






ORIGINAL RESEARCH

Influence of job satisfaction, job stress, job identity and job values on turnover intention among male physician assistant nurses MZ generation nurses in South Korea

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Abstract

Background: Turnover intention among nursing professionals is a critical issue impacting healthcare workforce stability and patient care quality. However, research specifically focusing on male physician assistant nurses (PAs) remains limited. This study examines the factors influencing turnover intention among male PAs in South Korea, with a particular focus on job satisfaction, job stress, job identity and job value.

Methods: A cross-sectional descriptive survey was conducted from 01 to 30 December 2024, targeting male PAs. A structured questionnaire assessed job satisfaction, job stress, job identity, job value, perceptions of fairness in human resource management and turnover intention. Multiple regression analysis was performed to identify significant predictors of turnover intention. **Results:** The proposed model explained 42.1% of the variance in turnover intention. Significant predictors included perceptions of fairness in human resource management ($\beta = -0.14$, $p = 0.027$), job satisfaction ($\beta = -0.49$, $p < 0.001$) and job value ($\beta = 0.16$, $p = 0.019$). In contrast, job stress and job identity did not demonstrate a significant effect on turnover intention. **Conclusions:** Findings indicate that enhancing job satisfaction, fostering a strong sense of job value and ensuring fairness in human resource management are essential in mitigating turnover intention among male PAs. Notably, job stress and job identity did not exert a direct influence, diverging from previous research. These insights highlight the need for targeted interventions to improve retention strategies within this workforce.

Keywords

MZ generation; Male physician assistant nurses; Turnover intention; Job satisfaction; Job stress; Job identity; Job value; Human resource management fairness; Work-life balance

1. Introduction

Physician Assistant (PA) nurses referred to as registered nurses who perform delegated medical tasks under the supervision of physicians across various medical departments [1, 2]. In South Korea, PA nurses have been increasingly utilized as an alternative workforce for surgical specialists, responding to societal demands and workforce shortages in the healthcare sector [3, 4].

With advancements in medical technology, the demand for highly skilled healthcare professionals has risen significantly [5]. However, domestic medical institutions face persistent challenges, including an imbalance in the supply of specialists and an increasing demand for complex and specialized medical services [1]. To address the physician shortage, hospitals have adopted PA nurses—selected and trained internally as PA, dedicated or specialist nurses—rather than utilizing professionals who have undergone standardized PA training programs [1].

Since the introduction of PA nurses in 1997, their numbers

have steadily increased in South Korea. As of 2021, 4721 PA nurses were employed in 105 hospitals for internal medicine, while 3340 were working in 126 hospitals for surgical departments [6]. Due to economic downturns and job market fluctuations, nursing characterized by high employment stability has gained popularity among male students. This trend reflects shifts in societal perceptions of gender roles in the workforce and the professionalization of nursing careers [7]. As a result, the cumulative number of male nurses in 2016 reached 15,420, with male PA nurses accounting for 17.6% of this workforce [1]. However, despite the increasing number of male nurses, their turnover intention remains a significant concern [7]. Turnover intention refers to an individual's intention to voluntarily leave their job within a specified period, making it a key variable for organizational retention strategies and human resource management.

The high turnover rate among male nurses is influenced by persistent gender stereotypes that depict nursing as un-

suitable for men [8], experiences of rejection from patients and caregivers, and significant workplace conflicts [9]. In this study, job satisfaction refers to the overall level of contentment an individual experience in their job, encompassing both emotional satisfaction derived from performing job duties and the degree to which the individual recognizes their value within the organization. Job satisfaction significantly impacts an employee's productivity and organizational loyalty, and it is closely linked to turnover intention [2, 5]. Job identity represents the extent to which an individual identifies with their job, including a sense of belonging to a specific profession and the influence of that profession on the formation of their self-identity. This concept is closely related to an individual's motivation, professional engagement and career longevity [10]. Job stress refers to the physical and psychological tension an individual experience due to various work demands, workload, role conflicts and environmental factors in the workplace. Job stress not only reduces job satisfaction but can also act as a significant factor that increases turnover intention [10]. Job value is the importance an individual place on various aspects of their job, such as personal motivation, satisfaction, job sustainability and career development [10].

Previous studies on the turnover of male nurses in Korea investigated factors such as practical experience, job satisfaction and job engagement, job identity, job stress and job values [11–14]. Job satisfaction refers to the degree of satisfaction an individual feel with their job and job identity is defined as the degree to which an individual has a psychological sense of identification with their job. Higher job satisfaction and job identity were associated with lower turnover [13]. In addition, job values are defined as the desires and realizations that one seeks to fulfill through one's job, and when job values are low and job stress is high, turnover is high [14].

