

Relationship of Hospital Nurse LMX, Emotional Immersion, and Turnover Intention

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Abstract

My research shows that the number of patients admitted to the hospital increasing as the lifespan of human beings is prolonged, nursing personnel are becoming important as a component of hospitals. Human relationships are one of the reasons for deciding to work, and among them, relationships with superiors are important. Accordingly, purpose was to examine how the leader-member exchange theory (LMX) affects the organization on supervisor, emotional commitment, and turnover intention among nursing groups in hospital environment. Therefore, a research model was created to achieve the research purpose, and three research hypotheses were derived accordingly. In addition, a questionnaire was drawn in the month of May 2020. for hospital nurses located in provincial areas, and the final 290 valid samples were obtained, The statistical analysis that can prove the results of the study used SPSS 20.0. The analysis results are as follows. First, it was found that nurse LMX, which affects emotional commitment, had an effect. Second, turnover intention seemed negative for emotional commitment. Third, it was found that the intention was negative for LMX. Therefore, in this study, it is important for nurses to form a smooth organizational relationship with their bosses in an environment called a hospital. Therefore, it is suggested to develop a program that can enhance the relationship with the boss at work in the nursing organization. In addition, this study provides practical guidelines that suggest the importance of reducing nurse turnover intention.

Keywords: Hospital, Nurse, LMX, Emotional immersion, Turnover intention, Hospital Administration

1. INTRODUCTION

In modern society, the elderly population is increasing and the population decrease is gradually increasing. Accordingly, as the number of hospital admissions for elderly subjects is gradually increasing, the hospital environment is changing rapidly in preparation for a progressing aging society. The environment surrounding hospitals is changing, such as the expansion of new types of hospitals and specialized hospitals outside the framework of existing hospitals, improvement of service quality, and intensifying competition among hospitals. Accordingly, hospitals are changing to become customer-tailored hospitals for human resource management to provide customer-oriented differentiated medical services [1]. In a rapidly changing environment, unlike in the past, hospital management is being promoted under the title of a patient-centered hospital rather than hospital-centered, and one of the important factors of hospital management is manpower management, to be specific leadership. Recently, ethical management is being evaluated as important as an evaluation of corporate competitiveness, putting the moral responsibility of a hospital ahead of it [2]. Human resources occupy most of the hospital environment, and work is performed through interaction between leaders and [3]. The changes in modern society and the structure of childbirth have high expectations for patients' medical services in hospitals, and the work of nurses as a professional nurse continues to expand, and the demand for nursing personnel is also increasing.

In Korea, the number of nurses per 1,000 population, an indicator of the level of the nurse workforce, is 4.2% in Korea, which is only half of the average of 7.9% in the Organization for Economic Cooperation and Development (OECD) member countries [4]. The turnover rate of nurses in Korea is 15.2%, which is more than

seven times higher than the average turnover rate of 2.16% among health care workers in other occupations [5]. This high turnover rate resulted in a lower average career experience for nurses. This can be said to be a problem that can directly lead to patient damage and threaten patient safety in patient care [6]. In terms of hospital management as well as patient safety, nurses who have entered the hospital once need to find a way to get out of the job quickly. Among them, turnover intention, which can be confirmed as a pre-turnover stage, is one of the strong antecedent factors predicting turnover [7]. Turnover intention means that organizational members voluntarily quit their current job or department [8]. Organizational fairness, organizational commitment, and job placement were identified as factors affecting nurse turnover intention [9]. Numerous studies have been conducted on nurse turnover intention. Nevertheless, its importance is still being emphasized, and personal characteristics or interpersonal interaction variables that affect turnover intention should be further studied [10]. One of the main causes of nurse turnover was the lack of leadership in nursing managers, and through this, relationships in the workplace can act as a determining factor in whether to maintain a relationship or not [11]. For human resource management, an important factor that directly affects organizational members is the relationship between the leader and members, and the theory interested in this is the Leader-Member Exchange (LMX) theory, which is the leader-member exchange relationship. In particular, the degree to which a role relationship is established according to the mutual relationship between the leader and the members is referred to as the quality of the exchange relationship [12].

