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A Path Analysis of the Effects of Nurses' Perceived Organizational Justice, Organizational Commitment, and Job Satisfaction on their Turnover Intention

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ABSTRACT

Background: Staff turnover, particularly nursing staff turnover, is one of the most common reasons behind loss of productivity in health-care organizations. A basic requirement for reducing staff turnover is to determine its causes. **Objectives:** This study evaluated the relationships of perceived organizational justice, organizational commitment, and job satisfaction with turnover intention among a group of Iranian hospital nurses. **Methods:** This cross-sectional study was conducted on nursing staff and auxiliary nurses who were working in 15 teaching hospitals affiliated to Shiraz University of Medical Sciences, Shiraz, Iran. A random sample of nurses, who had an associate or higher degrees in nursing and had a work experience of >1 year, was recruited through stratified random sampling. Data were collected using a demographic questionnaire, the Organizational Justice Questionnaire, the Job Satisfaction Questionnaire, the Organizational Commitment Questionnaire, and the Questionnaire of Turnover and were analyzed through the confirmatory factor analysis, path analysis, Pearson's correlation analysis, and squared multiple correlation analysis. **Results:** Organizational justice had significant direct relationships with job satisfaction ($r = 0.73$) and organizational commitment ($r = 0.61$) and inverse relationship with turnover intention ($r = -0.41$). Path analysis revealed that organizational justice had no direct effects on turnover intention, while it had indirect effects on turnover intention through the paths of organizational commitment and turnover intention. **Conclusion:** Nurses' turnover intention is directly affected by organizational commitment and job satisfaction and indirectly affected by organizational justice through the paths of organizational commitment and turnover intention.

KEYWORDS: *Hospitals, Job satisfaction, Nurses, Personnel turnover, Social justice*

INTRODUCTION

*I*n the fast-changing contemporary world, the efficiency, development, and productivity of each organization depend on the proper use of workforce.[1] Staff turnover, defined as "the termination of an individual's employment with a given company,"[2] is the most important factor behind the loss of productivity in both public and private organizations. Turnover incurs the costs of new employments, staff training, and organizational efficiency decline and accounts for >5% of operational expenses.[3] Similarly, nurse turnover

in health-care organizations can negatively affect care quality and increase treatment costs.[4]

Actual voluntary turnover is determined by turnover intention[5] which is defined as the "think of quitting

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and intent to search for alternative employment."[6] Managers and policymakers usually consider turnover intention as a potential factor behind actual turnover and hence studies assess actual turnover through measuring turnover intention.[4,7] Moreover, turnover intention assessment can help prevent actual turnover.[5]

Organizational justice is one of the main factors behind turnover intention.[8] It refers to staff's perceived fairness in social interactions in organizations and consists of three main aspects, i.e., interactional justice, distributive justice, and procedural justice.[9] Organizational justice has significant implications for both organizations and staff.[10] Staff who feel greater organizational injustice have higher turnover, while staff who have positive attitudes toward their jobs, superiors, and organizations have a stronger motivation for their job.[11] Organizational justice is also significantly correlated with organizational commitment and job satisfaction. In other words, staff with greater perceived organizational justice have greater organizational commitment and job satisfaction[9,12] and are less likely to leave their organizations.[13] Therefore, organizational commitment and job satisfaction are the other two factors behind turnover intention.

Price and Mueller presented a model for hospital staff turnover for the first time. Their model holds that organizational commitment and job satisfaction directly affect staff turnover.[14] Previous studies also showed that organizational justice, organizational commitment, and job satisfaction significantly contribute to turnover intention.[15-18] However, there are only a few studies into the relationships of these factors to turnover intention among Iranian nurses.[19,20] Therefore, studies are needed to determine the contribution of these factors to hospital nurses' turnover intention.

Objectives

This study used structural equation modeling to evaluate the relationships of perceived organizational justice, organizational commitment, and job satisfaction with turnover intention among a group of Iranian hospital nurses. The following hypotheses were tested in the study:

1. Nurses' perceived organizational justice is positively related to their job satisfaction
2. Nurses' perceived organizational justice is positively related to their organizational commitment
3. Nurses' perceived organizational justice is inversely related to their turnover intention.