Despite the growing academic interest in PA nurses, existing research in South Korea has largely focused on the general PA workforce, with limited studies specifically examining male PA nurses. Additionally, prior studies have predominantly explored job satisfaction among male dedicated nurses rather than PA nurses [10]. PA nurses primarily consider changing jobs to other departments within the hospital, different medical institutions, or by becoming independent with their own private clinics [15]. The typical turnover points are around 1 year and 5 years. The main reasons for turnover at the 1-year mark include work stress, burnout, disappointment with job intensity and working conditions, and dissatisfaction with organizational culture and relationships with colleagues [16]. At the 5-year mark, turnover is often driven by a lack of career growth opportunities, dissatisfaction with compensation and changes in job identity [16]. Key factors influencing turnover decisions include job satisfaction, salary, work environment, career development opportunities, training opportunities and work-life balance. Particularly, the MZ (Millennial + Generation Z) generation tends to value work-life balance and may decide to leave if the workload and stress are too high, especially when family time is compromised [15].

The term “MZ generation” refers to a combination of Millennials (born approximately between 1981 and 1996) and Generation Z (born approximately between 1997 and 2012). This demographic group shares common values, particularly

emphasizing work-life balance, career development, and a strong professional identity. In the context of nursing, MZ-generation nurses prioritize autonomy, career growth and a positive work environment, distinguishing them from previous generations who may have placed greater emphasis on job stability and hierarchical advancement. Understanding their perspectives on job satisfaction and turnover intention is essential in adapting healthcare policies and workplace conditions to ensure workforce retention and stability.

With the increasing presence of MZ-generation male PA nurses, reducing their turnover intention is essential for maintaining workforce stability and optimizing patient care [17]. Therefore, this study adopts a descriptive cross-sectional study design to analyze the effects of job satisfaction, job stress, job identity and job value on the turnover intention of MZ-generation male PA nurses, aiming to provide foundational data for personnel management strategies. To achieve this, a survey will be conducted among male PA nurses born between 1981 and 2012 who are working in general and tertiary hospitals in South Korea. The study will utilize validated measurement scales from previous research to ensure reliability in assessing key variables. The collected data will be analyzed using descriptive statistics, correlation analysis, multiple regression analysis to examine relationships between variables and identify both direct and indirect effects, thereby offering more systematic insights. Notably, as a descriptive study aimed at exploring key factors influencing turnover intention, setting specific hypotheses is not mandatory. However, to clarify the relationships among variables, this study will establish and test hypotheses regarding the effects of job-related factors on turnover intention.

2. Materials and methods

2.1 Study design

This study employs a cross-sectional descriptive survey design to examine the factors affecting turnover intention among male PA nurses in South Korea, with a particular focus on the MZ generation. A structured questionnaire was used to assess job satisfaction, job stress, job identity, job value, perceptions of fairness in human resource management and turnover intention. Multiple regression analysis was performed to identify significant predictors of turnover intention, specifically considering the unique characteristics and needs of the MZ generation.

2.2 Participants

The participants of this study were male nurses with at least one year of experience working as PAs in the nursing or clinical departments of 20 tertiary hospitals located in Seoul, Gyeonggi-do and Gangwon-do, South Korea. The participants were required to understand the purpose of the study and provide consent to participate between 01 December to 30 December 2024. The sample size was determined using G*Power 3.1 (Heinrich Heine University Düsseldorf, Düsseldorf, NRW, Germany), with multiple regression as the primary analysis method. The criteria for the regression analysis included a significance level of 0.05, a power of 90%, a medium effect

size of 0.15, and 10 predictor variables, resulting in a required sample size of 147 participants. Considering the dropout rate, a convenience sample of 170 participants was selected, and the final analysis included 150 participants.

2.3 Research instruments

2.3.1 Job satisfaction

The job satisfaction instrument was adapted from the tool developed by Stamp *et al.* [18], modified and validated for PA nurses by Lim & Kang [10]. This research tool consists of a total of 25 questions, including compensation, administration, autonomy, interaction, work demands, nurse-physician relationship and professional status. Each item is measured on a 5-point Likert scale, with a higher score indicating greater satisfaction. The Cronbach's α was 0.85 in Lim & Kang's study [10] and 0.85 in this study.

2.3.2 Job identity

The job identity instrument was adapted from the tool developed by Hall [19], modified and validated for PA nurses by Lim & Kang [10]. The items consist of 25 items in total, each item divided into the following sub-areas: belief in autonomy, sense of calling to the job, belief in service and use of professional organizations as a reference. A higher score on a 5-point Likert scale indicates a more positive perception of professional identity. The Cronbach's α was 0.75 in Lim & Kang's study [10] and 0.86 in this study.