As the number and size of hospitals increase, competitiveness increases, and problems begin to arise in hospital management. Furthermore, the proportion among nurses can be high. It can be said that lowering the turnover of hospital nurses in the rapidly changing work environment and the unpredictable needs of patients is a priority. To do this, nurses need to increase their satisfaction with the organization and job, increase the degree of commitment to the organization, improve job achievement, and lower the turnover intention [13]. Therefore, it is expected that the relationship of nurses working in hospitals with their bosses will potentially have positive effects on job performance attitudes and nursing care for patients. Therefore, the purpose of this study is to understand the influence of LMX, a leadership theory, on the emotional commitment of nurses working in hospitals, and to verify the effect of such emotional commitment on job performance and turnover intention.

2. RESEARCH METHOD

2.1. RESEARCH DESIGN AND HYPOTHETICAL MODEL

The purpose of this study is to investigate the relationship between supervisor's LMX, emotional commitment, and turnover intention perceived by nurses in hospitals.

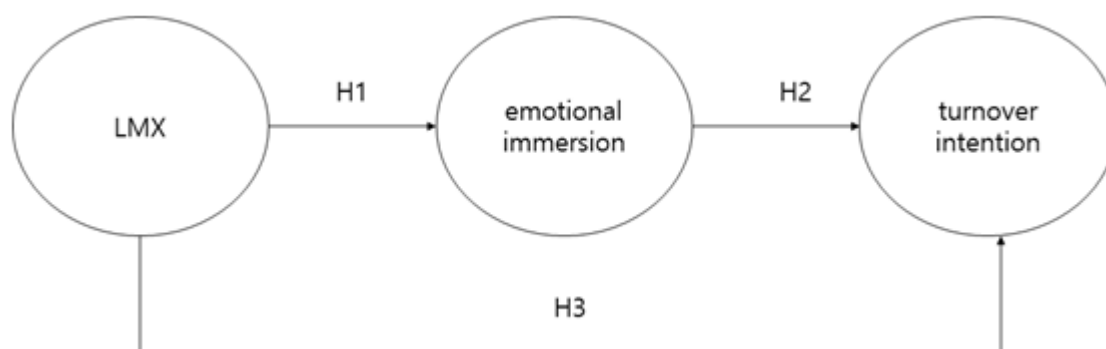


Figure 1: Hypothetical Model

2.2. RESEARCH SUBJECTS AND DATA COLLECTION METHODS

A survey was conducted with nurses working in a Korean hospital. In order to achieve the purpose of this study, a survey was conducted with nurses currently working in hospitals. The researcher personally met with the nurse to explain the purpose of the research and the survey method, and explained that the anonymity of this survey was guaranteed and that it would not be used for any other purpose. Among the nurses who listened to this explanation, the nurses who consented were targeted. Nurses who participated in the questionnaire were provided with a given case. A total of 300 nurses participated in the survey, of which 290 were used for the

actual analysis.

2.3. RESEARCH HYPOTHESES

H1: LMX will have a Positive (+) Effect on the Emotional Immersion of Nurses.

The LMX of middle managers of university hospitals showed a positive correlation with organizational commitment [14]. A positive correlation was found in the effect of empowerment based on the exchange relationship between superiors and subordinates on job satisfaction and organizational commitment in a nursing facility for the elderly in Daegu and Gyeongbuk [15]. Therefore, the first hypothesis was established by considering that LMX managers in hospitals would affect the emotional immersion of nurses.

H2: Nurses' Emotional Commitment will Negative Influence is Intention to Leave.

This study established the second hypothesis considering that the emotional immersion of nurses would affect their turnover intention, as mentioned in previous studies. In a study on the effect of subordinate relationship quality and emotional exhaustion on turnover intention, commitment showed a negative correlation with turnover intention [9]. A study on the relationship between nursing managers' leadership style, job satisfaction, organizational commitment, and turnover intention also showed a negative correlation between commitment and turnover intention [16][24][25].

H3: LMX will have a Significant Negative Effect on Turnover Intention.