METHODS

Study design and participants

This cross-sectional study was performed in June–September 2012 on hospital nurses in 15 teaching

hospitals affiliated to Shiraz University of Medical Sciences, Shiraz, Iran. In total, 2095 nurses were working in these 15 hospitals at the time of the study. With an type I error of 0.05, an N of 2095, a p and q of 0.5,[21] a sampling error of 0.05, and a t of 1.96,[22] the Cochrane sample size calculation formula indicated that 325 nurses were needed for the study [Figure 1]. However, 580 nurses were recruited to improve the power of the study and compensate probable withdrawals.

The number of nurses to be recruited from each hospital was determined through multiplying the total number of nurses in that hospital by the study sample size and dividing the result by the total number of nurses in all 15 hospitals, i.e., 2095. Nurses were recruited through stratified random sampling. Each hospital ward was considered as a stratum. Initially, several hospital wards were randomly selected, and then nurses were conveniently recruited from the selected wards. Inclusion criteria were a work experience of at least 1 year as hospital nurse or auxiliary nurse, associate or higher degrees in nursing, and willingness to participate in the study.

Data collection

Necessary data were collected using the following five instruments: (a) a demographic questionnaire: the items of this questionnaire were on nurses' age, gender, educational level, marital status, organizational position, affiliated ward, work experience in nursing, number of children, and youngest child's age. (b) The Organizational Justice Questionnaire: This questionnaire was developed by Niehoff and Moorman and was translated into Persian by Moghimi and Ramezan.[23] It comprises 18 items in three subscales, namely distributive, procedural, and interactional justice. Items are scored 1 ("Strongly disagree") to 5 ("Strongly agree"). The score of each subscale is calculated through dividing its total score by the total number of its items. The Cronbach's alpha was 0.95 for the whole questionnaire and 0.94, 0.86, and 0.94 for its distributive, procedural, and interactional justice subscales, respectively. (c) The Job Satisfaction Questionnaire: Hartline and Ferrell designed this questionnaire with seven items. Item scoring is performed on the same 1–5 scale as the scoring scale of the Organizational Justice Questionnaire.

$$n = \frac{Nt^2 pq}{\left((N-1)d^2\right) + t^2 pq}$$

$$= \frac{2095 \times 1.96^2 \times 0.5 \times 0.5}{\left((2095-1) \times 0.05^2\right) + 1.96^2 \times 0.5 \times 0.5}$$

Figure 1: Calculation of study sample size

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Its Cronbach's alpha in the present study was 0.85. (d) The Organizational Commitment Questionnaire: This questionnaire was developed by Porter *et al*. The nine items of this questionnaire are scored 1–5 in the same way as the Organizational Justice Questionnaire. The Cronbach's alpha of the questionnaire in this study was equal to 0.88. (e). The Questionnaire of Turnover: Singh and Bluedorn developed this questionnaire with six items in the two subscales of intention to leave the job and intention to leave the organization. Items are scored 1–5 like the scoring scale of the Organizational Justice Questionnaire. Its Cronbach's alpha in the present study was 0.89.

Six faculty members from Shiraz University of Medical Sciences, Shiraz, Iran, assessed and confirmed the content validity of the questionnaires. Moreover, the overall Cronbach's alpha of the latter four questionnaires was 0.92.

Questionnaires were delivered to the nurses of each ward at the beginning of their work shift and were collected at its end. Nurses who did not complete their questionnaires in the 1st day were allowed to complete them in the second or the 3rd day. However, nurses who failed to complete the provided questionnaires within these 3 days were excluded and substituted with new ones.

Ethical considerations

This study was approved by the Research Administration of Shiraz University of Medical Sciences (with the code of 91-6262) as well as the Ethics Committee of the University and the Education Administration of Shiraz School of Management and Medical Informatics, Shiraz, Iran. After that, formal permissions were obtained from the managers and nursing administrators of the study setting as well as the Education Administration of Shiraz School of Management and Medical Informatics. Questionnaires were anonymous and participation was voluntary. Returning completely-answered questionnaires were considered as consent for participation. Thus, the principles of the Declaration of Helsinki were observed in the study.

Data analysis

The cutoff point for the study questionnaires was 3. Accordingly, nurses who obtained scores greater than three for the questionnaires were considered to have great perceived organizational justice, great organizational commitment, great job satisfaction, and firm turnover intention. Confirmatory factor analysis was performed for validity assessment. Path analysis was done using structural modeling equation through the AMOS18 software (IBM, New York, USA). After removing the extreme values (three cases) and confirming the model and its relationships (through omitting meaningless relationships), the final model was presented. In addition, we used Q-Q normal probability plot to check normality, which approved data normality. We also used Pearson correlation analysis as well as squared multiple correlation (R^2) to predict and measure the correlations of the independent variables with the dependent variables.

