A Study on the Analysis of the Power Distance Tendency of Firefighters

Hyeon-Gyeong Lee[1], Kyong-Jin Park[2*]

⟨Abstract⟩

This study identified the power distance tendency of firefighters. Power distance propensity is one of the important organizational and cultural factors that influence the development of the organization. There is a big difference in the attitude of the members of the organization to perform their work according to the tendency of the distance of power. As a result of the main study, the overall level of power distance propensity of the subjects was 2.55 points on average. In particular, there was a significant difference in the propensity of power distance according to class ($p < 0.05$). In the future, it is necessary to study the effect of job characteristics according to the rank of firefighters on the propensity to distance power. It is expected to form a positive organizational culture of the firefighting organization by utilizing the power distance tendency of the members of the organization.

Keywords : *Power Distance Tendency, Firefighters, Fire Fighting Organization, Organizational Culture, Job Characteristic*

1 Main Author, Dept. of Environmental Health Sciences, Soonchunhyang University
2* Corresponding Author, Dept. of Emergency Medical & Rescue Technology, Inje University
   E-mail: pkj1407@naver.com

1. Introduction

Recently, in the way superiors evaluate subordinates, a horizontal structure n which superiors, subordinates, and colleagues are evaluated among each other is preferred [1]. However, firefighting organizations are known [2].

As a major factor in forming organizational culture, power distance tendency has a significant impact on the behavior and attitude of organizational members. People with high power distance tendency display limited and one-sided communication, dictatorial behavior, and disagreement with their opinions. They do not tolerate criticism and view criticism from organization members as rejection of themselves [3-4]. It is important to understand the power distance tendency because this hierarchical organizational culture interferes with job satisfaction, organizational commitment, and job immersion, and ultimately has a negative impact on the development of the organization [5].

Research on power distance tendencies has mainly been conducted on the influence, role, and moderating effects on behavior within organizations [6-9]. In Korea, studies have been conducted targeting public officials, soldiers, and office workers to determine the relationship between management-related factors such as organizational integrity and organizational commitment [10-12], but research targeting firefighters is very limited. do. Therefore, this study seeks to determine the level of power distance tendency among firefighters.

2. theoretical Considerations

2.1 Power Distance Tendency

Power distance is one of the five attributes of organizational culture and refers to the degree to which the organization accepts unequal distribution of power at the collective level [13]. People high in power distance tend to obey their superiors and prefer superiors with authoritarian and paternalistic leadership. They do not expect to participate in decision-making, and it can be said that they differ depending on the power distance tendencies of individuals within the organization, independently of the level of power distance in an organization or society [14]. In general, individuals with a high power distance tendency consider superiors to be superior, so they tend to obey their authority and maintain a certain social distance [15]. Additionally, rather than requesting factual information to disagree with a superior's opinion or resolving problems through dialogue and negotiation, there is a tendency to take it for granted that the superior makes important decisions. They are also receptive to organizational hierarchy. Therefore, individuals with a high power distance tendency are afraid of conflicting relationships due to differences of opinion with their superiors, and are likely to avoid them rather than making constructive suggestions for organizational change to their superiors [16].

On the other hand, individuals with low

power distance tend to view superiors and members as equals, so they want to actively participate and intervene in organizational decision-making rather than obeying the organization's authority. Therefore, individuals with a low power distance tendency maintain a close social distance with their superiors and frequently talk and communicate about various organizational issues. Therefore, you have the opportunity to have a closer relationship with your boss. On the other hand, the possibility of conflict due to differences of opinion is also higher. Individuals with low power distance tendencies tend to assert their own opinions even if their claims are different from those of their superiors, and they tend to believe that important organizational decisions must be made through dialogue between superiors and subordinates [17] .

3. Research Methods

3.1 Rresearch Subject

In order to analyze the actual status of firefighters' power distance tendencies, firefighters nationwide were surveyed using the Onnara Administrative Work Management System 2.0 from August 22 to December 31, 2023. Analysis was conducted with 335 respondents.

3.2 Measurement Tool Reliability

The power distance measurement tool used in the study was modified and reorganized with reference to Farth [14], and the response questions were a total of 7 questions, with a Likert rating of 5 ranging from not at all (1 point) to very much (5 points). A point scale was used, and as a result of reliability analysis, Cronbach's = .803, which was higher than the standard value of 0.6, indicating internal consistency of the measurement data.