2.3.3 Job stress

The job stress instrument was adapted from the tool developed by Park [20], revised by Lee (2012) to include 18 items, and modified and validated for PA nurses by Lim & Kang [10]. Each item consists of sub-domains of job role factors, human relationship factors and structural factors, and is scored on a 5-point Likert scale, with a higher score indicating higher job stress. The Cronbach's α was 0.78 in this study.

2.3.4 Job values

The job values instrument was adapted from the tool developed by Han [21], modified and validated for PA nurses by Lim & Kang [10]. The questionnaire consists of eight items, including intrinsic career values (ability, achievement, community service, aptitude and interest) and extrinsic career values (compensation, honor, economic stability, work environment), and is scored on a 5-point Likert scale, with a higher score indicating a higher level of career values. The Cronbach's α was 0.72 in Lim & Kang's study [10] and 0.74 in this study.

2.3.5 Turnover intention

Turnover intention was measured using a tool developed by Kim *et al.* [22]. The questionnaire consists of six questions: intention to turnover, reason for turnover and plan after turnover. A higher score indicates a higher intention to turnover. The Cronbach's α was 0.85 in the original study and 0.72 in this study.

2.4 Data collection

Data collection for quantitative data took place from February to April 2024. Surveys were administered directly at tertiary hospitals located in Seoul, Gyeonggi Province, and Gangwon Province or distributed online or via mail to eligible participants.

2.5 Data analysis

Data were analyzed using SPSS/WIN 23.0 (Version 24.0, IBM Corp., Armonk, NY, USA). Descriptive statistics were used to analyze the general characteristics of male PA nurses. Differences in turnover intention based on demographic characteristics were analyzed using *t*-tests and ANOVA (Analysis of Variance), with Scheffe's *post hoc* tests. Means and standard deviations were calculated for job satisfaction, job stress, job identity, job values and turnover intention, and Pearson correlation coefficients were calculated to examine relationships between variables. Factors influencing turnover intention among male PA nurses were analyzed using stepwise multiple regression.

3. Results

3.1 General characteristics of participants and turnover intention by general characteristics

The average age of the subjects in this study was 31.2 (± 4.17), with individuals in their 20s comprising 59 (39.3%), those in their 30s making up 87 (58.0%), and only 4 (2.7%) aged 40 or above. The number of unmarried individuals was 83 (55.3%), outnumbering the married individuals, who totaled 67 (44.7%). Regarding educational background, 86 (57.3%) held a bachelor's degree, 56 (37.3%) held a 3-year college degree, and 8 (5.3%) had a graduate degree or higher. In terms of salary, the majority (56.7%) earned between 200 to 300 million won, while 64 (42.7%) earned over 300 million won and only one (0.7%) earned less than 200 million won.

Regarding work experience as a general nurse, 38 (25.3%) had less than one year of experience, 48 (32.0%) had 2 to 4 years, 28 (18.7%) had 5 to 7 years, 24 (16.0%) had 8 to 10 years and 12 (8.0%) had over 10 years. As PA nurses, 28 (18.7%) had less than one year of experience, 63 (42.0%) had 2 to 4 years, 35 (23.3%) had 5 to 7 years, 16 (10.7%) had 8 to 10 years and 8 (5.3%) had over 10 years. The majority worked in general nursing uniforms (11.3%), followed by PA nursing uniforms (25.3%) and lab coats (44.0%).

Most subjects were full-time workers (94.7%), working more than 40 hours per week (94.7%). Regarding additional overtime pay, 90 (60.0%) received it, while 60 (40.0%) did not, showing a significant difference in turnover intention ($t = -2.27, p = 0.025$). On-call duty was reported by 65 (43.3%) participants, whereas 85 (56.7%) did not have it, showing a significant difference in turnover intention ($t = 2.24, p = 0.027$). There were 47 (31.3%) subjects who had duty shifts, while 103 (68.7%) did not, showing a significant difference in turnover intention ($t = 3.05, p = 0.003$). The majority did not have dedicated workspaces (56.7%), and most held the title of PA

nurse (84.7%), showing a significant difference in turnover intention based on the title ($t = 2.03, p = 0.044$).

Pre-awareness of roles before working as a PA nurse was reported by the majority (71.3%), and written regulations regarding PA nursing duties were reported by 71 (47.3%), while 79 (52.7%) did not have such regulations. Pre-employment education was received by 47 (31.3%), while 103 (68.7%) did not receive it. Regarding the understanding of PA nursing duties by acquaintances, 135 (90.0%) reported understanding, while 15 (10.0%) did not, showing a significant difference in turnover intention based on acquaintances' understanding ($t = -2.80, p = 0.006$).

