ORIGINAL ARTICLE
글로벌 건강과 간호 제12권 제1호, 2022년 1월
Global Health Nurs Vol. 12 No. 1, 69-77, January 2022
pISSN 2233-5560
eISSN 2671-5554
https://doi.org/10.35144/ghn.2022.12.1.69

Factors Affecting Job Satisfaction and Turnover Intention among Newly Graduated Nurses in Korea

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Purpose: This study explored the factors affecting job satisfaction and turnover intention among newly graduated nurses in South Korea. **Methods:** A sample of 104 nurses who had worked less than 12 months in a National University Hospital were included. Self-report questionnaires that measured job satisfaction, turnover intention, perceived preceptor's coaching leadership, and self-leadership, were used to collect data. Collected data were analyzed using t-test, ANOVA, and quantile regression with Stata version 16. **Results:** Self-leadership was significant at all percentiles, and the possibility to request days off was a significant factor affecting job satisfaction in the 10th percentile (B=6.98, p=.005), 50th percentile (B=3.82, p<.001), 75th percentile (B=3.57, p=.013), and 90th percentile (B=6.20, p=.033). Moreover, the average number of night shifts per month was a significant factor affecting job satisfaction in the 10th percentile (B=2.76, p=.029). The possibility to request days off was a factor affecting turnover intention in the 25th percentile (B=-3.48, p=.010) and 50th percentile (B=-1.50, p=.037), and the average number of night shifts per month was a significant factor affecting turnover intention in the 90th percentile (B=-2.11, p=.037). **Conclusion:** To improve job satisfaction and reduce the turnover intention of newly graduated nurses, the nursing organization needs policies that reinforce nurses' self-leadership, guarantee autonomy in requesting days off, and reduce the number of night work days.

Key Words: Job satisfaction; Personnel turnover; Nurses; Leadership; Personnel staffing and scheduling

INTRODUCTION

The turnover rate of newly graduated nurses (NGNs) in Korea was 42.7% in 2017, significantly higher than the 17.0% turnover rate of NGNs working in hospitals annually in the United States [1,2]. Specifically, as the turnover rate is 22.1% during and immediately after the training [2], it is necessary to identify the factors related to it and establish a proactive strategy to help NGNs adapt to the job and prevent turnover in the early transitional stage. The preceptorship program is a systematic and organized training program implemented in most hospitals in Korea during the transition period of NGNs. This program helps NGNs successfully perform essential tasks, such as professional nursing and improving communication skills and job satisfaction, and eventually affects the retention rate [3,4]. The core of the preceptorship is the 1:1 interaction between the preceptor nurse and the NGNs, hence, the latter expect the trainer to coach them during the orientation process [5].

Formal coaching means that one-on-one interaction that takes place with an objective third party. The clinical coaching role has evolved over some years across healthcare services. In several organizations, coaching has shown successful results in point of care training for nurses to

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- This article is based on a part of the first author's master's thesis from Pusan Natioanl University.

Received: Nov 27, 2021 | Revised: Jan 3, 2022 | Accepted: Jan 7, 2022

achieve clinical skills and practical development in workplace training [6]. Leadership, central to this concept of "coach," maximizes human potential, motivates growth, focuses on personal development, helps improve individual performance, and connects them to organizational goals [7]. Coaching leadership is positively correlated with job satisfaction, as shown by mutual trust, ongoing interaction between nurses, and the pursuit of professional development [8]. However, there have been few studies on how the coaching leadership of the preceptor nurse affects the job satisfaction and turnover of NGNs.

Self-leadership is a thinking and behavioral strategy in which members influence themselves through motivation, unlike leaders influencing members of an organization [9]. Self-leadership is own action-oriented strategy that can be explained with self-rewarding, constructive and positive thoughts, and directly or indirectly affects nurses' performance [10]. Self-leadership positively impacts on the organizational outcome by improving performance, job satisfaction, and commitment through internally motivated voluntary efforts; moreover, it also affects psychological stability [11].

