



The Effect of Transformational Leadership and Transactional Leadership on Job Satisfaction of Employees in 119 Safety Center Directors

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ABSTRACT

The purpose of this study was to investigate the effects of the transformational leadership and transactional leadership of the 119 safety center chiefs on the job satisfaction of the employees of the 119 fire-fighting officers working at the 119 safety centers in Sejong, Daejeon. For this purpose, transformational leadership and transactional leadership were set as independent variables, and pay satisfaction, human relationship satisfaction, and job improvement satisfaction related to job satisfaction were set as dependent variables. As a result, intellectual stimulation and charisma among leadership types had a significant effect on job and pay satisfaction, and individual consideration and situational compensation had a significant effect on relationship satisfaction. And it was verified that situational compensation had a significant effect on job improvement satisfaction. In conclusion, leadership should be applied differently to transformative leadership and transactional leadership according to the maturity of the organization members to increase the productivity of the organization.

Key words: 119 safety center, transformational leadership, transactional leadership, job satisfaction

Introduction

The role of fire administration is increasing as the demand of fire safety increases day by day in the 21st century due to the phenomenon of population concentration in urban area, the increasing number of skyscraper, expansion of underground activities spaces, and the increased use of gas and hazardous facilities. In south Korea, beginning with 1988 Seoul Olympics, emergency service were deployed around large cities. The occurrence of large-scale safety accidents, such as recent Ferry Sewol accidents, has contributed to the increased interest in fire administration and

safety demand. In addition, due to urbanization, climate change, and social disaster growth, the role of fire-fighting has a wide range of influence on our lives from past fire prevention and suppression to life safety. Meanwhile, the first-line organization in the field of fire safety related to our lives closely is Fire House, so called 119 safety center, if the community service center is the front-line organization of the resolution of complaints by local residents in the general administration sector. Therefore, the leadership of center director is significant as well as 119 safety centers plays an important role in taking responsible of the safety in these work conditions. It is highly required a new paradigm of leadership in fire safety sector in order to adapt in a rapidly change field

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Received: Oct. 12, 2020 / Revised: Oct. 27, 2020 / Accepted: Oct. 27, 2020

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of fire safety and to survive in a competition between other organizations. Thus, leadership is highly related to an organization and exerted between two or more members of the organization.

In modern society, job satisfaction of a member of an organization has a great influence on motivation, and its effectiveness is also increasing regarding achieving the goals of the organizations. The competitiveness of modern organizations dependent on how to induce active participation and potential development of members within the organizations. Therefore, transformational leadership is required to create a new vision that conforms to the change of era and to actively involve organizational members in the goals to increase immersion in the organization.

This study selected transformational leadership and transactional leadership types to verify how these types affect the job satisfaction of the organizational members at a time when they reflect the characteristics of leaders required by organizations in the 21 century. There have been several previous studies on transformational and transactional leadership. This study aims to examine the impact of leadership and job satisfaction on employees working at Fire House, so called 119 safety center, where have strict hierarchical order and verify their effectiveness. The study also aims to present the desirable leadership type of the front-line organizations in the field of fire safety and provide direction to the leadership role in the field of fire safety. In this study, the following research question were established in order to investigate the impact of the transformational and transactional leadership on the job satisfaction of members of 119 safety center. First, how is the transformational and transactional leadership of the 119 safety center chief perceived by the demographic factors of the organizational members. Second, how is the job satisfaction of the organizational member of 119 safety center recognized by demographic factors? Third, What is the difference from the job satisfaction perceived by the members of the 119 safety center themselves by the types of transformational and transactional leadership of them?

Background

Although there are numerous studies have been conducted, the definition of leadership has not yet been agreed upon. Robbins (1996) defined leader as the person who influences other organization members to act to achieve the goals of a particular organization or group, and follower as the person who follows them under the influence of the leader. Also, the process that influences a leader to conduct certain tasks is called leadership.

Most of previous studies, from the early characteristic research to the situational of leadership theory, have limitation in that it is possible for a leader to be interested in daily issue within an organizational structure from a closed perspective and that most leadership is regarded as a compromise between a leader and employees and a transactional relationship with cost-effectiveness. In the late 1970s, Burns (1978) recognized these limitations and first presented Transformational Leadership, which is distinguishes it from transactional leadership.