The third hypothesis was established considering that LMX would affect job turnover intention. In a previous study, the effect of nurse's exchange relationship with leader members and job satisfaction on turnover intention was found to have a negative effect on turnover intention when the satisfaction between nurse and head nurse was high [17]. In addition, another study found that LMX had a mediating effect on the effect of nurses' calm leadership on turnover intention [10].

2.4. RESEARCH TOOLS

2.4.1 LMX

The LMX is the quality of the exchange relationship formed through the relationship with the team leader (head nurse) during job performance, based on the study of DeConinck (2009) [18]. It was measured using the study of Kim & Koo (2017) [19]. The measurement items used in the LMX was measured on a 5-point scale. = not at all' to five points = strongly agree'. In the previous study, the reliability was measured as Cronbach's $\alpha=0.934$, it was Cronbach's $\alpha=0.866$.

2.4.2 Emotional Immersion

The emotional immersion used as a tool in this study means "an emotional state in which a person feels psychologically a sense of unity or assimilation", and the item [20] developed by Allen & Meyer (1996) was analyzed by Kim & Koo (2016). Four items were measured with the tool used in the study of (Kim and Koo, 2016). The items used were measured on a five-point scale. In the previous study, the reliability was Cronbach's $\alpha=0.920$, it was Cronbach's $\alpha=0.922$.

2.4.3 Intention to Change Job

Turnover intention is "a state of mind that wants to leave an organization" [21] Two items were measured using the study of Kim and Koo (2016) [22]. The measurement items used were measured on a five-point scale. In the previous study, the reliability was Cronbach's $\alpha=0.869$, it was Cronbach's $\alpha=0.831$.

2.5. ETHICAL CONSIDERATION OF RESEARCH SUBJECTS

For this study, the researcher directly obtained permission from the hospital staff and by explaining in detail to the subjects, errors that may occur while filling out the questionnaire were minimized. For the study, a self-filling questionnaire was used as a survey method. A total of 300 copies were used in consideration of the dropout rate, which is an insincere response among respondents in this study. Among them, 290 were analyzed

by applying the actual analysis. It was explained to the person involved in the questionnaire that the contents of the questionnaire were not used for anything other than research and that no personal information was collected. A smartphone questionnaire system written by the respondents who agreed to this was used, and it was informed that the questionnaire can be withdrawn at any time during the questionnaire, and a predetermined gift was given to the subjects who responded to the questionnaire.

2.6. DATA ANALYSIS

Data analysis using SPSS/WIN 21. Subject's general characteristics and measurement variables, t-test, correlation, and regression analysis were used.

3. STUDY RESULTS

General Characteristics

The general characteristics of the subjects of this study were 6 males (2.1%) and 284 females (97.9%). Ages of the participants were 189 (65.2%) in their 20s, 59 (20.3%) in their 30s, and 42 (14.5%) in their 40s or older. As for marriage, there were 145 (50%) married and 145 (50%) unmarried participants. Among the subjects, 105 (36.2%) were religious and 185 (63.8%) were non-religious. As an indicator that can be linked to health status, 28 out of 290 subjects (9.7%) responded that the level of stress was very high, 151 out of 90 people (52.1%) responded to a lot of stress, 103 out of 90 (35.5%) responded that there was little, and 8 out of 90 (2.8%) said no stress. These account that more than 60% of the respondents had a lot of stress. Also, among the subjects' subjective health status evaluation, 35 (12.1%) responded that they were very healthy, 139 (47.9%) responded that they were healthy, 97 (33.4%) responded average, 18 (6.2%) responded that it was bad, and 1 (0.3%) responded that it was very bad. In general, 19 people (6.5%) responded that the subjective health status was bad, which is relative to the level of stress.