NGNs' job satisfaction is an essential factor influencing their decision to remain in nursing organizations, while it also increases professional commitment and decreases the risk of turnover [12]. A prior study revealed various factors affecting job satisfaction and turnover of new nurses. Work environment, authority, and freedom were the most frequently reported factors associated with nurses' job satisfaction [13]. In contrast, perceived high workload, poor communication with patients and families or team members, or inadequate skills and knowledge are more likely to consider turnover the profession [14]. According to Herzberg's theory, there are a distinction between extrinsic (hygiene) factors that eliminate dissatisfaction and intrinsic (motivation) factors that increase satisfaction. Extrinsic factors such as work conditions, relationships, salary, and working hours prevent job dissatisfaction, while intrinsic factors such as recognition, growth, responsibility, and the nature of the work can enhance job satisfaction by acting as a motivator [15]. The factors related to the turnover intention of NGNs, identified by previous studies, are exposure to hostile workplace, person-environment fit, and sleep disturbance, which can regard as hygiene factors [16,17]. A systematic literature review on factors affecting nurses' job satisfaction, authority, and freedom showed that the physical work environment was the most frequently reported factor, and both intrinsic and extrinsic factors played an essential role in nurses' job satisfaction [13].

As described above, despite the need for self-leadership to increase work performance and organizational effectiveness by adapting to new changes and implementing work processing ability as a professional, only a few studies have explored the level of self-leadership of NGNs and the relationship between self-leadership and organizational effectiveness, such as job satisfaction and turnover intention. Several studies have used multiple linear regression (MLR) analyses to identify the factors affecting nurses' job satisfaction and turnover. Since MLR provides a conditional mean of outcome without describing the scale and shape of its distribution, there is a limit to the interpretation and application of the results. In contrast, quantile regression (QR) is a powerful tool that more thoroughly compares different aspects of the distribution of results across different covariate patterns than the mean and can reflect different effects at different quantiles of the response variable [18]. Therefore, this study aimed to identify the factors relating the job satisfaction and turnover intention of NGNs, and compare the results using the MLR and QR approach. Such an attempt will guide the development of effective interventions for the group where the intervention should be focused, that is, the specific quantile group with low job satisfaction and high turnover intention.

METHODS

1. Study Design

This study is a descriptive research study to identify the factors affecting the job satisfaction and turnover intention of NGNs by quantile.

2. Participants

The participants of this study were newly employed nurses working at a National University Hospital in a city. NGNs mean all registered nurses who graduated in the past year. Participants who worked less than 12 month-period experienced preceptorship training (4 to 6 weeks) under preceptor were included. The minimum number of samples required for multiple regression analysis was 92, which was calculated based on a two-sided test, significance level (α)=.05, medium effect size (f^2=.15), power (1-β)=.80, and the five independent variables using G* Power 3.1.9.4 program. Koenker and Hallock [19] suggested that more than 100 samples were required when applying the quantile regression analysis; therefore, 110 copies of the self-reported structured questionnaire were

distributed, and 105 copies were returned. One response was excluded due to missing information, and 104 responses were used for the final analysis.

3. Measures

1) Job satisfaction

Job satisfaction was measured using an instrument revised by Kim [20] that was originally developed by Slavitt et al. [21]. It consists of 21 items with six dimensions, including pay, the professional status of job, administration, autonomy, task, and interaction. Each item was scored on a Likert scale ranged from 1 (strongly disagree) to 5 points (strongly agree). Higher scores indicate higher job satisfaction. Cronbach's α was .86 in Kim's study [20] and .91 in this study.

2) Turnover intention

The turnover intention was measured using the Korean Nurse Turnover Intention Scale (K-NTIS) in 2013[22]. It consists of 10 items with three factors: job dissatisfaction, work performance, and interpersonal relationships. This tool was rated on Likert scale ranged from 1 (strongly disagree) to 5 points (strongly agree). Higher scores indicate higher turnover intention. The Cronbach's α was .83, as reported by Yeun and Kim [22], and .86 in this study.