According to Burns (1978), transformational leadership is an open-system theory for leadership that beyonds the limits of transactional leadership theory that have not reflected in changes of environmental factors such as ideology, politics, society, economy and culture.

The transformative leadership theory has been studied in earnest after that Bass (1985) organized the two types of leadership which proposed by the existing Burns (1978) in the 1980s to generalization the organizational situation. Bass (1985) stated that a transformational leaders appeal to the emotions of the employees due to that they put emphasis on their emotions response, thereby the motivation of the employees and giving them confidence in their success, resulting in better outcomes than the expectation.

Transactional leadership

Transactional leadership is the common name of the traditional leadership theory, defined as the process in which a leader influences his employees based on compensation according to the circumstances.

Burns (1979) stated that the transactional leadership as a process in which leaders approach their employees with an exchangeable intention. According to this theory, the trade-off between the leader and his employees is political, mental, and economic factors, while the leader and the subordinate recognize power, attitude, and available resources.

Bass (1985) defined Burns' transactional leadership as a kind of negotiating or exchanging leadership that motivates leaders to make the expected or negotiated effort from their employees. In change or negotiation, the leader provides their desires to his employees to get what he pursuit.

It was perceived as a mutually exclusive dualistic concepts of Burns (1978), especially in that it had the problem of not being able to raise the performance of the employees above the level of expected by the leader or employees themselves. However, it is different that Bass (1985) asserted dualistic concept that all leaders present both transformational and transactional leadership simultaneously.

Contingent reward

Contingent reward is referred as the compensation promised in advance to the employees shall be given, if a load achieves an agreed target based on the exchange relationship with employees. The transactional leader shall reach an agreement with the employees about what the employees should do to compensated, or what should be done to avoid punishment. Bass & Avolio (1993) argued that transactional leadership is not valid when using negative situational reinforcement. It was said that the validity required for situational compensation would fail when the reputation for leadership qualities and the actual possession and deliver capacity of the rewards expected by the employees were not available.

Management-by Exception

According to Bass (1985), the factor of transactional leadership is management-by exception. This method is regarded as an involvement of a leader in the event of failure, collapse, or beyond the standards, and its purpose is to maintain a controlled, reasonable system. The involvement of leader is mainly observed when the performance of organizational members falls below the standard along with the negative reinforcement. The leader of management-by exception presents and injects clear criteria to their employees to achieve expected performance, and if they fail to meet their expectations, the leader recognizes the reasons as ambiguity of the criteria, lack of competence and understanding of the load and attempts to develop their competence of load through retraining. The negative situational reinforcement that accompanies this includes salary reduction, degrading support of leaders, and termination of employment.

Transformational leadership

The concept of transformational leadership is firstly presented by Burns (1978) as a leadership to change the organizational desire system for fundamental changes in organizational culture, and is a theory that Bass (1985) late embodied in accordance with organizational conditions. According to Slocu (2000), transformational leaders enhance the performance above expectation by making their

employees aware of the importance of tasks performance results, and by prioritizing the organizational interests of individual employee to meet the high level of requirements, and by activating self-development and learning organization. In order to achieve this, a transformational leader should take the initiative with the employees, abandon his personal interests and show his sacrifice in advance. It also motivates group members to present higher ideals and moral values and solve issues in new ways.

Bass (1999) presented components of transformational leadership such as charisma, individual consideration and intellectual stimulation, which shows as following <Table 1>.

Charisma

Charisma is the most representative feature of transformational leadership, a process in which a leader exerts influence by causing strong feelings and identification among his employees. It is firstly mentioned by Weber (1920) that the concept of charisma as a form of social authority and defined as a form of authority to gain legitimacy by appealing to a competence of individual as an extraordinary and superhuman being rather than a custom and rational system. However, the charisma defined by Bass (1999) refers not only the qualities of a leader but also the characteristics including action. Qualities require strong beliefs, confidence, desire for power, great awareness, judgement of the situation and other extraordinary abilities, and behavioral patterns includes impression, appealing, entrust action, ethical, moral and exemplary behavior.