Table 1: LMX, Emotional Immersion, Turnover Intention, under General Properties(N=290)

Characteristics	Categories	n (%)
Sex	male	6(2.1)
	female	284(97.9)
Age	20 ^{ss}	189(65.2)
	30 ^s	59(20.3)
	over 40	42(14.5)
Marriage	Yes	145(50)
	No	145(50)
Religion	Yes	105(36.2)
	No	185(63.8)
Stress	very much	28(9.7)
	many	151(52.1)
	usually less	103(35.5)
	none	8(2.8)
Subjective health	very healthy	35(12.1)
	healthy	139(47.9)
	usually	97(33.4)
	bad	18(6.2)
	very bad	1(0.3)

Nurse's LMX

The manager's LMX in the hospital perceived by nurses was 3.36±0.60. Looking at the detailed items,

the item 'My work relationship with my boss is efficient and effective' was 3.36 ± 0.75 . The item 'My boss understands my problems and my wishes' was 3.36 ± 0.76 . 'My supervisor recognizes my potential' was 3.30 ± 0.74 , 'Nurses know that nurses share the same opinion' was 3.38 ± 0.75 , and boss has sufficient confidence and trust in me ' was 3.41 ± 0.72 . In the LMX of nurses, the items of sufficient confidence and belief in their superiors (3.41 ± 0.72) were the highest, and among the LMX, the items in which the superiors perceived their potential (3.30 ± 0.74) were rated low.

Nurse's Emotional Immersion

The emotional immersion of nurses was 3.29 ± 0.76 . As for detailed items, 'I consider myself a member of the hospital's family' was 3.25 ± 0.84 , and 'I have a strong attachment to our hospital' was 3.23 ± 0.87 . 'My hospital is personally important to me' was 3.37 ± 0.83 , 'I have a strong sense of belonging to my hospital' was 3.32 ± 0.83 , and 'I have a strong attachment to my hospital' was 3.23. It was found to be a low item with a score of ± 0.87 .

Nurse's Turnover Intention

The turnover intention of nurses was 1.90 ± 0.89 . As for detailed items, the question 'I will quit my job at this hospital within the next year' was 1.97 ± 1.03 , and 'I will quit the hospital within the next three months.' was 1.82 ± 0.88 points.

Differences in LMX, Emotional Immersion, and Turnover Intention

Table 3 shows the differences in variables according to the general characteristics of the study. Among the LMX items, males were $3.37 \pm .60$ and females were $3.37 \pm .60$, which was not statistically significant. In terms of age, those in their 20s were $3.32 \pm .64$, those in their 30s were $3.33 \pm .50$, and those in their 40s were $3.61 \pm .51$. Married subjects were $3.44 \pm .58$ and unmarried subjects were $3.29 \pm .61$. Married subjects had a higher LMX, but it was not statistically significant. There was no statistical difference between the religions of the subjects. The LMX according to stress showed a difference. It was found to be statistically significant according to the degree of stress ($F=11.198$, $p<.001$). Also, statistical significance was found according to individual health status ($F=11.198$, $p<.005$).

Emotional immersion was higher in those in their 40s or older ($F=3.215$, $p<.05$). There was no stress group ($F=14.312$, $p<.001$), and it was statistically significant according to subjective health status ($F=13.725$, $p<.001$).

There was a difference in turnover intention according to the level of stress, and it was found to be statistically significant ($F=2.880$, $p<.05$).

Correlation between LMX, Emotional Immersion, and Turnover Intention among Nurses

Table 4 shows the correlations between LMX, emotional immersion, and turnover intention. When the LMX between nurses and supervisors was high, emotional immersion was positively correlated ($r=.656$, $p<.001$) and turnover intention was negatively correlated ($r=-.137$, $p<.005$), thus, a high emotional immersion showed a negative correlation with a decrease in turnover intention ($r=-.515$, $p<.001$).

Table 2: LMX, emotional immersion, turnover intention

Variable		M \pm SD
LMX		3.36 ± 0.60
1	My business relationship with my boss is efficient and effective.	3.36 ± 0.75
2	My boss understands my problems and what I want.	3.36 ± 0.76
3	My boss recognizes my potential.	3.30 ± 0.74
4	Nurses know that nurses share opinions	3.38 ± 0.75
5	My boss has enough confidence and trust in me.	3.41 ± 0.72

Emotional Immersion		3.29±0.76
1.	I consider myself a part of the hospital family.	3.25±0.84
2.	We have a strong attachment to our hospital.	3.23±0.87
3.	Our hospital is personally valuable to me.	3.37±0.83
4.	I have a strong sense of belonging to our hospital.	3.32±0.83
Turnover Intention		1.90±0.89
1.	I will leave the hospital within the next 3 months.	1.82±0.88
2.	I will quit my job at this hospital within the next year.	1.97±1.03