3.3 Analysis Method

The statistical program used for analysis was SPSS 28.0. In order to find out the general characteristics of the study subjects, frequency analysis was performed to calculate frequencies and percentages (%). To determine the reliability of the power distance tendency measurement tool, Cronbach's α coefficient was calculated. Descriptive statistical analysis was conducted to determine the overall level of power distance tendencies. To determine differences in power distance tendencies according to general characteristics, independent t-testand one-way ANOVA were conducted, and Duncan test was used as a posthoc test.

4. Results

4.1 General Characteristics of Study Subjects

The general characteristics of the study

Table 1. General characteristics.

Division		N	%
Gender	Woman	19	5.4
	Man	336	94.6
Marital Status	single	77	21.7
	married	278	78.3
Final Education	≤ High School Graduation	64	18.0
	College Graduation	84	23.7
	University Graduation	184	51.8
	Master Higher	23	6.5
Position	Firefighter	55	15.5
	Senior Firefighter	60	16.9
	Fire Sergeant	73	20.6
	Fire Lieutenant	89	25.1
	Fire Captain	68	19.2
	DeputyFire Chief Higher	10	2.8
The route of	Open recruitment	252	71.0
	Special employment(first aid)	51	14.4
	Special employment(first rescue)	21	5.9
	Special employment (mandatory fire fighting)	11	3.1
	Etc.	20	5.6
Work Experience (year)	≤ 5	90	25.4
	6-10	47	13.2
	11-15	66	18.6
	16-20	46	13.0
	21-25	27	7.6
	26-30	37	10.4
	≥ 31	42	11.8
Degree	First aider	66	18.6
	First rescuer	34	9.6
	Fire fighter	170	47.9
	Administrative	85	23.9
Total		355	100.0

subjects are as follows (Table 1). By gender, there were 336 men (94.6%) and 19 women (5.4%), and by years of service, 90 people (25.4%) had 5 years or less, 47 people (13.2%) had 6-10 years, and 11- 66 people (18.6%) for 15 years, 46 people (13.0%) for 16-20 years, 27 people (7.6%) for 21-25 years, 37 people (10.4%) for 26-30 years, and 31 people (10.4%) for 31 years or more. There were 42 people (11.8%). By position, 66 people (18.6%) were paramedics, 34 people (9.6%) were rescue workers, 170 people (47.9%) were fire extinguishers, and 85 people (23.9%) were in office administrative positions. By marital status, 77 people were single. (21.7%), and 278 (78.3%) were married. By highest level of education, 64 people (18.0%) were high school graduates or lower, 84 people (23.7%) were junior college graduates, 184 people (51.8%) were college graduates, and 23 people (6.5%) were graduate school graduates or higher. There are 55 firefighters (15.5%), 60 fire officers (16.9%), 73 fire chiefs (20.6%), 89 fire committee members (25.1%), 68 fire police officers (19.2%), and 10 fire marshals or higher. people (2.8%). By firefighter employment path, 252 people (71.0%) were through public fire service, 51 people (14.4%) were through emergency rescue service, 21 people (5.9%) were through special rescue service, 11 people (3.1%) were through mandatory fire service service, and 20 people were other (5.6%).

4.2 Overall Level of Power Distance Tendency

The overall level of power distance tendency is as follows (Table 2). The overall average was 2.55 points, ranging from not very good (2 points) to average (3 points), and by sub-content, 'Supervisors must have the ability to make the right decisions without

Table 2. General Level Of Power Distance Tendency.

Number	Survey	M[1]	Sd
1	In Most Situations, It Is Desirable For Superiors To Make Decisions Without Asking For The Opinions Of Subordinates.	2.27	1.06
2	In Work-Related Matters, Superiors Have The Right To Expect Submission From Their Subordinates.	2.68	1.10
3	It Is Often Difficult For Superiors To Perform Their Duties Effectively Because Subordinates Are Suspicious Of Their Authority.	2.88	1.05
4	Once Top Management Makes A Decision, Employees Should Not Question Its Legitimacy.	2.63	1.09
5	Employees Should Not Express Their Disagreements With Their Superiors.	2.33	1.00
6	Bosses Must Have The Ability To Make Good Decisions Without Asking Others For Advice.	3.07	1.12
7	When A Boss Allows His Subordinates To Participate In The Decision-Making Process, He Loses His Power.	2.01	0.98
Total		2.55	0.72