Regarding the evaluation of work and fairness in personnel matters, 42 (28.0%) reported fairness, while 108 (72.0%) did not, showing a difference in turnover intention ($t = -2.70, p = 0.008$ (Table 1).

3.2 PA nurse's work characteristics

Among the subjects of this study, the employment status indicated that regular employment was more prevalent with 134 (89.3%) compared to 16 (10.7%) under contract. Regarding departmental affiliation, the nursing department accounted for 122 (81.3%), while the clinical department comprised 27 (18.0%), with one (0.7%) falling under "other". Conversely, the issuance of tasks was more common in the clinical department, with 74 (49.3%) receiving instructions, compared to 23 (15.3%) in the nursing department. Both departments jointly issued tasks to 53 (35.3%). The number of fellow PAs within the working department ranged from 1 to 5 for 119 (79.3%), followed by 6 to 10 for 12 (8.0%), 11 to 15 for 7 (4.7%), 16 to 20 for 6 (4.0%) and more than 20 for 6 (4.0%). The most common method of competence development among PA nurses was seeking advice from physicians or specialists, with 89 (59.3%), followed by seeking assistance from fellow PAs with 88 (58.7%). Utilizing books or video education was observed in 44 (29.3%), while 19 (12.7%) referred to manuals, and 9 (6.0%) underwent pre-employment training. As for external education attendance, 42 (28.0%) did not attend, while 56 (37.3%) attended once a year, 43 (28.7%) twice a year, 8 (5.3%) three times a year, and one (0.7%) attended four times or more annually.

The time required for PA nurses to adapt to their roles was most commonly reported as 6 months to 1 year by 89 (59.3%), followed by over a year by 48 (32.0%), over 2 years by 8 (5.3%) and over 3 years by 5 (3.3%). Regarding the necessity of clinical experience when working as a PA nurse, 124 (82.7%) reported it as necessary, while 26 (17.3%) did not. The most essential qualities for working as a PA nurse were perceived as clinical knowledge by 87 (58.0%), diligence by 72 (48.0%), physical fitness by 44 (29.3%), pride in work by 25 (16.7%) and other qualities by 6 (4.0%). The primary tasks during work were reported in duplicate, with surgical procedures being the most common among 136 (90.7%), followed by wound or tube management by 88 (58.7%), invasive medical procedures by 70 (46.7%), collaboration and coordination with medical staff or other departments by 69 (46.0%), review of test results by 60 (40.0%), prescription tasks by 52 (34.7%), education and counseling for patients and families by

45 (30.0%) and health assessment by 36 (24.0%). Other tasks, reported by 16 (10.7%), included outpatient assistance, clinical research, ECMO (Extracorporeal Membrane Oxygenation) and extracorporeal circulation management.

Occupations where role conflicts occurred during work were mainly among nursing managers in clinical departments, with 40 (26.7%), followed by nurses in clinical departments with 38 (25.3%), specialists in the respective clinical departments with 33 (22.0%), and specialists in the respective clinical departments with 32 (21.3%). Conflicts with fellow PA nurses were reported by 9 (6.0%), while others, accounting for 6 (4.0%), included specialists in other departments such as anesthesiology. Regarding obstacles during work, ambiguities in task classification were reported by 94 (62.7%), followed by insufficient opportunities for promotion by 74 (49.3%), inappropriate compensation by 71 (47.3%), excessive workload by 70 (46.7%), excessive administrative tasks by 50 (33.3%), job insecurity by 46 (30.7%), poor working environments by 38 (25.3%), lack of educational opportunities by 34 (22.7%), absence of task guidelines by 31 (20.7%), lack of autonomy in task performance by 27 (18.0%), lack of a sense of accomplishment by 21 (14.0%), inadequate job systems by 21 (14.0%), unprofessional task execution by 18 (12.0%) and others by 9 (6.0%). Other issues reported included departmental affiliation, friction with nursing managers, conflicts with superiors and discrepancies between task guidelines and actual demands.

3.3 Job satisfaction, job stress, job identity, job values and turnover intention

The level of job satisfaction among the subjects in this study was rated at an average of 3.21 (± 0.42) out of 5 points, while job stress averaged 2.89 (± 0.42) out of 5 points. Job identity scored an average of 3.41 (± 0.37) out of 5 points and job values averaged 3.82 (± 0.43) out of 5 points. Additionally, the level of was rated at an average of 3.11 (± 0.92) out of 5 points (Table 2).

