

Study on the Correlation Between Job Satisfaction and Turnover Intention: Focusing on Firefighters

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〈Abstract〉

This study examines the role of job satisfaction in influencing the turnover intention of firefighters. Firefighters operate in urgent and hazardous conditions, and these unique working environments can significantly affect their job satisfaction and turnover intentions. To investigate this issue, a nationwide survey was conducted to examine the job satisfaction and the turnover intentions of firefighters. The data were then analyzed using the independent t-test, one-way ANOVA, and Duncan's post-hoc test, as well as multiple linear regression analysis. These analyses revealed a significant relationship between the two, showing that higher job satisfaction is associated with lower turnover intentions. These findings highlight the importance of enhancing job satisfaction to reduce turnover intentions among firefighters. As such, organizational support and management strategies are necessary to address the unique challenges faced by firefighters and foster a better working environment. Based on these findings, the study also provides policy implications for improving job satisfaction and reducing the turnover rate among firefighters.

Keywords : Firefighter, Job Satisfaction, Turnover Intention, Female firefighter, Rescuer

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1. Introduction

Firefighters are a group of professionals who work in emergency and dangerous situations to protect the lives and property of the public; as such, their work is characterized by a specialized and highly stressful environment. It is well known that the lower is the level of job stress, the higher is job satisfaction [1]. In particular, for firefighters, job characteristics such as unpredictable situations and life-threatening environments can directly affect job satisfaction, which can have a significant impact on turnover intention [2].

Job satisfaction is the emotional attitude toward work that refers to the satisfaction or positive and enjoyable emotional state obtained from the evaluation of one's job or job experience [3]. In other words, job satisfaction refers to the overall satisfaction and positive emotional state that an individual has with his or her work, and plays an important role in the performance and stability of an organization.

There are various factors that hinder the job satisfaction of firefighters, such as working hours, personnel management, and work environment, and job satisfaction differs significantly depending on education level, years of service, position, and workplace [4]. Firefighters with low job satisfaction may eventually have a negative attitude toward their work, which may lead to the intention to change jobs. In particular, firefighters are an occupational group that requires a higher

level of job satisfaction than general workers due to the dangerous work environment, repeated emergency dispatches, and high job stress. Therefore, increasing firefighters' job satisfaction is an important factor in reducing their intention to change jobs [5].

The intention to change jobs is defined as the will and intention of organizational members to voluntarily leave the organization, the desire to change jobs or within the same workplace, and the degree to which they want to move away from their current job [6]. It can have a negative impact on the achievement of organizational goals because of a lower morale among coworkers and job distribution of changers [7]. To reduce the turnover rate of firefighters, job satisfaction should be increased by improving work performance, reducing conflicts between employees within a department, and improving organizational relationships with other departments [2].

Recently, research on the intention to change jobs has been actively conducted. According to previous studies, emotional labor [8], post-traumatic stress disorder [9], job stress [10], burnout [11], support culture, support effectiveness, conflict within the organization [12], and job satisfaction [13] have a significant impact on turnover intention. However, existing studies have mainly focused on job stress, burnout, and organizational culture, with a relative lack of studies that systematically analyze the direct effects of firefighters' job satisfaction on turnover intention. When job satisfaction decreases, organizational

commitment also decreases, which can increase firefighters' turnover intentions and make it difficult to manage human resources in the organization. This study thus analyzes the direct effect of firefighters' job satisfaction on turnover intention as a practical contribution to the literature on the human resource management of fire organizations.

2. Research Methods

2.1 Research subjects

A survey was conducted on firefighters nationwide from May 12 to August 23, 2024 to investigate the effect of firefighters' job satisfaction on their intention to change jobs. The survey was conducted using the National Administrative Work Management System 2.0 and the final number of respondents was 240.