A leader who presents these qualities and actions is regarded as a symbol of success and achievement, receiving the trust and respect of his employees. The employees are proud to follow spontaneously and to be associated with the leader, and desire to imitate and identify the leader.

Intellectual Stimulation

A transformative leader is a way of providing intellectual stimulus to the values and ideas of the tasks. Also, it contributes to change the employees' way to recognize and solve the problems, their belief and values by designing and suggesting a new method differentiated from the existing one in solving problems. In order to do this, the leader takes risks while giving autonomy to his employees

<Table 1> Transformational leadership component factor

Transformational leadership	Charisma	Provide vision and sense of duty to the low-level job worker, inspire pride, and receive respect and trust from them
	Intellectual stimulation	Encourage understanding and rationality and promote thoughtful problem solving
	Individual consideration	Show individualized interest to the low-level job worker, treat them an independent being, guide and advise.

and encourage creative challenges to refrain from making official criticisms even if they makes mistakes.

Bass (1999) stated that transformational and transactional leaders are distinct in these intellectual areas.

According to Lee (1996), therefore, the transformational leader's thought is proactive rather than reactive, innovative and creative in creating ideas, in ideology and innovative rather than improved or conservative.

Individualized Consideration

According to Bass (1999), individualized consideration is referred as that a leader acknowledges the differences in requirements of each employee, raise to higher level of desires, and raises the potential for the employees to achieve a higher level of performance. For instance, a leader identifies an growth desire from the employees and plays roles as mentor or coach to satisfy the desires. A leader also express gratitude for their efforts and guarantees maximum autonomy, and delegates authority and responsibility to take responsibility accordingly.

Job satisfaction

According to Locke (1976), the most representative definition of job satisfaction is 'positive or pleasant emotional state as a result of the assessment of an individual's job and job experience'. Reitz (1981) defines job satisfaction as 'it consists of three elements such as action, information and emotion, and it is the emotions or feelings of the organizational members for the job'.

Regarding the importance of job satisfaction, it generally defines the psychological state of the employees involved in the production of goods and services as job satisfaction. Although they possess the ability and capacity to conduct the tasks, it would be difficult to expect results from the job without the will to perform it. From the perspective of running an organization, it encourages and supports competent members to work with a will. Generally, job satisfaction can be determined by the satisfaction and achievement that comes from the job itself, the personal relationship between colleagues, the leadership of chief, the physical environment component such as noise in the workplace and the condition of lighting, temperature and ventilation, and the welfare and compensation resulting from the job performance.

It is comprehensively includes job security, future prospects and visions which have recently been emphasized in importance. Job satisfaction, determined by these factors, again affects the performance of work or the turnover of the organization. Thus, job

satisfaction seriously impact on the performance of the organization to which the members belong so that there are numerous efforts to enhance job satisfaction from the management perspective of the organization.

According to research on the importance of job satisfaction, job satisfaction is very critical directly and indirectly to the job (Shin, 1982; Lee 1997). Regarding indirect importance, first, it is significant in value judgement, and second, in terms of mental health, job satisfaction is likely to cause dissatisfaction in other parts of life. Third, it also plays an important role in physical health. Stress and boredom caused by job dissatisfaction appear to adversely affect health. There are several research investigate on job satisfaction and health.

There is no dissent regarding the importance of the job itself and job satisfaction. Firstly, job satisfaction affects job performance despite controversy over empirical analysis (Chen & Spector, 1992). Secondly, employee also appears positive in other aspect of life when an individual is satisfied with the job. Thirdly, when the job satisfaction is high, the rates of turnover and absenteeism are lowered and productivity has a positive effect. Fourthly, interpersonal relationship can be amicable in case of job satisfied, and there are also studies that suggest that organized civic behavior is positive.

There are various studies have been conducted to enhance job satisfaction and to sympathize with the importance of job satisfaction. This study also aim to establish job satisfaction as a subsidiary variable of the conservative fairness.