Table 3. Differences in power distance tendencies according to general characteristics

Division	Classification	M[1]	SD
Gender	Male	2.57	0.72
	Female	2.30	0.50
Marital Status	Single	2.57	0.80
	Married	2.55	0.69
Work Experience (year)	≤ 5	2.60	0.77
	6-10	2.67	0.80
	11-15	2.34	0.63
	16-20	2.53	0.79
	21-25	2.52	0.56
	26-30	2.64	0.65
	≥ 31	2.62	0.65
Degree	First aider	2.66	0.74
	First rescuer	2.62	0.85
	Fire fighter	2.50	0.61
	Administrative	2.56	0.83
Final Education	≤ High School Graduation	2.61	0.69
	College Graduation	2.70	0.72
	University Graduation	2.47	0.71
	Master Higher	2.58	0.78
Position	Firefighter	2.61	0.86
	Senior Firefighter	2.67	0.76
	Fire Sergeant	2.42	0.60
	Fire Lieutenant	2.49	0.73
	Fire Captain	2.63	0.65
	DeputyFire Chief Higher	2.54	0.57
The route of	Open recruitment	2.51	0.70
	Special employment(first aid)	2.71	0.78
	Special employment(rescue)	2.49	0.91
	Special employment (mandatory fire fighting)	2.62	0.60
	Etc.	2.68	0.51

Table 4. Differences in power distance tendencies according to class.

Survey	Division	M[1]	SD	F	p	Duncan test
Q1	Firefighter(a)	2.64	1.22	2.636*	.023	f<a
	Senior Firefighter(b)	2.45	1.05			
	Fire Sergeant(c)	2.16	0.97			
	Fire Lieutenant(d)	2.10	0.99			
	Fire Captain(e)	2.19	1.07			
	DeputyFire Chief Higher(f)	1.90	0.88			
Q2	Firefighter(a)	2.82	1.16	1.012	.411	
	Senior Firefighter(b)	2.88	1.08			
	Fire Sergeant(c)	2.71	0.95			
	Fire Lieutenant(d)	2.55	1.15			
	Fire Captain(e)	2.56	1.18			
	DeputyFire Chief Higher(f)	2.60	1.07			
Q3	Firefighter(a)	2.55	1.12	2.298*	.045	a, c<f
	Senior Firefighter(b)	3.05	1.05			
	Fire Sergeant(c)	2.79	0.88			
	Fire Lieutenant(d)	2.88	1.04			
	Fire Captain(e)	3.01	1.11			
	DeputyFire Chief Higher(f)	3.40	0.97			
Q4	Firefighter(a)	2.60	1.06	3.500*	.004	c<e, f
	Senior Firefighter(b)	2.73	1.15			
	Fire Sergeant(c)	2.32	0.98			
	Fire Lieutenant(d)	2.51	1.14			
	Fire Captain(e)	2.99	1.01			
	DeputyFire Chief Higher(f)	3.10	0.99			
Q5	Firefighter(a)	2.42	1.08	.193	.965	
	Senior Firefighter(b)	2.38	0.99			
	Fire Sergeant(c)	2.30	0.94			
	Fire Lieutenant(d)	2.30	1.05			
	Fire Captain(e)	2.29	0.99			
	DeputyFire Chief Higher(f)	2.20	0.79			
Q6	Firefighter(a)	3.05	1.16	2.216	.052	
	Senior Firefighter(b)	3.10	1.07			
	Fire Sergeant(c)	2.79	1.03			
	Fire Lieutenant(d)	3.08	1.17			
	Fire Captain(e)	3.38	1.09			
	DeputyFire Chief Higher(f)	2.70	1.16			
Q7	Firefighter(a)	2.20	1.06	.936	.457	
	Senior Firefighter(b)	2.10	1.02			
	Fire Sergeant(c)	1.85	0.88			
	Fire Lieutenant(d)	2.01	0.97			
	Fire Captain(e)	1.99	1.01			
	DeputyFire Chief Higher(f)	1.90	0.88			

asking for advice from others.' M=3.07), 'It is difficult for superiors to perform their work effectively because subordinates often doubt their authority'(M=2.88), 'In work-related matters, superiors have the right to expect subordinates to obey'(M=2.68), and 'Once top management makes a decision, employees should not question its legitimacy.'(M=2.63).

