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Impact of Job Satisfaction and Turnover in Nurse Practitioners

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Abstract:
Research has found nurse practitioner's (NP) provide high quality care with similar patient outcomes to physician-provided care. However, research has also found that NP turnover rates to be twice that of physicians. The combination of projected physician and shortage and high turnover of NPs does little to relieve existing and projected primary care provider shortages. The purpose of this study was to examine if there is a relationship between job satisfaction and anticipated nurse turnover in actively practicing NP's.

Keywords: Job satisfaction, anticipated turnover, nurse practitioners

1. Introduction
The need for primary healthcare providers in the US is expected to continue to exceed the supply of primary care physicians (PCP). Conversely, the supply of nurse practitioners (NP's) is expected to continue to increase thereby meeting the need for primary health care providers in the US (HRSA, 2013, 2016). However, the national turnover rate for NP's is twice that of physicians. NP turnover is 12.6% as compared to a 6% turnover rate for physicians (Bureau of Labor Statistics, 2016; Cejka, 2014).

2. NP Turnover and Patient Care
The effects of NP turnover not only pose significant financial implications to employers, moreover NP turnover disrupts the continuity of patient care. Disruption of the continuity to patient care has been found to increase the risk of errors thereby compromising patient safety (AACN, 2014; Cejka, 2011, 2014; De Milt, Fitzpatrick & Brooks, 2010; Reddy, Pollack, Asch, Canamucio& Werner, 2015).

3. Employee Job Satisfaction, Productivity and Attrition
In general industry, the impact of employee job satisfaction and its impact to productivity and attrition rates has been known for almost 30 years (Hertzberg, 1987; Kramer &Schmalenberg, 1991; Wells, 1990). Studies examining the relationship between employee job satisfaction and attrition rates in health care found results similar to general industry. Yet, despite these findings there remains a paucity research examining job satisfaction and attrition in NP's. (Bhatnagar &Srivastave, 2012; De Milt, Fitzpatrick & McNulty, 2009; Hill, 2011; Misner et al., 1996).

4. Assessing Job Satisfaction
Job satisfaction surveys have been found to be an effective means of obtaining data in order to determine employee job satisfaction (Health Workforce Information Center, 2013). The data obtained from job satisfaction surveys can then be utilized to develop interventions and strategies to increase job satisfaction thus reducing attrition and preserving continuity of patient care.

5. Purpose of this Study
The purpose of this study was to assess nurse practitioner (NP) job satisfaction and its relationship to NP's intent to leave their current employments positions.

6. Research Protocol
The subject population were practicing NP's in New York State (NYS). Institutional Review Board (IRB) approval was sought and obtained from Long Island University/Post on Long Island in NYS. A description of the study with a link to the study consent and study surveys was placed in the NYS NP's electronic monthly newsletter Study surveys consisted of a nine question demographic survey, the Misner Nurse Practitioner Job Satisfaction Scale
(Misner& Cox, 2001) and the Anticipated Turnover Scale (ATS) (Hinshaw, & Atwood, 1984; Hinshaw& Atwood, 1985). All surveys as well as the consent were submitted through Survey Monkey® which is encrypted. Data from all surveys were in aggregate.

7. Psychometric Tools

Permission was obtained to use both the Misner Nurse Practitioner Job Satisfaction Scale (Misner& Cox, 2001) as well as the ATS (Hinshaw, & Atwood, 1984; Hinshaw& Atwood, 1985).

8. Misner Nurse Practitioner Job Satisfaction Scale

The Misner Nurse Practitioner Job Satisfaction Scale is a 77 item survey that uses a 6-point Likert-type scale composed of six subscales. The subscales internal validity and reliability are 0.94, 0.89, 0.86, 0.83 and 0.79 in that order (Misener& Cox, 2001). The scale is a self-administered survey designed to assess job satisfaction in NP's.

9. Anticipated Turnover

The Anticipated Turnover Scale (ATS) is a 12 item survey that uses a 7 point Likert-type scale with an internal validity and reliability of 0.84. The scale is a self-administered survey designed to assess a nursing staff member's intent to voluntarily leave their current position (Hinshaw& Atwood, 1984; Hinshaw& Atwood, 1985).