3) Preceptor's coaching leadership

Preceptor's coaching leadership was measured using a tool used in a study by Seo [23]. It consists of 13 items with four dimensions, including direction (three items), development (three items), accountability (three items), and relationship (four items). Each item was scored on a Likert scale ranged from 1 (strongly disagree) to 5 points (strongly agree). A higher score indicates that the participant rated the preceptor nurse's coaching leadership highly. In Seo's study [23], Cronbach's α was .83 for direction, .78 for development, .78 for accountability, and .88 for relationship. In this study, Cronbach's α was .87 for direction, .85 for development, .75 for accountability, and .93 for relationship.

4) Self-leadership

Self-leadership was assessed using the measure originally designed by Houghton and Neck [24] and modified to the Korean version by Kim [25]. It consists of six subdimensions: self-expectation, rehearsal, goal setting, self-compensation, self-criticism, and constructive thinking, with a total of 18 questions. Each item was answered on a Likert scale ranged from 1 (strongly disagree) to 5 points (strongly agree). The higher the score, the higher the participant's self-leadership. Cronbach's α was .87 in Kim's study [25] and .81 in this study.

5) Characteristics of participants

Three items of participants' demographic (age, gender, and people living together) and ten items of work-related information were collected. Work-related information including length of clinical career, type of work unit, working hours in the past seven days, number of night work days in the past one month, number of days off in the past one month, possibility to request days off on the desired day, is it a hospital they practiced clinical practicum when they were nursing student, availability of choose working department, whether have experience in department transfer, and the length of time you worked with the preceptor nurse during the preceptorship.

4. Ethical Consideration

Data were collected from December 2018 to December 2019 after receiving a study approval (PNU IRB/2018_72_HR) by Pusan National University Institutional Review Board. Questionnaires were completed by those participants who provided informed consent. It took about 20 minutes to complete the survey.

5. Data Collection

The purpose and method of the study were explained to the head of the nursing department before obtaining approval for data collection. After receiving the list of potential participants, the researcher visited the nursing units. The purpose and method of this study were explained to the nursing unit manager and NGNs, and the questionnaire was distributed after receiving the written consent to participate in the study. All participants were provided with a gift card (5,000 won).

6. Statistical Analysis

The collected data were analyzed using STATA 16.0 (STATA Corporations, College Station, Tx, USA). The characteristics of the participants and level of self-leadership, preceptor's coaching leadership perceived by NGNs, job satisfaction, and turnover intention were analyzed using descriptive statistics. To identify the influencing factors at different levels of the dependent variables, the distributions of job satisfaction and turnover intention scores were divided into 10th, 25th, 50th, 75th, and 90th percentiles, and compared using MLR.

RESULTS

1. Characteristics of Participants

Table 1 shows the characteristics of the participants. The average age of the participants was 23.35±1.03 years, and the females accounted for 97.1%. The average clinical experience of the participants was 8.10±1.80 months, and the working hours per week were 46.13±8.72. The average number of night work days per month was 5.82±0.91, and the number of days off per month was 10.33±0.82. Among the respondents, 49% said they could request the desired days off. The average training period with the preceptor nurse was 6.00±2.56 weeks.

2. Levels of Self-leadership, Preceptor's Coachlng Leadership, Job Satisfaction, and Turnover Intention

Table 2 shows the descriptive statistics and normality test results of self-leadership, preceptor's coaching leadership perceived by NGNs, job satisfaction, and turnover intention. The mean score of self-leadership in this sample was 3.43±0.35, and the mean score of preceptor's coaching leadership was 4.09±0.56. The mean score of job satisfaction was 3.25±0.41, and the mean score of turnover intention was 3.83±0.55. Preceptor's coaching leadership and turnover intention were not normally distributed.