3.4 The correlation between job satisfaction, job stress, job identity, job values and turnover intention

The analysis of the correlation between job satisfaction, job stress, job identity, job values and turnover intention revealed several significant relationships. Job satisfaction was negatively correlated with both job stress ($r = -0.64, p < 0.001$) and turnover intention ($r = -0.62, p < 0.001$). Conversely, job satisfaction was positively correlated with job identity ($r = 0.60, p < 0.001$). Job stress was negatively correlated with job identity ($r = -0.29, p < 0.001$) and positively correlated with turnover intention ($r = 0.50, p < 0.001$). Additionally, job identity showed a positive correlation with job values ($r = 0.28, p < 0.001$) and a negative correlation with turnover intention ($r = -0.32, p < 0.001$) (Table 3).

TABLE 1. Turnover intention according to general characteristics (N = 150).

Characteristic	Category	N (%)	<i>t</i> or <i>F</i>	<i>p</i>
Age				
	20s	59 (39.3)	1.84	0.163
	30s	87 (58.0)		
	Above 40s	4 (2.7)		
Marital Status				
	Married	67 (44.7)	-0.63	0.530
	Single	83 (55.3)		
Educational Level				
	3 Year College	56 (37.3)	1.18	0.311
	4 Year College	86 (57.3)		
	Graduate School or Higher	8 (5.3)		
Salary				
	Under 200 Million Won	1 (0.7)	2.47	0.088
	200~300 Million Won	85 (56.7)		
	Above 300 Million Won	64 (42.7)		
Work Experience as a General Nurse				
	Less than 1 yr	38 (25.3)	0.23	0.924
	2-4 yr	48 (32.0)		
	5-7 yr	28 (18.7)		
	8-10 yr	24 (16.0)		
	More than 10 yr	12 (8.0)		
Work Experience as a PA Nurse				
	Less than 1 yr	28 (18.7)	0.54	0.708
	2-4 yr	63 (42.0)		
	5-7 yr	35 (23.3)		
	8-10 yr	16 (10.7)		
	More than 10 yr	8 (5.3)		
Type of Uniform				
	Nurse Uniform	17 (11.3)	0.96	0.414
	PA Nurse Uniform	38 (25.3)		
	Lab Coat	66 (44.0)		
	Other	29 (19.3)		
Type of Employment				
	Full-time	142 (94.7)	-1.34	0.182
	Two-shift rotation	8 (5.3)		
Weekly Working Hours				
	Less than 40 h	4 (2.7)	-0.64	0.521
	More than 40 h	146 (97.3)		
Overtime Payment				
	Exist	90 (60.0)	-2.27	0.025
	None	60 (40.0)		
On-call Duty				
	Exist	65 (43.3)	2.24	0.027
	None	85 (56.7)		

TABLE 1. Continued.

Characteristic	Category	N (%)	<i>t</i> or <i>F</i>	<i>p</i>
Duty Shifts				
	Exist	47 (31.3)	3.05	0.003
	None	103 (68.7)		
Exclusive Workspace				
	Exist	65 (43.3)	-1.11	0.270
	None	85 (56.7)		
Position				
	PA	127 (84.7)	2.03	0.044
	Other	23 (15.3)		
Awareness of roles				
	Exist	107 (71.3)	-0.30	0.762
	None	41 (27.3)		
Existence of written regulations				
	Exist	71 (47.3)	-0.03	0.980
	None	79 (52.7)		
Pre-employment training				
	Exist	47 (31.3)	-1.88	0.062
	None	103 (68.7)		
Perception of PA duties by acquaintances				
	Exist	135 (90.0)	-2.80	0.006
	None	15 (10.0)		
Fairness in evaluations				
	Fair	42 (28.0)	-2.70	0.008
	Unfair	108 (72.0)		

PA: physician assistant.

TABLE 2. The level of study variables (N = 150).

Variable	M ± SD	Min	Max
Job Satisfaction	3.21 ± 0.42	2.1	4.5
Job Stress	2.89 ± 0.42	1.8	3.9
Job Identity	3.41 ± 0.37	2.6	4.3
Job Values	3.82 ± 0.43	2.9	5.0
Turnover Intention	3.11 ± 0.92	1.0	5.0

M: Mean; SD: Standard Deviation; Min: Minimum; Max: Maximum.

TABLE 3. Correlations between job satisfaction, job stress, job identity, job values and turnover intention (N = 150).