4.3 Differences in General Power Distance Tendencies

Power distance tendencies according to general characteristics are as follows (Table 3). The difference in power distance tendency by gender was an average of 2.57 points for men and 2.30 points for women, with no significant difference. Additionally, there were no significant differences depending on years of service, position, marital status, highest level of education, or rank.

4.4 Differences in Power Distance Tendencies According to Class

The differences in power distance tendencies for each detailed item according to class are as follows (Table 4). 'In most situations, it is desirable for superiors to make decisions without asking for the opinions of subordinates.' Firefighter (M=2.64), firemaster (M=2.45), fire chief (M=2.16), and fire commissioner (M=2.10) said, There was a statistically significant difference (p<.05) between fire inspectors (M=2.19) and fire officers or above (M=1.90), and it appeared that firefighters had higher

awareness than fire officers or above. 'It is difficult for superiors to perform their duties effectively because subordinates often doubt their authority.' Firefighter (M=2.55), firemaster (M=3.05), fire chief (M=2.79), fire chief (M=2.88), and fire inspector (M=2.55) There was a statistically significant difference (p<.05) for fire department orders and above (M=3.01) and fire department orders and above (M=3.40), and awareness of those above fire levels was found to be higher than that of firefighters/fire chiefs. 'Once top management makes a decision, employees should not doubt its legitimacy.' Firefighter (M=2.60), fire chief (M=2.73), fire chief (M=2.32), and fire commissioner (M=2.51) , there was a statistically significant difference (p<.01) between fire inspectors (M=2.99) and fire marshals (M=3.10), and the awareness of fire marshals/fire marshals and higher was found to be higher than that of fire chiefs.

5. Discussion and Conclusion

This study sought to determine the level of power distance tendency among firefighters. Based on the main results of this study, we would like to consider the following.

The higher the power distance tendency, the more important the hierarchy is and the more accepting the opinions of superiors are. On the other hand, low scores are known to value decision-making through communication. The firefighters in this study had an average

power distance score of 2.55, showing that they were not biased in one direction. This result was similar to that of domestic operating room nurses (2.05 points), office workers (2.25 points), and soldiers (1.99 points) [11, 18-19]. On the other hand, it showed a difference from cooking workers (4.40 points) [12]. This is known as an organizational culture with a strong hierarchy of loyalty and obedience to superiors, with most cooking workers doing passive work rather than actively performing their duties. Firefighters are similar to cooks in that they have a strict hierarchy, and it is very important to follow instructions from superiors when performing their duties [2]. However, firefighters seem to need awareness of active choices and actions as unexpected risks frequently occur in the process of responding to and handling fires, disasters, disasters, and various safety accidents [20].

Additionally, the power distance tendencies of firefighters showed significant differences depending on their rank ($p < 0.05$). In other words, given that the power distance tendency accepts inequality in power distribution within an organization, differences in decision-making, authority, legitimacy, etc. were clearly seen depending on class. According to the fire service regulations, the job description, specification of regulations, degree of supervision, degree of discretion granted to subordinates or managers, and degree of documentation are standardized [21], and mutual etiquette between superiors, subordinates, and colleagues is specified in the fire service regulations. Accordingly, there appears to be an organizational culture that values discipline [22].

There are several limitations of this study. First, although the survey was conducted on all firefighters, there were only a small number of respondents, so it is problematic to generalize the opinions of all firefighters. However, it is meaningful in that it examines the level of power distance tendency among domestic firefighters. Second, there is a possibility of biased responses as this is a self-report survey, but efforts were made to minimize this problem through sufficient explanation before the survey. Lastly, the relationship between factors affecting power distance tendencies was not identified. Future research is needed to determine the correlation between power distance tendencies, organizational commitment, and organizational citizenship behavior.

In this study, it was found that the power distance tendency of firefighters varies depending on job characteristics according to rank. We hope to form a positive organizational culture in the firefighting organization by utilizing the power distance tendencies of the organization members.

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