3. Factors Affecting NGNs' Job Satisfaction and Turnover Intention

In order to confirm the effect on job satisfaction and turnover intention, after simple regression analysis was performed, only statistically significant variables were inputted to the MLR and QR. Before the regression analysis, basic assumptions of statistics were tested for regression analysis. As a result of the test of multicollinearity using the tolerance limit and the variation inflation factor (VIF) value, it was found that all variables did not have a multicollinearity because the tolerance limit was 0.1 or higher and the VIF value was less than 10 (tolerance limit: .16~.90; VIF: 1.11~6.42). Moreover, Durbin-Watson statistics were close to 2 (1.82 for job satisfaction and 2.12 for turnover intention), there is no autocorrelation detected in the sample.

Table 3 and Figure 1-A show the MLR analysis results on the factors affecting job satisfaction; the regression model was significant (F=17.88, R^2=.53). Self-leadership (B=0.63, p<.001) and the possibility to request days off (B=4.57, p<.001) were determined to be predictors. In the quantile regression analysis, self-leadership was significant at all percentiles, and the possibility to request days off was a significant predictor of job satisfaction in the 10th percentile (B=6.98, p=.005), 50th percentile (B=3.82, p<.001), 75th percentile (B=3.57, p=.013), and 90th percentile (B=6.20, p=.033). Preceptor's coaching leadership perceived by NGNs was not a predictor of job satisfaction in the multiple linear regression. However, it was a predictor at the 75th percentile (B=0.23, p=.025). Moreover, the number of night work days was not a predictor of job satisfaction in the multiple linear regression, but it was statistically significant in the 10th percentile of job satisfaction (B=2.76, p=.029).

The regression model of turnover intention was significant (F=3.62, R^2=.18). In the MLR, only the possibility to request days off was a predictor of turnover intention (B=

Table 1. Characteristics of the Participants (*N*=104)

Characteristics	Categories	n (%) or M±SD
Age (year)		23.35±1.03
Gender	Female	101 (97.1)
	Male	3 (2.9)
Living situation	Family	55 (52.9)
	Alone	38 (36.5)
	Friend or colleague	11 (10.6)
Clinical career (month)		8.10±1.80
Type of unit	Medical-surgical ward	86 (82.7)
	ER, ICU	18 (17.3)
Working hours (week)		46.13±8.72
Number of night work days (month)		5.82±0.91
Number of days off (month)		10.33±0.82
Possibility to request days off	Yes	51 (49.0)
	No	53 (51.0)
A hospital where I practiced as a student	Yes	64 (61.5)
	No	40 (38.5)
Availability of choose working department	Yes	72 (69.2)
	No	32 (30.8)
Experience of department relocation	Yes	6 (5.8)
	No	98 (94.2)
Training period with preceptor (weeks)	≤4	42 (40.4)
	5~8	50 (48.1)
	≥9	12 (11.5)

ER=Emergency room; ICU=Intensive care unit.

-2.38, p=.029); it was a significant predictor both at the 25th percentile (B=-3.48, p=.010) and 50th percentile (B=-1.50, p=.037). However, the average number of night work days per month was not significant in the multiple linear regression, but it was a significant predictor in the 90th percentile (B=-2.11, p=.037) of turnover intention (Table 4, Figure 1-B).

DISCUSSION

This study examined the influence of the work environment, self-leadership, and preceptor's coaching leadership on job satisfaction and turnover intention among NGNs in South Korea using MLR and QR analysis. In order to provide evidence for intervention development to increase

Table 2. Descriptive Statistics of the Study Variables (*N*=104)

Variables	M±SD	Median	Min	Max	Skewness	Kurtosis
Self-leadership	3.43±0.35	3.39	2.67	4.39	.410	.040
Preceptor's coaching leadership	4.09±0.56	4.08	2.54	5.00	-.491	.103
Job satisfaction	3.25±0.41	3.24	1.90	4.19	-.243	.126
Turnover intention	3.83±5.55	0.55	2.20	5.00	-.026	.136

Table 3. Factors Affecting Job Satisfaction of the Participants (*N*=104)