Previous studies on leadership types and job satisfaction

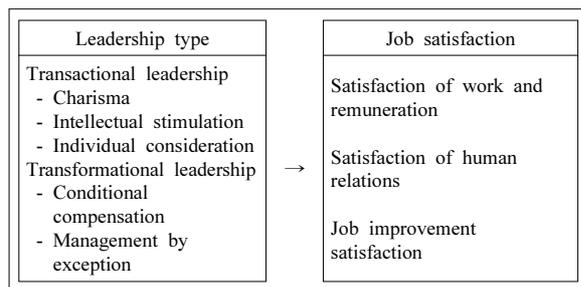
There are a large numbers of studies have been conducted as variable to verify the relationship between transformational and transactional leadership such as job satisfaction or job immersion. Bae (1993) presented that intrinsic satisfaction is closely related to the behavioral factors of transformational leadership, and external satisfaction is closely related to the behavioral factors of transactional leadership. Based on the direct relationship between leadership types and internal and external satisfaction, the research findings were presented. Son (2001) identified only transformational leadership as a meaningful influence relationship on norms and emotional immersion, which are sub-factors of organizational immersion, in comparison to the differences in the impact of transformational and transactional leadership on organizational immersion. Choi (2004) stated that transformative leadership of the chiefs of local government organizations is more critical than the transactional leadership. It is said that transactional and transformational leadership

are complementary relationship, not an exclusive one. As mentioned above, job satisfaction may vary depending on the type of leadership such as transformational and transactional leadership. The trend of research shows that transformational leadership shall be more important than transactional leadership. However, it can be seen that the transactional leadership is also in complementary relationship which cannot be excluded.

Method

Research model

In this study, a research model was designed as in <Figure 1> in order to investigate how the types of leadership of 119 safety center director affects the job satisfaction of the employees.



<Figure 1> Framework of analysis.

Establishment and sample selection of hypothesis

The hypothesis was established based on the model of transformational and transactional leadership factors and their relationship to job satisfaction.

Hypothesis 1: There will be significant differences in the types of leadership that the employees perceive, depending on demographic variables.

Hypothesis 2: There will be significant differences in job satisfaction with perceived employees depending on demographic variables.

Hypothesis 3: Transactional and transformational leadership will have a significant positive impact on job satisfaction.

In this study, the selection of samples was collected for fire officials working at 119 safety centers in Daejeon and Sejong districts. The distribution of the questionnaire was 160 copies. However 130

of the collected questionnaires were used for the analysis.

Analysis method

This study obtain the data by using survey methods as empirical research, and the obtained data was statistically processed using SPSS statistical program. In addition, the statistical analysis methods used as follows:

First, a frequency analysis was implemented to identify the general characteristics of the people surveyed and a technical statistical analysis was conducted to determine the overall level of each variable.

Second, factor analysis and reliability analysis were conducted to verify the validity and reliability of leadership types and job satisfaction factors.

Third, one-way ANOVA method was applied to identify differences in leadership types and job satisfaction according to the general characteristics of the people surveyed, and the post-verification method of Scheffé was applied for follow-up verification.

Fourth, Pearson correlation analysis was conducted to determine the correlation between leadership type and job satisfaction.

Fifth, a multi-regulation analysis was implemented to examine the impact of leadership types on job satisfaction.

Analysis results

Characteristics of sample

A total of 130 people answered with valid responses, within 105 males (80.7%) and 25 females (19.3%). By the following ranks, it is surveyed in fire departments with 48 fire engineers (36.9%), 57 fire captains (43.8%) and 25 fire marshalls (19.3%). Regarding the work period, the number of people working for less than 10 years was 37 (28.4%), over 10 years and less than 20 years was 72 (55.4%) and 20 people (16.2%) for working more than 20 years. As following <Table 2> shows in details.

