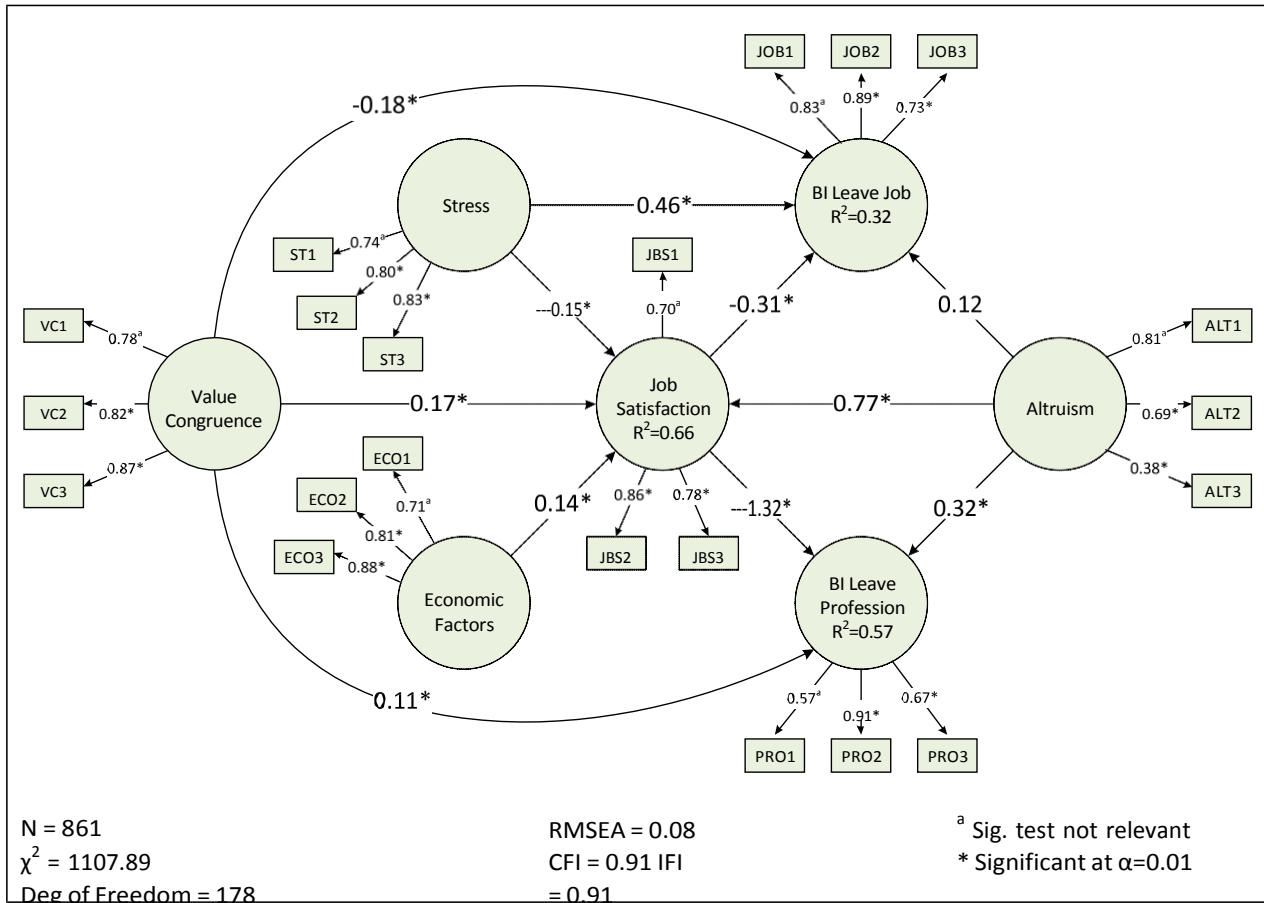
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Tables and Figures

Figure 1: Structural Equation Model



Note: Coefficients displayed are standardized.

Table 1. Retention Model Questions

Factor	Variable	Question
<i>Altruism</i> $\alpha=.645$	ALT1	I deeply feel a calling to be a nurse
	ALT2	I became a nurse to help others
	ALT3	I enjoy caring for my patients
<i>Job Satisfaction</i> $\alpha=.834$	JBS1	I would recommend becoming a nurse to others
	JBS2	If I had it to do over again, I would still become a nurse
	JBS3	I love being a nurse
<i>Value Congruence</i> $\alpha=.858$	VC1	My employer's values align very closely with my personal values
	VC2	Those above me in the organization put quality care of the patient first
	VC3	My company and I agree on patient care
<i>Economic Factors</i> $\alpha=.841$	ECO1	Nursing is a well paying profession
	ECO2	I am well compensated for what I do
	ECO3	I am satisfied with my current salary as a nurse
<i>Stress</i> $\alpha=.782$	ST1	My job gets to me
	ST2	My job is stressful
	ST3	My job leaves me emotionally exhausted
<i>BI Leave Job</i> $\alpha=.860$	JOB1	I want to switch to another nursing job as soon as possible
	JOB2	I am considering changing my nursing job
	JOB3	I am keeping my eyes open for another job opportunity in nursing
<i>BI Leave Profession</i> $\alpha=.784$	PROF1	I want to leave the nursing profession as soon as possible
	PROF2	If I had it to do over again, I would still go into nursing (Reversed)
	PROF3	I plan to continue in nursing for the rest of my working life (Reversed)

Table 2. Profile of Nurses: Total Sample

Demographics		Frequency	Percent
Gender	Male	30	3.5
	Female	831	96.5
Age	20 – 29	36	4.2
	165	180	19.2
	40 – 49	274	31.8
	50 – 59	313	36.4
	60 +	73	8.5
Years of Nursing Experience	0 – 10	169	19.6
	11 – 20	236	27.4
	21 – 30	263	30.6
	30 +	238	27.7
	Average = 21.5 years		
Nursing Degree	High School/A.S.	327	38.0
	B. S.	413	48.0
	M. S.	121	14.0
Type of Employment	Hospital	438	50.9
	Administration	137	15.9
	Doctor's Office	67	7.78
	Education	87	10.1
	Health Department	91	10.6
	School	41	4.8
Work Community	Rural	425	49.4
	Urban	436	50.6