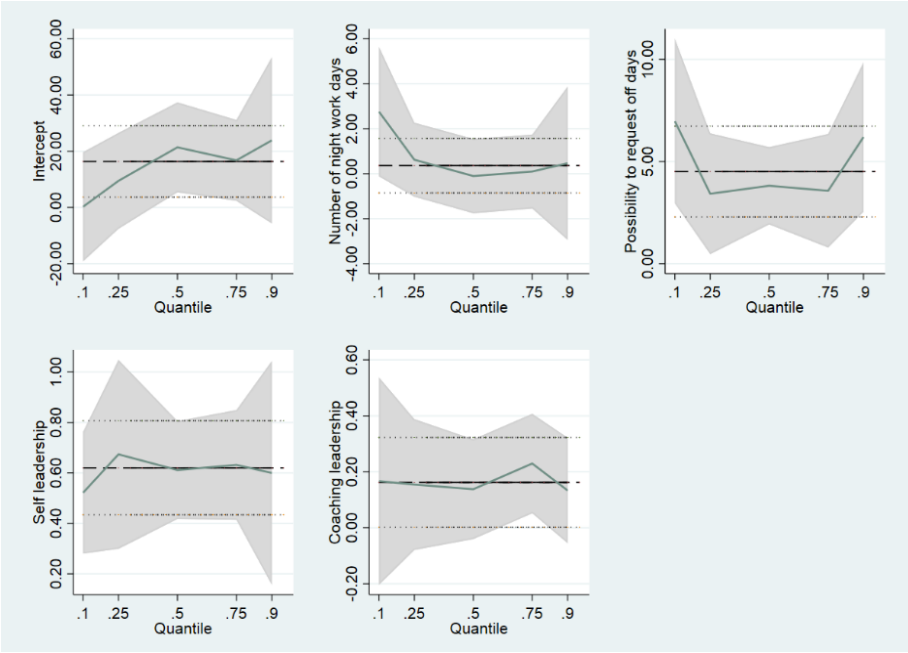
Variables	MLR	Job satisfaction				
		q10	q25	q50	q75	q90
	B (SE) *p*	B (SE) *p*	B (SE) *p*	B (SE) *p*	B (SE) *p*	B (SE) *p*
Number of night work days (month)	0.36 (0.61) .559	2.76 (1.25) .029	0.62 (1.03) .545	-0.10 (0.95) .914	0.10 (0.96) .919	0.47 (1.44) .746
Possibility to request days off* (yes)	4.57 (1.12) < .001	6.98 (2.43) .005	3.42 (1.84) .065	3.82 (0.83) < .001	3.57 (1.42) .013	6.20 (2.87) .033
Self-leadership	0.63 (0.09) < .001	0.52 (0.13) < .001	0.67 (0.15) < .001	0.61 (0.08) < .001	0.63 (0.12) < .001	0.60 (0.24) .016
Preceptor's coaching leadership	0.13 (0.09) .142	0.17 (0.20) .401	0.15 (0.12) .213	0.14 (0.08) .085	0.23 (0.10) .025	0.13 (0.09) .163
R^2	.53	.34	.20	.27	.26	.28

MLR=Multiple linear regression; SE=Standard errors; *Dummy variables.