Validation

Analyzing factors of leadership

The results of analyzing leadership factors showed that it consisted

<Table 2> General characteristics of the subjects

Variable	Division	Frequency (people of number)	Ratio (%)
Gender	Man	105	80.7
	Woman	25	19.3
Class	Fireman~senior fireman	48	36.9
	Fire sergeant~fire lieutenant	57	43.8
	Fire captain	25	19.3
Working period	Less than ten years	37	28.4
	10 to 20 years	72	55.4
	More than 20 years	21	16.2

<Table 3> Leadership type factor analysis result

Question	Factor 1	Factor 2	Factor 3	Factor 4
	Intellectual stimulus and Charisma	Situational compensation	Individual consideration	Exceptional management
Question 11	0.794	0.322	0.209	0.140
Question 6	0.777	0.203	0.273	0.073
Question 7	0.761	0.381	0.225	0.066
Question 9	0.736	0.115	0.294	0.188
Question 12	0.705	0.364	0.227	0.192
Question 8	0.639	0.345	0.211	0.208
Question 13	0.683	0.237	0.358	0.252
Question 10	0.611	0.215	0.125	0.132
Question 14	0.605	0.321	0.245	0.272
Question 17	0.371	0.732	0.208	0.140
Question 15	0.351	0.720	0.367	0.168
Question 16	0.211	0.714	0.294	0.256
Question 1	0.210	0.336	0.759	0.069
Question 5	0.183	0.121	0.730	0.165
Question 3	0.225	0.295	0.657	0.205
Question 4	0.127	0.239	0.689	0.168
Question 2	0.234	0.262	0.620	0.176
Question 21	0.239	0.137	0.010	0.886
Question 20	0.000	0.273	0.385	0.771
Question 18	0.324	0.196	0.516	0.649
Question 19	0.247	0.244	0.048	0.628
Question 22	0.168	0.236	0.293	0.611
Eigen-value	7.134	4.661	3.791	2.366
Explanatory	32.426	21.184	17.230	10.753
Cumulative explanatory	32.426	53.611	70.840	81.593

of a total of four factors as shown <Table 3>, with a very high overall explanatory power of 81.59%. In addition, each factor and question has a very high correlation of 0.6. However, 23 of the leadership type questions presented all the factors and lower factor values of 0.4 or less, eliminating them.

The eigenvalue for factor 1 was 7.134 and the explanatory power was 32.43%. Factor 2 has an eigenvalue of 4.661 with a 21.18% explanatory power and a eigenvalue of factor 3 is 3.79. The explanatory power was 17.23%, the eigenvalue of factor 4 was 2.366 and the explanatory power was 10.75%.

Job satisfaction and leadership requirement factor analysis

As a result of the analysis of job satisfaction factors, there were three factors in total, as shown <Table 4>. The overall explanatory power was estimated at 64.98%, and the factor sensitivity, which are the degree of correlation between all questions and the corresponding

factors, were all higher than 0.6, indicating a high correlation. However, in terms of question 6, the question was removed by showing a low factor value of less than 0.40 or less.

<Table 4> Job satisfaction factor analysis

Question	Factor 1	Factor 2	Factor 3
	Job and pay satisfaction	Satisfaction with human relationship	Satisfaction with work improvement
Question 1	0.801	0.122	0.043
Question 10	0.783	0.212	0.115
Question 5	0.778	0.163	0.106
Question 3	0.654	0.099	0.382
Question 9	0.049	0.881	0.127
Question 7	0.177	0.770	0.138
Question 8	0.352	0.681	0.032
Question 2	0.145	0.015	0.829
Question 4	0.025	0.275	0.690
Eigen-value	2.472	2.004	1.372
Explanatory	27.462	22.272	15.246
Cumulative explanatory	27.462	49.733	64.980

<Table 5> Analysis of reliability

Variable	Subregion	Question number	Cronbach's α
Leadership type	Intellectual stimulus and Charisma	9	0.968
	Individual consideration	5	0.936
	Situational compensation	3	0.912
Job satisfaction	Exceptional reward	5	0.853
	Job and pay satisfaction	4	0.782
	Satisfaction with human relationship	3	0.745
	Work improvement	2	0.641

* p<0.05

<Table 6> Analysis of the differences between intellectual stimulation and charisma according to general characteristics

Variable	Division	Average	Standard deviation	t/F value	p
Class	Whole	3.35	0.99	2.770	.068
	Fireman-senior fireman	3.65	0.82		
	Fire sergeant-fire lieutenant	3.05	1.04		
Working period	Fire captain	3.29	0.96	1.927	.152
	Less than ten years	3.38	0.99		
	10 to 20 years	3.34	0.90		
	More than 20 years	2.93	1.03		

* p<0.05

The eigenvalue for factor 1 was 2.472 and its explanatory power was 27.46%. Factor 2 had an eigenvalue of 2.004 and explanatory power of 22.27%, eigenvalue of factor 3 is 1.372 and an explanatory power of 15.25%.