Table 3: Differences in LMX, emotional immersion, and turnover intention according to general characteristics

Variable	Item	LMX		Emotional Immersion		Turnover Intention	
		M ± SD	t or F	M ± SD	t or F	M ± SD	t or F
Sex	male	3.37±.60	.949	3.30±.76	.412	1.90±.89	-.056
	female	3.13±.33		3.17±.34		1.92±.80	
Age	20's ^a	3.32±.64	4.228* <i>c>a,b</i>	3.22±.80	3.215*	1.86±.94	1.555
	30's ^b	3.33±.50		3.36±.60		1.86±.75	
	over 40 ^c	3.61±.51		3.53±.71		2.11±.76	
Marriage	Yes	3.44±.58	2.11	3.43±.69	3.15	1.85±.74	-.86
	No	3.29±.61		3.16±.80		1.94±1.01	
Religion	Yes	3.37±.53	.17	3.41±.70	1.94	1.87±.80	-.36
	No	3.36±.64		3.23±.78		1.91±.93	
Stress	very much ^a	3.03±.85	11.198*** <i>d>a,b,c</i>	2.74±1.16	14.312*** <i>d>a,b,c</i>	2.17±.96	2.880*
	many ^b	3.34±.52		3.28±.66		1.94±.87	
	usually less ^c	3.42±.54		3.37±.63		1.72±.78	
	noned ^d	4.33±.74		4.50±.53		2.25±1.75	
Subjective health	very healthy ^a	3.41±.51	120.57*** <i>b>a,b,c,e</i>	3.42±.72	13.725*** <i>b>a,b,c,e</i>	1.83±.98	1.134
	healthy ^b	3.54±.54		3.53±.70		1.84±.86	
	usually ^c	3.22±.56		3.05±.66		1.95±.90	
	bad ^d	2.68±.72		2.56±.85		2.22±.77	
	very bad ^e	3.20±.00		3.75±.00		1.00±.00	

p*<.05 *p*<.01 ****p*<.001

Table 4: Correlation between LMX, emotional immersion, and turnover intention

r(p)	LMX	Emotional Immersion	Turnover Intention
LMX	1		
Emotional Immersion	.656***	1	
Turnover Intention	-.137**	-.235***	1

p*<.01 *p*<.001

4. VERIFICATION OF RESEARCH HYPOTHESES

A total of three steps of regression analysis were performed to verify the hypotheses designed in this

study. The regression analysis results are shown in Table 5.

6-1. Effect of LMX on Emotional Immersion

<Table 5> shows the results of regression analysis to analyze the effect of supervisor's LMX on emotional immersion in the hospital using the first hypothesis established in this study. As a result of the verification of hypothesis 1, the F value was 217.731 at $p = .000$, and $R^2 = .431$ for the regression equation, which showed an explanatory power of 43.1%. Therefore, the first hypothesis, 'LMX will have a significant positive effect on emotional immersion' was accepted.

Table 5: Research Hypothesis 1 Verification Results

Dependent Variable	Independent Variable	Non-Standardized Coefficients		Standardized CoefficientsBeta	t-value
		B	S.E		
Emotional Immersion	(constant)	.505	.192		2.631
	LMX	.829	.056	0.656	14.756***
$R^2=.431$, Modified $R^2=.429$. $F=217.732$					

*** $p<.001$

6-2. Effect of Emotional Immersion on Turnover Intention

<Table 6> shows the results of regression analysis to analyze the effect of nurse's emotional immersion on turnover intention. As a result of the verification of hypothesis 2, the F value was 16.805 at $p = .000$, and $R^2 = .055$ for the regression equation, which showed an explanatory power of 5.5%. Therefore, the second hypothesis, 'emotional immersion will have a (-) effect' was accepted.

6-3. Effect of LMX on Turnover Intention

<Table 7> shows the results of regression analysis to analyze the effect of LMX on turnover intention. The F value was 5.534 at $p = .019$, and $R^2 = .015$ for the regression equation, showing an explanatory power of 1.5%. Therefore, the third hypothesis, 'LMX will have a (-) intention' was adopted.