	1	2	3	4	5
	<i>r</i> (<i>p</i>)	<i>r</i> (<i>p</i>)	<i>r</i> (<i>p</i>)	<i>r</i> (<i>p</i>)	<i>r</i> (<i>p</i>)
1. Job Satisfaction	1				
2. Job Stress	-0.64 (<0.001)	1			
3. Job Identity	0.60 (<0.001)	-0.29 (<0.001)	1		
4. Job Values	0.19 (0.054)	-0.09 (0.289)	0.28 (<0.001)	1	
5. Turnover Intention	-0.62 (<0.001)	0.50 (<0.001)	-0.32 (<0.001)	0.05 (0.553)	1

3.5 The impact of job satisfaction, job stress, job identity and job values on turnover intention

To identify the factors influencing turnover intention among male PAs, statistically significant differences in general characteristics such as the presence of overtime pay, on-call duty, duty shifts, position, perception of fairness in human resources, were treated as dummy variables. Job satisfaction, job stress, job identity and job values were used as independent variables for multiple regression analysis. The Durbin-Watson test showed no autocorrelation issues, with a value of 1.82. The tolerance values were below 0.1, and the Variance Inflation Factor (VIF) values were less than 10, indicating no problems with multicollinearity. Next, residual analysis confirmed linearity of the model, the normality of the errors and the homoscedasticity. The total explanatory power was 42.1%. Factors influencing turnover intention were the perception of fairness in human resources ($\beta = -0.14$, $p = 0.027$), job satisfaction ($\beta = -0.49$, $p < 0.001$) and job values ($\beta = 0.16$, $p = 0.019$). Job stress and job identity did not significantly influence turnover intention (Table 4, Fig. 1).

4. Discussion

This study is a descriptive survey aimed at understanding the impact of job satisfaction, job stress, job identity and job values on turnover intention among male Physician Assistant (PA) nurses, particularly focusing on the MZ generation (millennial and Generation Z). PA nurses have emerged as key figures in healthcare institutions, addressing the shortage of physicians. However, with the recent increase in turnover rates among male nurses, it is crucial to develop systematic approaches to personnel management to mitigate this issue. Based on the findings of this study, we propose a discussion about the need for tailored personnel management strategies to reduce turnover intention among male PA nurses, especially those from the MZ generation.

In examining the age distribution, the majority of participants were in their 30s, followed by those in their 20s. This suggests that individuals in their early to mid-career stages, which are typical for PA nurses, are predominantly active in the workforce. Previous studies, such as those by Lee & Kim [2], have shown that age plays a significant role in turnover

intention, with MZ generation nurses showing a higher tendency to consider leaving their job. This aligns with our findings that younger generations, such as the MZ generation, are more likely to express turnover intentions compared to older generations.

Regarding marital status, unmarried individuals outnumber married ones, which may be because unmarried nurses have fewer family caregiving responsibilities and can dedicate more time to their professional duties. Yoon & Kang [5] found that although married nurses may have lower turnover intention due to family obligations, dissatisfaction with work can still lead to high turnover intention, even among married nurses. In contrast, unmarried nurses may feel more flexible in seeking better job opportunities elsewhere, especially in the context of the MZ generation's tendency toward career mobility.

The majority of participants were graduates of 4-year universities, followed by those from 3-year universities, reflecting the educational requirements needed to fulfill the role of a PA nurse. Research has consistently shown that nurses with higher education levels are more likely to seek job opportunities elsewhere. This finding supports the idea that as the MZ generation places a high value on career development, higher education may be correlated with a higher likelihood of turnover intention.

In terms of salary, most participants earned between 2 to 3 million won, with a significant portion earning over 3 million won. Higher salary levels are generally associated with lower turnover intention, as those earning more are more likely to remain in their current position. This finding is consistent with the broader literature that emphasizes the importance of financial compensation in reducing turnover intention. This is particularly pertinent to the MZ generation, who, according to existing research, are more financially driven when considering career moves.

The most common years of experience as a PA nurse were found to be around 2 to 4 years, suggesting that many PA nurses are in the early stages of their careers. This is consistent with the findings of previous studies, which suggest that individuals early in their careers are more likely to experience higher turnover intention as they explore different opportunities. This is especially true for the MZ generation, known for its tendency to switch jobs for better opportunities or work-life balance.

Most PA nurses wore lab coats as their primary uniform, which is standard across healthcare settings. However, the type

TABLE 4. Influencing factors of turnover intention (N = 150).

Variable	B	S.E.	β	t	p	VIF	R^2	Adj R^2	$F(p)$
(Constant)	16.80	4.74		3.54	0.001				
The Perception of Fairness in Human Resources [†]	-1.17	0.52	-0.14	-2.23	0.027	1.06			
Job Satisfaction	-0.17	0.04	-0.49	-4.82	<0.001	2.68	0.46	0.421	11.84 (<0.001)
Job Stress	0.07	0.04	0.13	1.54	0.125	1.91			
Job Identity	0.01	0.05	0.02	0.25	0.807	1.80			
Job Values	0.17	0.07	0.16	2.38	0.019	1.16			

[†]Dummy variables: the perception of fairness in human resources (None = 0). S.E.: Standard Error; B: Unstandardized Coefficient; VIF: Variance Inflation Factor; Adj R^2 : Adjusted R-squared.