Analysis of reliability

In this study, the reliability analysis found that the Cronbach's alpha coefficient was all 0.60 or higher, indicating that the reliability of the scale as shown <Table 5>.

Results of hypothesis analysis

Verification of Hypothesis 1 (There will be significant differences in the types of leadership that the employees perceive depending on demographic variables.)

Among the transformational leadership of the 119 safety centers chief recognized by employees of the 119 safety center, the level of "intellectual stimulation and charismatic leadership" averaged 3.35, as shown in <Table 6>. There was no significant difference in rank and length of work (p>0.05).

According to the general characteristics of the subjects, the

level of 'leadership of individual consideration' among the transformational leadership of 119 safety center chiefs averaged 3.25, as shown in <Table 7>. No significant differences were found in class variables ($p < 0.05$) but no significant differences were found in working periods. 'contingency compensation' leadership among 119 safety center heads averaged 3.16 as shown in <Table 8> and there was no significant difference in rank and length of work ($p > 0.05$)

As a result of the post-verification of Sheffe of class variables the Fire-fighter and Engineer ranks sees individual consideration as the most positive (3.75), while the Fire Lieutenant to Fire Captain ranks were the lowest at 3.04. According to the general characteristics of following subjects, the level of .

According to the general characteristics of the following subjects, the level of 'exceptional management' leadership among 119 safety center chiefs average 3.23 as shown in <Table 9>. There is no significant difference seen in the variables between rank work period ($p > 0.05$).

Verification of Hypothesis 2 (There will be significant differences in job satisfaction with perceived employee depending on demographic variables.)

The average "work and remuneration satisfaction" of 119 safety center heads recognizer by members of the 119 safety center was 3.04, as shown in <Table 10>.

There was no significant difference in rank and length of work ($p > 0.05$). The average "relationship of human chart" of 119 safety center chiefs recognized by members of the 119 safety center was 3.39, as shown in <Table 11>. There was no significant difference in rank and length of work ($p > 0.05$).

The average "task improvement" of 119 safety center chiefs recognized by members of the 119 safety center was 3.62, as shown in <Table 12>. There was no significant difference in rank and length of tasks ($p > 0.05$).

<Table 7> Analysis of differences in individual care according to general characteristics

Variable	Division	Average	Standard deviation	t/F value	p
	Whole	3.25	0.96		
Class	Fireman~senior fireman	3.75 ^a	0.82	4.367	0.015 [†]
	Fire sergeant~fire lieutenant	3.04 ^b	0.93		
	Fire captain	3.23 ^{ab}	0.99		
Working period	Less than ten years	3.38	0.97	1.180	0.312
	10 to 20 years	3.23	0.91		
	More than 20 years	3.02	0.96		

* $p < 0.05$

<Table 8> Analysis of differences in situational compensation according to general characteristics

Variable	Division	Average	Standard deviation	t/F value	p
	Whole	3.16	0.99		
Class	Fireman~senior fireman	3.48	0.97	1.347	0.265
	Fire sergeant~fire lieutenant	3.07	1.03		
	Fire captain	3.08	0.94		
Working period	Less than ten years	3.35	0.96	1.599	0.208
	10 to 20 years	3.06	0.90		
	More than 20 years	2.94	1.12		

* $p < 0.05$

<Table 9> An analysis of exceptional management differences according to general characteristics

Variable	Division	Average	Standard deviation	t/F value	p
	Whole	3.23	0.75		
Class	Fireman~senior fireman	3.39	0.81	0.708	0.495
	Fire sergeant~fire lieutenant	3.16	0.74		
	Fire captain	3.26	0.73		
Working period	Less than ten years	3.31	0.70	0.534	0.588
	10 to 20 years	3.12	0.84		
	More than 20 years	3.21	0.75		

* $p < 0.05$

Verification of Hypothesis 3 (The type of leadership will have a significant effect on job satisfaction)

In this study, Pearson's correlation between the variables was identified as <Table 13> by applying multi-regulation analysis, and the highest correlation between independent variables is 0.792

as 'intellectual stimulation and charisma' and 'individual consideration'.