2.2 Measurement tool

The measurement tool for job satisfaction and turnover intention was modified and reorganized with reference to the questionnaire in An's study [14]. The response items included 11 items on job satisfaction and five items on turnover intention, totaling 16 items. A Likert five-point scale was used, ranging from "not at all" (1 point) to "very much" (5 points). The reliability analysis results showed that Cronbach's alpha for job satisfaction = .849 and that for turnover

intention = .771; both are higher than the standard value of 0.6, indicating that the measurement data had internal consistency.

2.3 Data analysis method

The data were processed and analyzed using the statistical program SPSS 28.0.

First, to determine the general characteristics of the participants, frequency analysis was conducted.

Second, Cronbach's alpha was calculated to determine the reliability of the measurement tool for job satisfaction and turnover intention.

Third, descriptive statistical analysis was conducted to determine the overall levels of job satisfaction and turnover intention.

Fourth, to determine the differences in turnover intention according to general characteristics, an independent t-test and one-way ANOVA were conducted, and Duncan's post-hoc test was used.

Fifth, a multiple linear regression analysis was conducted to examine the factors affecting firefighters' job satisfaction and turnover intention.

3. Results

3.1 General characteristics of research subjects

(Table 1) shows the general characteristics of the study participants. The total number of

respondents was 240, and the distribution of background variables was as follows.

The study included 210 men (87.5%) and 30 women (12.5%). Among them, there were 90 paramedics (37.5%), 17 rescue workers (7.1%), 104 firefighters (42.9%), and 30 administrative workers (12.5%). There were 64 firefighters (26.7%), 40 senior firefighters (16.7%), 20 fire chiefs (16.7%), 39 fire commissioners (32.5%), and 26 firefighters (21.7%).

Table 1. General characteristics.

Characteristics		N	%
Gender	Male	210	87.5
	Female	30	12.5
Position	Paramedic	90	37.5
	Rescuer	17	7.1
	Firefighter	104	42.9
	Administrative staff	30	12.5
Rank	Firefighter	64	26.7
	Senior Firefighter	40	16.7
	Fire Sergeant	49	20.4
	Fire Lieutenant	60	25.0
	Fire Captain	27	11.3
Total		240	100.0

Table 2. Overall level of intention to change jobs.

Number	Survey	M ¹⁾	SD
1	I want to try a different job.	3.07	1.26
2	I often think about quitting being a firefighter.	3.09	1.27
3	I am considering looking for a new job soon.	2.27	1.17
4	I am actively searching for another job.	1.99	1.08
5	I plan to switch to another job as soon as possible.	2.05	1.14

1) Likert five-point scale: 1=not at all, 3=average, 5=very much

3.2 Overall level of intention to change jobs

(Table 2) shows the overall level of intention to change jobs among firefighters. The overall average is 2.49 points, between no (2 points) and average (3 points). By sub-item, “I often think about quitting being a firefighter” (M=3.09), “I want to try another job” (M=3.07), “I am thinking about looking for a new job soon” (M=2.27), “I am trying to move to another job as soon as possible” (M=2.05), and “I am actively looking for another job” (M=1.99) were found to be highest in this order.

3.3 Differences in intention to change jobs by gender, position, and rank

The differences in the intention to change jobs according to gender, position, and rank are shown in (Table 3). There is a significant

Table 3. Level of intention to change jobs by gender, position, and rank.

Division	Classification	M	SD	t/F	p	Duncan test
Gender	Male	2.43	1.07	2.694	.008	
	Female	2.96	.99			
Position	Paramedic	13.47	5.95	4.390	.005	c, d<b
	Rescuer	14.82	4.90			
	Firefighter	11.32	4.35			
	Administrative	12.00	3.66			
Rank	Firefighter	13.06	5.386	4.932	.004	e<a, b, c, d
	Senior firefighter	13.50	6.409			
	Fire Sergeant	12.90	3.236			
	Fire Lieutenant	12.28	5.240			
	Fire Captain	9.07	2.999			

difference in the intention to change jobs according to gender ($p < .01$). For position changes, there was a statistically significant difference ($p < .01$) and the results of the post-test showed that rescue workers had a higher intention to change jobs than firefighters and administrative staff. Finally, there was a statistically significant difference in the intention to change jobs by rank ($p < .01$), the results of the post-test showing that firefighters, firefighter instructors, and fire commissioners had a higher intention to change jobs than firefighters.