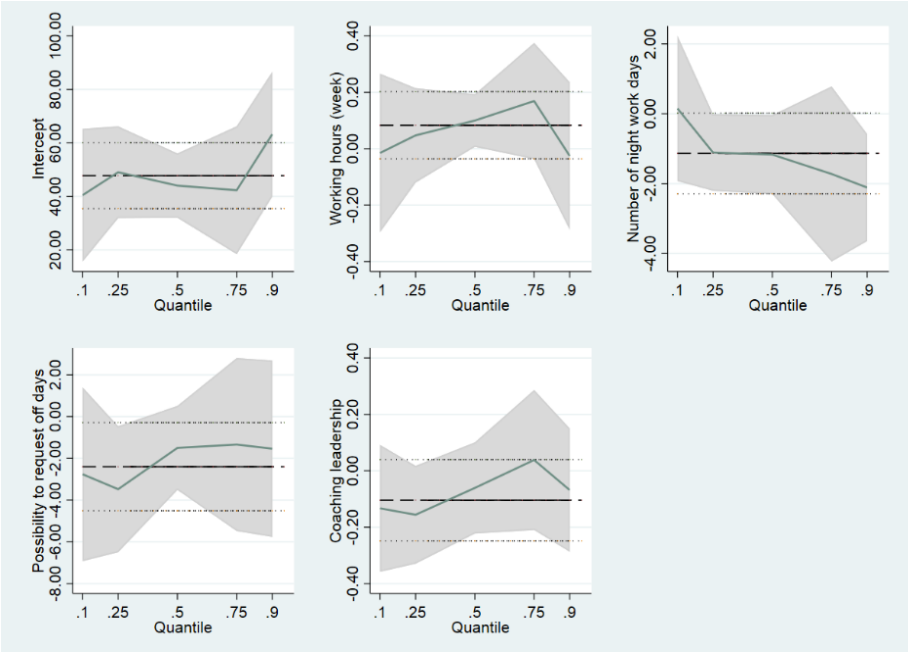
Table 4. Factors Affecting Turnover Intention of the Participants (*N*=104)

Variables	MLR	Turnover intention				
		q10	q25	q50	q75	q90
	B (SE) *p*	B (SE) *p*	B (SE) *p*	B (SE) *p*	B (SE) *p*	B (SE) *p*
Working hours (week)	0.09 (0.06) .156	-0.02 (0.12) .903	0.05 (0.06) .436	0.10 (0.08) .194	0.17 (0.15) .249	-0.03 (0.12) .831
Number of night work days	-1.11 (0.59) 0.061	0.15 (1.29) .907	-1.11 (0.67) .100	-1.17 (1.05) .268	-1.72 (1.25) .170	-2.11 (1.00) .037
Possibility to request days off* (yes)	-2.38 (1.07) .029	-2.76 (2.45) .262	-3.48 (1.32) .010	-1.50 (0.71) .037	-1.34 (1.75) .446	-1.53 (1.97) .436
Preceptor's coaching leadership	-0.07 (0.08) .427	-0.13 (0.10) .171	-0.16 (.10) .114	-0.06 (0.12) .619	0.04 (0.18) .835	-0.07 (0.12) .565
R^2	.18	.11	.21	.21	.10	.22

MLR=Multiple linear regression; SE=Standard errors; *Dummy variables.



A. Factors affecting job satisfaction.



B. Factors affecting turnover intention.

Figure 1. Factors affecting job satisfaction (A) and turnover intention (B) in quantile regression.

job satisfaction of new nurses and efficiently reduce turnover intention, we will discuss variables identified as factors influencing the high quintile of job satisfaction and turnover intention.

In the regression model, the possibility of requesting days off and self-leadership were significant factors affecting job satisfaction. These results were the same in quantile regression analysis. In the quantile regression, self-leadership was a significant factor affecting job satisfaction across all quantiles. It is difficult to conclude because there is no previous study that reported that the self-leadership of NGNs was a significant influencing factor on job

satisfaction. However, in a previous study with nurses as participants, self-leadership was identified as a significant factor affecting job satisfaction [26]. Recently, interest in self-leadership is increasing because it positively affects oneself and organizational performance by enhancing one's abilities and focusing on intrinsic motivation and self-management [10]. Unfortunately, however, few studies have been conducted on the self-leadership of new nurses. Therefore, a nursing organizational approach is urgently required to identify factors related to the self-leadership and to enhance self-leadership in NGNs. What is encouraging is that interest in nursing students' self-leadership-related factors is increasing, and related studies are being conducted [27]. Therefore, it is necessary to provide an opportunity to strengthen the self-leadership of NGNs through an orientation program or preceptorship for new nurses in connection with interventions that strengthen the self-leadership for nursing students. Self-leadership enhancing strategies can be incorporated into new nurse orientation programs. That program would include strategies to observe and evaluate the performance of NGNs, set goals to enhance the performance with specific timelines, self-reward to celebrate small successes, provide constructive self-talk upon accomplishing challenging projects.