However, there was no issue with regression analysis due to multicollinearity, as there was no correlation of more than 0.80 that would normally lead to doubt of multicollinearity. In addition, the correlation between the type of leadership variable and the

<Table 10> Analysis of job and remuneration satisfaction according to general characteristics

Variable	Division	Average	Standard deviation	t/F value	p
	Whole	3.04	0.71		
Class	Fireman~senior fireman	3.06	0.81	0.649	0.526
	Fire sergeant~fire lieutenant	2.97	0.69		
	Fire captain	3.16	0.66		
Working period	Less than ten years	3.02	0.74	0.181	0.834
	10 to 20 years	3.01	0.70		
	More than 20 years	3.12	0.69		

* p<0.05

<Table 11> Analysis of the differences in human relationship satisfaction according to general characteristics

Variable	Division	Average	Standard deviation	t/F value	p
	Whole	3.39	0.73		
Class	Fireman~senior fireman	3.56	0.77	0.793	0.456
	Fire sergeant~fire lieutenant	3.36	0.74		
	Fire captain	3.31	0.70		
Working period	Less than ten years	3.40	0.82	0.033	0.968
	10 to 20 years	3.36	0.67		
	More than 20 years	3.41	0.65		

* p<0.05

<Table 12> Analysis of the differences in satisfaction with job improvement according to general characteristics

Variable	Division	Average	Standard deviation	t/F value	p
	Whole	3.62	0.60		
Class	Fireman~senior fireman	3.64	0.77	1.213	0.302
	Fire sergeant~fire lieutenant	3.53	0.56		
	Fire captain	3.75	0.48		
Working period	Less than ten years	3.54	0.67	0.724	0.488
	10 to 20 years	3.71	0.51		
	More than 20 years	3.65	0.52		

* p<0.05

<Table 13> Correlation analysis

Variable	Intellectual stimulation and charisma	Individual consideration	Situational consideration	Exceptional management	Job and pay satisfaction	Satisfaction with human relationship	Satisfaction with work improvement
Intellectual stimulation and charisma							
Individual consideration	0.793**						
Situational consideration	0.748**	0.768**					
Exceptional management	0.711**	0.675**	0.784**				
Job and pay satisfaction	0.448**	0.370**	0.412**	0.391**			
Satisfaction with human relationship	0.637**	0.653**	0.709**	0.588**	0.417**		
Satisfaction with work improvement	0.171	0.170	0.241**	0.126	0.226*	0.271**	

* p<0.05, **p<0.01

job satisfaction variable that will be identified in the regression analysis shows a significant correlation between the type of leadership and the type of job satisfaction ($p < 0.01$). Also, in terms of satisfaction with human relationship, all four factors of leadership type show significant positive correlation ($p < 0.01$).

(1) Influence of leadership type on satisfaction of job and remuneration

In order to verify hypothesis 3, the impact of leadership types on satisfaction of work and remuneration was identified as shown in <Table 14>. The type of leadership is 21.3% ($R^2 = 0.213$), and this regression model is statistically suitable ($F = 6.094$, $p < 0.05$). Among the following types of leadership, ‘intellectual stimulation and charisma’ were found to have significant positive effects on

satisfaction of job and remuneration ($p < 0.05$). It means that the higher the intellectual stimulation and charisma leadership of 119 safety center director, the more related it is to the job and remuneration satisfaction of the organizational members.