3.4 Effect of firefighters' job satisfaction on turnover intention

(Table 4) presents the effects of firefighters' job satisfaction on their turnover intention based on the results of multiple linear regression analysis. Gender was converted into a dummy variable and position and rank were used as control variables. The regression

model was statistically significant ($F=16.195$, ($p < .001$), and its explanatory power was approximately 23.6% (adjusted R square was 21.7%). Meanwhile, the Durbin-Watson statistic was 2.130, which is close to 2, indicating that there was no problem with the assumption of independence of residuals, and the variance inflation factor (VIF) was below 10, indicating no multicollinearity problem.

As a result of the significance verification of the regression coefficients, gender ($\beta = -.165$, $p < .01$), class ($\beta = -.181$, $p < .01$), and job satisfaction ($\beta = -.381$, $p < .001$) had significant negative (-) effects on turnover intention. In other words, the intention to change jobs was higher for women and low job satisfaction was found to have a high impact on turnover intention. Rescue workers ($\beta = .162$, $p < .01$) had a significantly higher turnover intention. For paramedics and internal administrative positions, the significance probability was 0.05, which was not statistically significant.

Table 4. Effects of firefighters' job satisfaction on their intention to change jobs.

Dependent	Independent	B	S.E	β	t	p	VIF	
Turnover Intention	Constant	5.043	.394		12.809	.000		
	Gender	-.507	.191	-.165	-2.649	.009	1.187	
	Rank	-.134	.049	-.181	-2.709	.007	1.359	
	Job satisfaction	-.533	.081	-.381	-6.598	.000	1.018	
	Position(Firefighter=ref.)							
	Paramedic	.171	.153	.082	1.117	.265	1.627	
	Rescuer	.640	.236	.162	2.711	.007	1.087	
	Administrative	.102	.191	.033	.537	.592	1.177	
F=12.028(p<.001), R2=.236 adjR2=.217, D-W=2.130								

*Dummy : D1(Gender): Female=0, Male=1

4. Discussion and Conclusions

This study examined the effect of firefighters' job satisfaction on turnover intention. The purpose was to provide basic data so that firefighters can work in healthy environments.

The results showed that the turnover intention was higher for women and for those with low ranks and low job satisfaction, as well as for rescue workers. Rescue workers had a relatively stronger effect on turnover intention than firefighters. For paramedics and administrative positions, the significance was .05, meaning these positions are not statistically significant.

Further, the turnover intention was higher among female firefighters. According to Park [15], the factors that had a significant influence on the job satisfaction of female firefighters were job motivation and satisfaction with the organizational management, while the work environment had a relatively small influence. In summary, to lower the turnover intention of female firefighters, job motivation and organizational management must be improved, and it is also necessary to increase job satisfaction. Moreover, the lower the rank is, the higher is the turnover intention. For Goyang City firefighters, those with more than 20 years of work experience had the highest job satisfaction [16] and, according to Bae [5], the turnover intention of firefighters was in the order of firefighter instructors, firefighters, and fire chiefs, which is consistent with the results of this study. This implies

that the lower are the work experience and rank, the higher are the work burden and stress factors. In addition, lower job satisfaction was associated with a higher turnover intention. Accordingly, there is a need to increase the job satisfaction of female firefighters, low-ranking firefighters, and rescue workers to lower their turnover intention. Rescue workers showed a relatively higher turnover intention than firefighters, emphasizing the need for systematic management and support. Therefore, a multifaceted approach is required to improve job satisfaction within fire service organizations, and a systematic human resource management plan should be established based on these results.

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