RESULTS

A total of 404 nurses completely answered and returned their questionnaires. Therefore, response rate was 69.6%. Nurses aged 30.69 ± 6.38 on average. Most nurses aged 26–35 years (55.4%), were female (87.5%), had bachelor's or higher degrees in nursing (85.2%), and were staff nurses (81.5%).

As Table 1 shows, organizational justice was positively correlated with organizational commitment ($r = 0.61$; $P < 0.01$) and job satisfaction ($r = 0.73$; $P < 0.01$) and inversely correlated with turnover intention ($r = -0.41$; $P < 0.01$).

Figure 2 shows the path analysis model which includes the variances of the independent variables, the covariance between the independent variables, the regression weight, and the errors of the variables (e1, e2, and e3). In this figure, endogenous or dependent variables (e.g., turnover intention) are shown by arrows toward inside, while

Table 1: The correlation matrix for study variables[a]

Variables	OJ	IJ	PJ	DJ	JS	OC	ITL
OJ	1						
IJ	0.92	1					
PJ	0.80	0.45	1				
DJ	0.90	0.80	0.54	1			
JS	0.73	0.58	0.75	0.59	1		
OC	0.61	0.45	0.80	0.48	0. 74	1	
TI	−0.41	−0.34	−0.46	−0.27	−0.54	−0.46	1

[a]All correlations are significant at 0.01 (two-tailed). OJ: Organizational justice, IJ: Interactional justice, PJ: Procedural justice, DJ: Distributive justice, JS: Job satisfaction, OC: Organizational commitment, TI: Turnover intention, ITL: Intention to leave
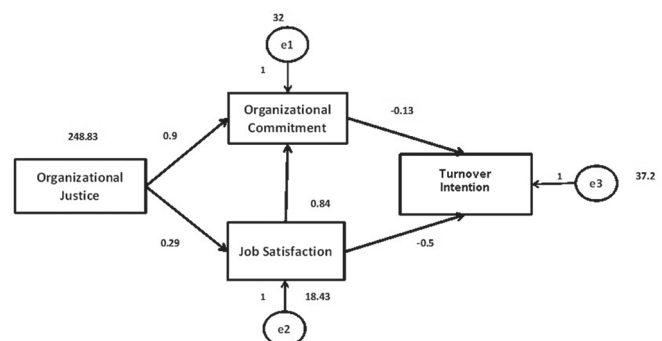

Figure 2: The final path analysis model

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Table 2: Goodness-of-fit indices

Indices	Suitable range	Model measurement
χ^2	0	0
Degree of freedom	0 or more	0
P-close	0.05 or more	0.94
Noncentrality parameter	5 or less	0
Goodness-of-fit index	0.80 or more	1
Goodness-of-fit index	0.80 or more	-
Root mean square error of approximation	0.08 or less	0.56
Normal fit index	0.80 or more	1
Comparative fit index	0.90 or more	1
Tucker-Lewis index	0.90 or more	-

Table 3: Maximum likelihood estimation of correlation coefficients

The paths	Correlation	SD	Critical ratio	P
OJ to JS	0.29	0.01	21.16	<0.01
OJ to OC	0.09	0.03	3.34	<0.01
JS to OC	0.84	0.07	12.79	<0.01
OC to TI	−0.12	0.05	−2.33	0.02
JS to TI	−0.50	0.08	−5.88	<0.01
OJ to TI	−0.01	0.03	−0.13	0.90

OJ: Organizational justice, JS: Job satisfaction, Organizational commitment, TI: Turnover intention, SD: Standard deviation

exogenous or independent variables (e.g., organizational justice) are shown by arrows toward outside. The goodness-of-fit indices for the path analysis model are shown in Table 2. Chi-square value and Noncentrality parameter were equal to zero, denoting that the model was completely fitted. Besides, the normal fit index, goodness-of-fit index, and comparative fit index were all equal to 1, which implies a good model. Moreover, no value was reported for the Tucker-Lewis Index because the degree of freedom was equal to 0. On the other hand, The root mean square error of approximation was much higher than the suitable range; however, this difference was not statistically significant due to the insignificance of P-close. Therefore, the overall model was considered as good. The results of maximum likelihood estimation showed that organizational justice and its three subscales accounted for 53% of the variance of job satisfaction. In addition, organizational justice and job satisfaction explained 56% of the variance of organizational commitment, while all variables were responsible for 0.3% of the variance of turnover intention. Total effects also showed that the strongest and the weakest relationships to turnover intention were related to job satisfaction (−0.52) and organizational commitment (−0.15), respectively. Organizational justice also had strong effects on job satisfaction (0.73) and organizational commitment (0.61).