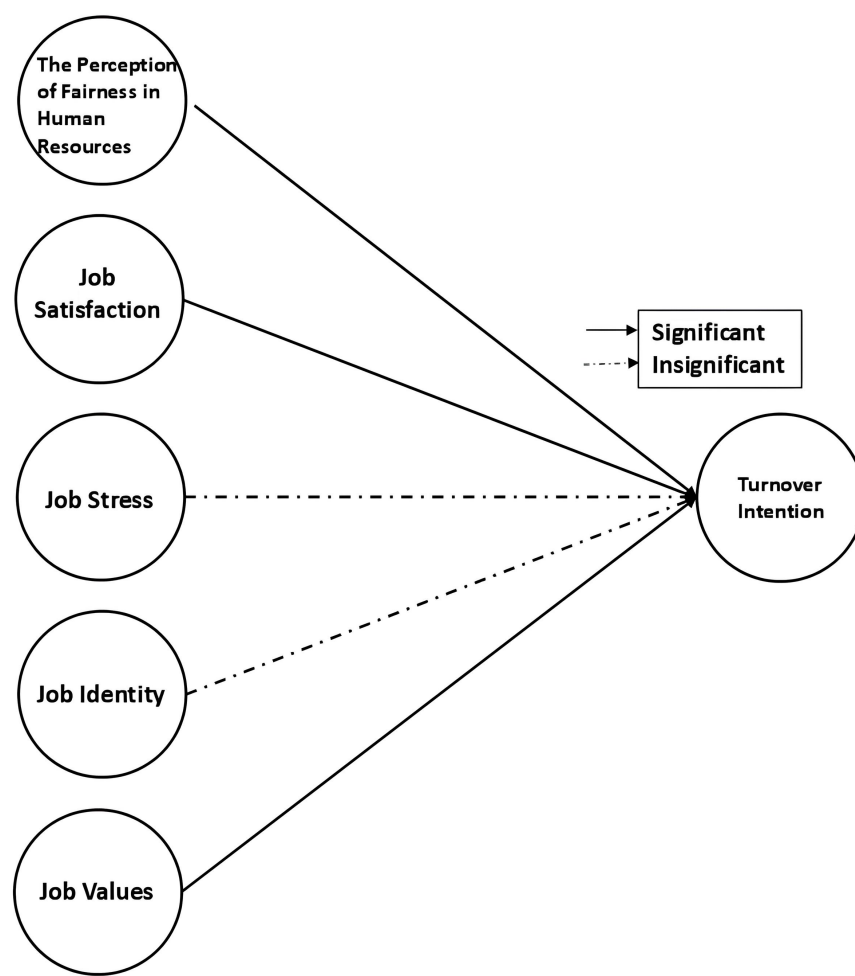


FIGURE 1. Turnover intention among MZ generation male physician assistant nurses in South Korea: influencing factors. [†]: $p < 0.10$: Not statistically significant but indicates a potential trend.

of uniform worn can vary depending on hospital policies. The choice of uniform itself does not appear to have a significant impact on job satisfaction or turnover intention. However, it may contribute to the sense of professional identity and comfort, indirectly affecting job satisfaction. These findings align with previous studies which have emphasized the importance of uniforms in shaping professional identity, though they do not directly influence turnover intention.

Most PA nurses worked full-time, with many working more than 40 hours per week, suggesting high workload intensity. This finding is consistent with Choi & Kim [8], who found that long working hours and high workload are negatively correlated with turnover intention. Similarly, this study showed that adequate compensation for overtime work, on-call duties, and a supportive work environment can help reduce turnover intention. In line with prior research, factors such as job title differences, workspaces and job evaluations significantly influenced turnover intention. Specifically, PA nurses who perceived their job evaluations and human resource systems as unfair showed higher turnover intention, mirroring findings by Shin & Kim [14].

The participants in this study reported moderate job satisfaction, with an average score of 3.21. This level of satisfaction aligns with prior studies which suggest that job satisfaction is

a crucial determinant of turnover intention. Research by Shin & Kim [14] and others has shown that higher job satisfaction is linked to lower turnover intention. Therefore, efforts to enhance job satisfaction among PA nurses through improving the work environment, establishing fair compensation systems, and providing job-related training are critical in reducing turnover intention.

Job stress was reported at a moderate level (2.89), and as expected, job stress was found to significantly influence turnover intention. Higher job stress leads to increased turnover intention, which is consistent with prior research that highlights job stress as a key factor in turnover intention. This finding also aligns with studies focusing on the MZ generation, who are known to prioritize stress-free environments and work-life balance. Reducing job stress through workload management, stress-relief programs, and effective communication channels can help mitigate turnover intention.