Power	0.8
alpha	0.05
Effect size	0.3
Sample size	**52**
Power (obtained)	0.799

Table 1: Power Analysis

Test interpretation:									
H0: The R^2 is equal to 0.									
Ha: The R^2 is different from 0.									
The risk to not reject the null hypothesis H0 while it is false is 0.2.									
For the given parameters, for an alpha of 0.05, the necessary sample size to reach a power of 0.8 is 52 observations. *The total N for this study was 57*.									

10. Demographic Features of the Sample

The vast majority (92.7%) were women and 70 % of the nurses were between the age 45 and 64. A majority of the study participants had completed a Master's degree (57% Masters, 12% Doctorates). They were by and large suburban (79%). Almost all (96%) of these nurses had certification in the area of practice and the sample was composed of diverse practice areas. The majority of the sample; 26.7% hadpracticed an as RN for more than 21years prior to becoming an NP and 26.7% of the sample had been practicing as an NP between 11 – 15 years during this study. The mean job satisfaction score was 4.288 with a standard deviation of .671. It was also shown to have a normal distribution.

Turnover Intention by Demographic Variables						P value
	N	Mean	SD	t/F value	Model Parameters	Model
Gender						0.296
Female	52	3.235	0.961	-0.540		
Male	5	3.500	0.649			
Highest Level Education						0.416
Bachelor's	1			-1.393	0.170	
DNP	10			0.612	0.543	
Doctorate/PhD/EdD	6			-0.621	0.537	
Master's	33			-0.317	0.752	
Post Master's	7					
Practice Location						0.423
Inner City	13			-0.559	0.578	
Rural	4			1.102	0.275	
Suburb	40					
Do you have certification in your area of practice						0.588
Yes	55	3.234	0.936			
No	2	3.083	1.296			
Are you practicing in your area of certification						0.389
Yes	46	3.213	0.970			
No	11	3.295	0.813			
Current Area of Specialty						0.072
Acute (hosp. based)	15	3.320		1.692	0.097	
Acute free standing emergency center	3	3.000		0.474	0.638	
Ambulatory (Hospital based clinical)	4	2.979		0.489	0.627	
Ambulatory (hosp. based clinical)	4	4.063		2.590	**0.013**	
Independent NP Practice	4	2.875		0.287	0.776	
Other	8	3.958		3.000	**0.004**	
Private Medical/Surgical Practice	8	3.060		0.778	0.440	
Specialty	11	2.727				
Length of experience as an RN prior to becoming an NP						0.64
5 or less	9	3.204		0.010	0.992	
6-10 years	13	3.263		0.181	0.857	
11-15 years	9	2.857		-0.819	0.417	
16-20 years	11	3.550		0.964	0.339	
21 or more	15	3.200			0.594	
How many years have you practiced as an NP						0.835
5 or less	14	3.363		1.028	0.309	
6-10 years	11	3.402		1.067	0.291	
11-15-years	15	3.187		0.620	0.538	
16-20 years	9	3.260		0.697	0.489	
21 or more	8	2.927				

Table 2: Demographic Features of the Sample

11. Demographic Variables and the Dependent Variable

Independent samples T Test and ANOVA were completed to test for statistical significance between factors in the demographic variables and the ATS. In this sense the demographic variables are treated as independent variables to see if the scores for the factors of gender – male and female – are different to a statistically significant degree. This would imply that the gender of the participant might influence the turnover intention score. In this sample there were no statistically significant differences in the six different demographic categories.

12. Regressions and ANOVA

To test the hypothesis that job satisfaction was a predictor of turnover rate, a linear regression was conducted regressing the average scores per participant of the Misner Nurse Practitioner Job Satisfaction Scale against the average score per participant of the ATS. This was found to be a statistically significant although the r square was less than 1%. *This shows that job satisfaction is a predictor of turnover as measured by the turnover intention scale*. However, it must be noted it is a small component in predicting the overall

movement of the turnover scale. In fact, the job satisfaction scale predicted less than 1% (.82%) of the variability in the dependent variable.

The Misner Nurse Practitioner Job Satisfaction Scale was designed using six factor areas: Benefits, Time, Professional Growth, Professional, Social and Community Interaction, Challenge /Autonomy, Intrapractice Partnership/Collegiality. Averages were calculated for each of these components and were then regressed against the Turnover Scale. This model was also seen to be statistically significant (F=2.465, p=.032) and the R square was much improved. This model had an R square of .228, indicating that the model explained about 22.8 % of the variability of the Anticipated Turnover Scale. Looking at the model parameters, it was questions dealing with Professional, Social and Community Action (t=2.053, p=0.045).