The possibility to request days off was significantly affected on job satisfaction of NGNs in all quantiles except the 25th percentiles. Moreover, it was a significant affecting factor in turnover intention's 25th and 50th percentiles. The number of night work days was confirmed as a significant influencing factor in the lower 10th percentile of job satisfaction and the 90th percentile of turnover intention. Both the possibility of requesting days off and the number of night work days cause dissatisfaction in the organization as work environment factors, and then they work negatively for motivation [15]. The possibility to request days off provides more control in their work schedule to balance work and life. Applying work and life balance into nursing organizations and modifying work environments should be considered. In particular, since most NGNs entering practice are millennials (born in the 1990s), this phenomenon could be explained by their value orientation. Millennials highly value "work-life balance" and try to find meaning and purpose in their work [28].

Furthermore, generation Z nursing students stated benefits, work-life balance, the information needed to perform their jobs, support supervisors, and ensure convenient time and job safety as the value of their work [29]. Rather than a rigid organizational culture that prioritizes experienced nurses' requests regarding days off, more flexible scheduling that allows personal choices could enhance job satisfaction. Nurse managers may need to modify their management strategies to deal with young workers differently from previous workers.

The number of night work days per month was not a significant predictor of turnover intention in the multiple linear regression model. However, nurses with high turnover intention (90th percentile) reported higher turnover intention when they had higher numbers of night work days per month. These results were also seen in the low (10th percentile) job satisfaction group. These findings indicate the disadvantage of multiple linear regression, which considers the mean values of the variance. In particular, QR is more suitable than MLR because the turnover intention was not normally distributed in the present study sample, and the number of samples is small to divide into subgroups. Therefore, a QR analysis could provide better perspectives of the phenomenon, especially for those who report a high or low level of the attributes.

In this study, the turnover intention of the NGNs seems to be influenced by environmental factors rather than their personal factors, such as self-leadership. The findings of this study did not support the pivotal role of preceptor's leadership in turnover intention; however, leadership could reduce turnover intention as well as practical and professional development [4]. The systematic literature on NGNs' orientation experience showed that positive orientation experience from a supportive preceptor taught practical skills to NGNs and served as role models [30]. On the other hand, negative experiences from unsupported preceptors could lead to NGNs' turnover. It was most efficient for the positive performance of NGNs when the organization used well-established and validated learning materials, methods, assessment tools, and support systems such as preceptorship or mentoring [31]. However, little research has been conducted to conclude the role of preceptors' leadership in NGNs turnover intention. Further investigation about the role of preceptors' leadership in NGNs turnover intention could provide better survival strategies for NGNs in clinical settings.

This study is meaningful in providing data to confirm the factors that influence the distribution of NGNs' job satisfaction and turnover intention. However, it may be limited to generalizing the results as a sample of one hospital was used. Moreover, since the explanatory power of the turnover intention is low, it is suggested that repeated research, including larger sample size, various regions and factors, and a mixed-method, is needed to provide in-depth information.

CONCLUSION

Nurse managers can adequately support the transition of NGNs by implementing an effective training program depending on job satisfaction level and turnover intention. As a result of this study, in the 50th or higher quantile, increased NGNs' job satisfaction was associated with increased possibility to request days off and increased self-leadership. Therefore, to improve the job satisfaction of NGNs, nursing organizations should establish an organizational culture that enables them to request days off and provide opportunities for strengthen self-leadership. As the number of night work days was found to be an influencing factor in the top 90% of turnover intention, it is necessary to reduce the number of night work days to alleviate the burden of NGNs.

CONFLICTS OF INTEREST

The authors declared no conflict of interest.

AUTHORSHIP

Study conception and design acquisition - JH and LY; Data collection - JH; Analysis and interpretation of the data - JH, LY and LH; Drafting of the manuscript - JH, LY and LH.

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