Table 3 shows the maximum likelihood estimation of correlation coefficients. The path between organizational justice and turnover intention was statistically insignificant ($P = 0.90$); thus, the path was removed from the model [Figure 2].

DISCUSSION

This study showed that all three subscales of organizational justice had positive relationships with job satisfaction. The strongest relationship was related to the procedural justice subscale followed by the distributive and the interactional justice subscales, respectively. Hence, the first hypothesis of the study was accepted. An earlier study also reported a statistically significant relationship between organizational justice and job satisfaction.[24] It has also been shown that job satisfaction also can affect nurses' job stress, job involvement, and organizational commitment[25,26] which consequently affect their turnover intention.

We also found that procedural justice had the strongest effect on job satisfaction. Therefore, when distributive and interactional justice are impossible to achieve, nurses' satisfaction can be improved through procedural justice, i.e., through developing fair procedures and making fair decisions in the organization.

Our findings also indicated the significant positive relationships of all three subscales of organizational justice with organizational commitment. The strongest and the weakest relationships were between procedural and interactional justice, respectively. Thus, the second hypothesis of the study was also accepted. In line with the findings reported in an earlier study,[27] these findings denote that nurses who feel greater organizational justice, particularly procedural justice, show greater commitment to their organizations.

We also found that organizational justice and its three subscales had inverse relationships with turnover intention. Therefore, the third hypothesis of the study was accepted as well. Previous studies also reported the same finding.[9,28,29] Turnover is a common problem in all industries and organizations. It incurs organizations heavy costs. Turnover not only causes staff loss but also it is a major reason behind the loss of organizational productivity. It causes staff instability, reduces organizational efficiency, and therefore, imposes heavy financial burdens on organizations.[30] Therefore, promotion of organizational justice can reduce nurses' turnover intention, actual turnover, and turnover-related costs.

Another finding of the study was the significant inverse relationship of organizational commitment

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with turnover intention. An earlier study also reported the same finding.[31] We also used structural equation modeling for path analysis. Findings revealed that organizational justice, as an independent variable, had direct effects on organizational commitment and job satisfaction and no significant direct effect on turnover intention. However, organizational commitment and job satisfaction had significant effects on turnover intention. These findings denote that, in multiple correlation analysis, organizational justice had no direct effects on turnover intention, while it had indirect effects on turnover intention through the paths of organizational commitment and turnover intention. These findings highlight the importance of using structural equation modeling for accurate relationship assessment. Hospitals are different from other organizations because their inputs and outputs are human beings. Therefore, studies on hospital staff, particularly nurses, need to use analytical techniques which deal with both direct and indirect relationships. Accordingly, instead of merely relying on simple linear models, the present study used more sophisticated structural equation modeling to assess the effects of mediators such as job satisfaction and organizational commitment.

Conclusion

Nurses' turnover intention is indirectly affected by organizational justice and directly affected by organizational commitment and job satisfaction. In other words, organizational injustice, limited organizational commitment, and low job satisfaction can significantly contribute to turnover intention and result in actual turnover. Therefore, hospital managers need to promote justice, particularly procedural justice, in their organizations to improve nurses' job satisfaction and organizational commitment, lower their turnover, improve their retention in the profession, reduce turnover-related costs, enhance care quality, and reduce health-care costs. Promotion of procedural justice is of greater importance when distributive and interactional justice is difficult to achieve. Strategies for organizational justice promotion among nurses may include joint decision-making, unbiased use of the available information, clear explanation of organizational policies, rules, and regulations, use of clear and fair organizational procedures, and implementation of an equitable reward system.

Like other studies, this study faced limitations. First, data collection was done using self-report questionnaires, the results of which may not accurately reflect respondents' views. Second, the study was conducted only on nurses, and in a single geographical area, i.e., Shiraz, Iran. Therefore, findings should be cautiously generalized to other settings, populations, and areas. Further studies in other industries and other populations may provide more reliable results concerning the relationship of organizational justice and staff turnover.

Conflicts of interest

There are no conflicts of interest.

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