(2) Influence of leadership types on satisfaction with human relationships

It is identified that the impact of leadership types on ‘human relationship satisfaction’ among job satisfaction as shown in <Table 15>. The type of leadership is 51.4% ($R^2 = 0.541$), and this regression model is shown to be statistically suitable ($F = 26.176$, $p < 0.05$). Specifically, individual consideration and situational compensation were found to have a significant impact on job satisfaction ($p < 0.05$). This shows that the higher the organizational member perceive

<Table 14> The effect of leadership type on job and remuneration satisfaction

	Nonstandardization coefficient			t	Significance probability
	B	Standard error	Beta		
(Constant)	1.862	0.304		6.164	0.000
Intellectual stimulation and charisma	0.360	0.187	0.504	1.935	0.041*
Individual consideration	0.129	0.156	0.175	0.821	0.413
Situational compensation	0.010	0.142	0.013	0.071	0.944
Exceptional management	0.143	0.146	0.151	0.987	0.325
$R^2 = 0.213$	$F = 6.094$	$p = 0.000$			

* $p < 0.05$

<Table 15> The effect of leadership type on human relations satisfaction

	Nonstandardization coefficient			t	Significance probability
	B	Standard error	Beta		
(Constant)	1.473	0.242		6.128	0.000
Intellectual stimulation and charisma	0.115	0.147	0.157	0.781	0.435
Individual consideration	0.267	0.124	0.348	2.131	0.035*
Situational compensation	0.401	0.113	0.542	3.498	0.001*
Exceptional management	0.047	0.117	0.048	0.412	0.672
$R^2 = 0.541$	$F = 26.175$	$p = 0.000$			

* $p < 0.05$

<Table 16> The effect of leadership type on job improvement satisfaction

	Nonstandardization coefficient			t	Significance probability
	B	Standard error	Beta		
(Constant)	3.357	0.266		12.565	0.000
Intellectual stimulation and charisma	0.105	0.164	0.182	0.640	0.522
Individual consideration	0.091	0.139	0.150	0.647	0.519
Situational compensation	0.216	0.126	0.374	1.811	0.049*
Exceptional management	0.114	0.129	0.149	0.883	0.378
$R^2 = 0.060$	$F = 3.440$	$p = 0.027$			

* $p < 0.05$

leadership corresponding to individual consideration (0.035) and contextual compensation (0.001) for the 119 safety center director, the more positive the effect on human relationship satisfaction.

(3) Influence of leadership type on work improvement satisfaction

In <Table 16>, it is identified that the impact of leadership types on 'work improvement' among job satisfaction. The leadership type shows 6.0% ($R^2=0.060$) of the satisfaction level of work improvement, and this regression model is statistically suitable ($F=3.440$, $p<0.05$).

Results

The 119 safety center is the front line of the fire safety organization at center of all fire fighting activities. The 119 safety center has a team leader in the Fire marshal (Fire Captain) rank and a team leader of fire department. It is that the employees belong to each team in two or three shifts depending on their working conditions. The 119 safety center also carries out several main tasks, including daily civil complaints such as fire and first aids and employ rescues tasks. In addition, it is responsible for preventing fire safety, such as collecting basic data necessary for fire administration, and for responding to disasters such as fire. Thus, the leadership of chief of the 119 safety center, which can exert the best individual abilities of its members, is very critical. In this regard, it is important to investigate the impact of the transformational and transactional leadership of the director of the center on the job satisfaction of the organizational members.

First, there was no significant difference found in the leadership of the director of the center, recognized by 119 safety center employees following demographic variables, except for the level of 'leadership of individual consideration'.

Second, the study found that there was no impact on the job satisfaction perceive by organizational members by demographic variables. It seems that the variables of job satisfaction does not change to rest depending on the working conditions of 119 safety center.

Third, regarding the impact on job satisfaction according to the type of leadership, both transformational and transactional leadership have been shown to influence. However, it was only significant in the transactional leadership by one factor which is situational compensation, while both intellectual stimulation and charisma were included in the transformational leadership alone. This is a necessary factor that the customary compensation for civil servants.

Thus, it seems that the aim of the organization can be achieved more effectively only when it is promoted with transformative leadership that can derive the potential capabilities of the members of the organization in the future. As a result, it is believed that leadership will only increase the productivity of the organization if transformational and transactional leadership are applied differently depending on the maturity of the organizational members.

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