Additional models were analyzed adding independent variable along with job satisfaction to see if the predictive ability might increase. An ANCOVA was run including job satisfaction, Age (in Groups), gender and highest level

of education. This model showed no statistical significance in either the model or the model parameters (F=0.999, p=0.416).

The same result was found in an ANCOVA regressing job satisfaction and Practice Location, 'Do you have certification in your area',' Are you practicing in your certification', and current area of practice. (F=1.138, p=0.356).

Regression Results									
The Likely to Leave Average regressed against the Job Satisfaction Average					Likely to Leave Regressed against Components of the Job Satisfaction Score				
Variable	Obs.	Mean	Std. deviation		Variable	Obs.	Mean	Std. deviation	
Likely to Leave Average*	57	3.229	0.935		Likely to Leave Average	57	3.229	0.935	
Job sat. Average	57	4.241	0.753		Average collegiality	57	3.877	1.047	
					Average/ Challenge/ Autonomy	57	4.605	0.824	
					Average PS&C	57	4.519	0.691	
					Average Professional Growth	57	3.905	1.034	
					Average time	57	4.268	0.966	
					Average Benefits	57	4.450	1.133	
R Square	0.092				Square	0.228			
Analysis of variance (Likely to Leave Average):					Analysis of variance (Likely to Leave Average)				
Source	F	Pr> F			Source	F	Pr> F		
Model	5.577	**0.022**			Model	2.465	**0.036**		
Error					Error				
Corrected Total					Corrected Total				
Computed against model Y = Mean (Y)						*Computed against model Y = Mean (Y)*			
Model parameters (Likely to Leave Average):					Model parameters (Likely to Leave Average):				
Source	Value	Standard Error	t	Pr> [t]	Source	Value	Standard Error	t	Pr> |t|
Intercept	4.828	0.687	7.024	**< 0.0001**	Intercept	4.590	0.869	5.281	**< 0.0001**

Table 3: Comparison Regress Table

13. Limitations: Psychometric Tool

One of the issues with Likert Scale instruments is they impose a narrow band of possible scores. In the ATS that was 1-6. The participant in this sample further decreased the variability of the possible scores by making choices in an even narrower range. Seventy-five percent of all of the average scores by participant were between 2.5 and 4. It is inherently difficult to find meaningful differences for example in any of the demographic areas with so narrow a range.

14. Limitations of the Study

This study has numerous limitations. First it used a convenience sample of practicing NP's who were members of the state's NPA. Secondly, the number of study participants was small despite having originally attempted to recruit study participants via the NPA state electronic monthly newsletter.   After the link had been placed in the NP electronic newsletter for four consecutive months only 42 surveys were received. In order to achieve the minimum effect size of 52 it was decided to print the consent and surveys and seek assistance from colleagues who are engaged in NP practice. A fellow colleague agreed to assist in the recruitment where an additional 15 participants were recruited.   However, despite the study's limitations the study's findings support past research that has been conducted in private industry as well as in healthcare; there is a positive correlation between job satisfaction and an employee's intent to voluntarily leave their place of employment (Bhatnagar &Srivastave, 2012; De Milt, Fitzpatrick & McNulty, 2009; Hertzberg, 1987; Hinshaw& Atwood, 1984; Hill, 2011; Kramer &Schmalenberg, 1991; Misner et al., 1996; Wells, 1990).

15. Future Recommendations

While this study examined job satisfaction and intent to leave this study did not examine work related quality of life. Previous studies have found there is a relationship between job satisfaction and work related quality of life in healthcare workers (Van Laar, Edwards & Easton, 2007).   Furthermore, data obtained examining work related quality of life would assist administration to gain insight into variables that contribute to NP's job satisfaction. Results from surveys can then be utilized to develop strategies and interventions to increase NP job satisfaction. All of which can assist to reduce NP turnover rate, maintain the continuity of patient care as well as maintenance of adequate numbers of NPs to meet the demand for primary care providers.

16. Acknowledgments

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