Table 6: Research Hypothesis 2 Verification Results

Dependent Variable	Independent Variable	Non-Standardized Coefficients		Standardized CoefficientsBeta	t-value
		B	S.E		
Turnover Intention	(Constant)	2.800	.226		12.379
	Emotional Immersion	-.274	.067	-.235	-4.099***
$R^2=.055$, Modified $R^2=.052$. $F=16.805$					

*** $p<.001$

Table 7: Research Hypothesis 3 Verification Results

Dependent Variable	Independent Variable	Non-Standardized Coefficients		Standardized CoefficientsBeta	t-value
		B	S.E		
Turnover intention	(constant)	2.578	.294		8.757
	LMX	-.203	.086	-.137	-2.352**
$R^2=.019$, Modified $R^2=.015$. $F=5.534$					

** $p<.01$

7. DISCUSSION

Hospital organizations with labor-intensive characteristics are highly dependent on human resources, and accordingly, nurses' commitment and turnover intention can be seen as important variables influencing hospital management [23]. Therefore, based on LMX, it is an empirical study of the relationship between the turnover intention of nurses working in Korea and emotional commitment. Based on empirical research in the research model it was attempted to present effective implications for the relationship between nurses and supervisors in hospitals in the future. Several researchers at home and abroad have already presented and empirical research models based on the LMX theory, but research on hospital nurses, who are highly dependent on human resources, has been relatively insufficient. On the other hand, this thesis has theoretical implications that, through a review of previous studies of nurses in hospitals, systematic empirical analysis of the influence of superiors was conducted according to the hospital situation, and the influence on their attitudes and behaviors was identified. Therefore, the effect on the turnover intention of nurses working in Korea was analyzed. The higher the nurse's LMX, the higher the job satisfaction and emotional immersion in the organization. In addition, emotional immersion in nurses' organization was found to be an important variable leading to improvement in job performance and reduction in turnover intention. This increases their job satisfaction and commitment to the organization by analyzing the job characteristics and job performance capabilities of hotel employees, and ultimately leads to an increase in job performance and a decrease in turnover intention. It will be the driving force to achieve dominance. Hospitals have been operated based on a command-and-control system centered on the nursing department, and their job preferences are often not considered, so turnover intention is relatively high. However, in this study, the emotional immersion according to LMX of nurses was shown to lower their turnover intention, which was again empirically proven. Therefore, by providing education that can improve human relationships for nurses, if they strengthen their occupational awareness, and increase job satisfaction and emotional immersion in the organization, they will increase their job performance and turnover intention. The implication of bringing about a decrease is high.

8. CONCLUSION

This study examined the relationship between LMX, emotional immersion, and turnover intention of Korean nurses in K area. In the nursing organization, the supervisor's LMX had a positive effect on the nurse's organizational commitment, and this could be an opportunity to increase the organizational loyalty by connecting the nurse with a positive image of the organization as the relationship with the supervisor was positive. There will be. In addition, the relationship with superiors perceived by nurses can not only lower emotional tension, but also increase job satisfaction, which in turn has a positive effect on nursing organizations with high turnover rates.

Through this study, theoretical and practical implications were presented through positive relationships with supervisors in nursing organizations. Through this, limitations and suggestions of the study are made. Since this study was conducted with Korean subjects, there is a limit to its representativeness in the application of future research directions. Therefore, repeated studies should be conducted not only for K area in Korea but also for all nurses in Korea. In addition, it is necessary to present a more extensive research model that includes various variables that can affect turnover intention. Furthermore, we propose the development and application of interventions to reduce the turnover rate in the nursing group with high turnover rate.

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Authors' contributions

All authors contributed toward data analysis, drafting and revising the paper and agreed to be responsible for all the aspects of this work.

Declaration of Conflicts of Interests

Authors declare that they have no conflict of interest.

Consent for Publication

All authors read and aware of publishing the manuscript in Journal for ReAttach Therapy and Developmental Diversities

Data Availability Statement

The database generated and /or analysed during the current study are not publicly available due to privacy, but are available from the corresponding author on reasonable request.

Declarations

Author(s) declare that all works are original and this manuscript has not been published in any other journal.

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