Job identity and job values were reported at higher levels (3.41 and 3.82, respectively). Job identity has been linked to stronger job engagement, which in turn reduces turnover intention. Our study found a significant positive correlation between job satisfaction and job identity, supporting previous research that highlights the role of job identity in reducing turnover intention. Additionally, job values were positively

correlated with job satisfaction, but interestingly, they were also positively correlated with turnover intention. This suggests that nurses with higher job values might seek better working conditions or environments elsewhere, which is a unique finding in this study.

Perceived organizational justice had a significant negative impact on turnover intention ($\beta = -0.14$, $p = 0.027$), supporting existing literature that suggests fair human resource management and evaluation systems reduce turnover intention. As the MZ generation values fairness and transparency in the workplace, establishing fair systems is crucial in retaining them.

This study found that job satisfaction and job values all significantly influence turnover intention among PA nurses. The MZ generation, in particular, exhibits a higher turnover intention due to factors such as career development opportunities and work-life balance. These findings align with previous research while providing new insights into the specific needs and characteristics of MZ generation PA nurses. To reduce turnover intention, it is essential to improve job satisfaction, establish fair evaluation systems, and provide career development opportunities that align with the values of the MZ generation.

Job stress was correlated with turnover but was not a factor affecting turnover in male nurses. Similarly, in Kim's study [23], the effect of job stress on turnover was not significant [23]. Regarding this, Kim pointed out that previous studies have shown conflicting results when comparing the job stress of male and female nurses, and therefore, more research should be conducted. In this study, the level of job satisfaction was found to be high, and the level of stress was found to be low, which is why it is thought that it was not found to be a significant factor influencing turnover. In addition, job identity was not a significant factor, and the sub-factors of the job identity tool include belief in autonomy and sense of calling. The scope of autonomy in nursing work in Korea is a subject of ongoing legal and academic debate, and personal perceptions vary. Accordingly, it is thought that it is necessary to review once again whether the results measured by the tool in this study appropriately measured Job Identity.

However, it is important to note that this study targeted PA male nurses in some medical institutions, limiting the generalizability and interpretation of the study results. The findings may not fully represent the experiences of PA nurses in other healthcare settings or regions. Future research should aim to include a broader sample of PA nurses from various institutions, including those of different genders, to enhance the generalizability and applicability of the results. Additionally, further studies could explore the differences in turnover intention among various demographic groups within the nursing profession to better address the diverse needs and expectations of nurses across different contexts.

5. Conclusions

Considering the negative impact of perceived organizational justice on turnover intention, it is essential to establish and maintain a fair human resource management system within the organization. This should be done by enhancing the trans-

parency and fairness of evaluation and reward systems. Additionally, given that job satisfaction emerged as the most significant factor influencing turnover intention, various strategies are needed to increase job satisfaction among PA nurses, particularly those from the MZ generation. Specifically, this may include improving working conditions, providing appropriate compensation, redesigning job roles, and offering continuous education and training.

Reflecting the result that PA nurses with higher job values are more likely to consider turnover, it is crucial to provide working conditions and opportunities that fulfill their professional values. For instance, opportunities to demonstrate professionalism and programs supporting career development can be implemented. For the MZ generation, who place a high value on work-life balance, providing flexible working hours and remote work options could be important to address their expectations.

While this study did not find a direct impact of job stress on turnover intention, organizational efforts to manage and reduce job stress are still necessary based on previous research. This is especially relevant for the MZ generation, who may experience higher stress levels due to work overload and unclear role boundaries. Additionally, although job stress and occupational identity did not directly influence turnover intention in this study, further research considering various conditions and contexts, especially focusing on the MZ generation's unique expectations, is needed to explore their potential indirect effects.

In conclusion, organizations should focus on establishing fair human resource management systems, enhancing job satisfaction, managing job stress, and providing opportunities that fulfill nurses' professional values, particularly for the MZ generation, to reduce turnover intention among PA nurses. Further research exploring these relationships under different conditions and contexts, with a focus on generational differences, is warranted.

AVAILABILITY OF DATA AND MATERIALS

Not applicable.

AUTHOR CONTRIBUTIONS

SJP, YL, HC, HK—Study conception and design acquisition. SJP, YL, MJK—Drafting and critical revision of the manuscript. HC, HK, MJK—Data collection; Abstract and References and Final Submission. SJP, YL—Analysis and interpretation of the data. SJP, MJK—Discussion and conclusions, suggestions. HC, HK—English review. All authors contributed to editorial changes in the manuscript. All authors read and approved of the final manuscript.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

This study was approved by the Clinical Trial Review Committee of Catholic Kwandong University, Korea (IRB No: CKU-24-01-0707). Informed consent was obtained from all participants involved.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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