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Examination of Transformationist Leadership in Turkish Army

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Abstract: The aim of this study is to examine "Transformational leadership" conception with respect to qualifications and opinions of military officers and military administrators working at military base and organization by means of Factor Analysis. The study contained the military officers working at military base and organization in cities of Van, Hakkari, Bitlis, Siirt, Ağrı, and Muş in East Anatolian. The sampling regarding study material was comprised of 70 military officers (5 female and 65 male) and administrators were at random selected. Data were collected from those people by Questionnaire as to Scale of Podsakoff's Transformational Leadership containing 37 items. For Transformationist Leadership, Statistical analysis for data was performed by Factor Analysis after designing 6 artificial variables from 37 items: i-Providing vision and inspiration, ii-Forming conduct models, iii-Commitment to group goals, iv-Providing individual support, v-Intellectual stimulation, vi-Intellectual stimulation. Artificial 6 variables were separated into Factor 1 and Factor 2. While Factor 1 consists of Providing vision and inspiration; Forming conduct models; Commitment to group goals and Intellectual stimulation, Factor 2 consists of Providing individual support; Intellectual stimulation. A variance (eigenvalue) of 2.523 for the first factor which explains %42.1 of total variation, while second factor's eigenvalue,1.697. The second factor explains %28.2 of the total variation. These two factors together explain %70.3 of the total variation. Besides, RMSR value calculated for this study is small enough (0.094), it is possible to conclude that sufficient factor analyses have been made. As a result, it can be suggest that transformational leadership based on education

Key words: Transformational leadership, factor analysis, education

INTRODUCTION

Since people's lifestyles transform constantly throughout lifetime, people get involved in some activities in order to adapt these changes. In this transformation course, leaders who are capable of organizing people, manipulating their activities and leading them to success are needed. That's why; management and leadership always keep their importance in society.

Globalization and technological advancement oblige the private and public sector leaders to adapt the evolving environment, gain personal improvement and bring vision and new strategies to their personnel. That way, a role and conduct of leadership which is adaptable to changes are necessary and this leadership conduct introduces the term "Transformationist Leadership"[6].

"Transformer leader" can be defined as a social architect who forms a vision and shares it and constantly keeps in contact with the followers of the vision and who has a reliable and respectable personality. In a new age in which new difficulties are to be faced, "transformationist leadership" can be one of the best solutions to these difficulties. Transformationist leadership bears a democratic and participatory structure that forms a transformation culture and vision and he shares them himself, interacts with his followers, enables his followers to improve themselves and embodies a flexible management conception.

The rise in the tempo of wars has greatly raised the importance of capability of acting and deciding faster than the enemy commanders and hence has become leadership one of the most important factors in winning wars. It is presumed that military leaders having transformationist leadership qualities will greatly contribute to the change, innovation, cooperation, high performance and the rise of intellectual background and quality. Transformationist leadership is a group of conduct which can be applied in military units and institutions as well as enterprises. It is necessary to transform from a leadership conception in a conventional military management and rigid regulations to a "transformationist leadership" that is modern, risk taking, motivation providing, expecting high performance

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and with a high perception of change and vision.

In today's world where a high rate of change is being experienced, forming a change and transformation goal and succeeding it and hence making the followers adopt it is a major role of leadership. In this course of ceaseless change, transformationist leadership's importance in business and education world is growing as well.

Researchers working in social and behavioral sciences and related fields are seeking ways to develop measurement techniques and make researches regarding characteristics that are not directly measurable such as conduct, image, motivation and leadership. One of the suitable statistical methods that can help researchers in such studies is factor analyses.

Factor analyses is one of the multi-parameter analyses techniques based on evaluating the parameter set that the researcher is working on and finding out the correlation structure within the parameters of this set in order to determine the sub-parameter sets named factor that show high correlation within themselves. In this analysis, characteristics that show a high correlation are summed in a set so that sub sets named factors are formed. Factors can be either showing correlation among each other or independent. This way, it is possible to summarize the correlation structure between characteristics, reach a smaller number of parameters from a larger one and make some tests regarding these.

In this study, evaluation with the factor analyses of the relation structure between variables which are considered to be part of modern administration and transformationist leadership and essential for military institutions and divisions to adapt changes and not to fall into mistake or confusion was intended.

MATERIALS AND METHODS

In this study, answers to questionnaires of 70 military officer in various military divisions in 6 cities (Van, Hakkari, Mus, Bitlis, Agri and Siirt) of East Anatolia region were evaluated.

In the survey, Podsakoff's Transformational Leadership Questionnarie was employed and individuals were asked 37 questions. With the questions, quintet grading scale was used. Scale had five answer alternatives like "Strongly agree, fairly agree, mildly agree, bitty agree and don't agree at all" and the answers were graded on a scale of 1 to 5 according to positivity. Then the questions were grouped into six variables as below:

- 1-6th questions: Providing vision and inspiration
- 7-13th questions: Forming conduct models
- 14-19th questions: Commitment to group goals
- 20-25th questions: Providing individual support
- 26-31th questions: Intellectual stimulation

- 32-37th questions: High performance expectation

Statistical analysis: Let the data matrix for p characteristics of n individuals be X_{pxn} and the standardized data matrix for this data matrix Z_{pxn}. The model for p original variables and m factors is notated as below:

$$Z_{px1}=\lambda_{pxm}F_{mx1}+\varepsilon px1 \qquad (1)$$

Here, Z_{px1} is the original variables vector, λ_{pxm} is the factor load matrix, F_{mx1} is the factor vector and ε_{px1} is the vector of unique factors. [1] is the basic factor analysis equation. Here, it is presumed that factors are not correlated with the error factor and the average of variables and factors is 0 and their variances are 1.

The correlation matrix of original variables is at the same time covariance matrix since variables are standardized and:

$$
\begin{aligned}
E\,(ZZ') &= E[(lF + e)\,(lF + e)'] \\
&= E[(lF + e)\,(F'\,l' + e')] \\
&= E(lFF'l') + E(ee') \\
R &= \lambda\Phi\lambda'+\Psi \qquad (2)
\end{aligned}
$$

Here, R is the correlation matrix of original variables, λ is the matrix of loads, Φ is the correlation matrix of factors and Ψ is the diagonal matrix including the error variances. In factor analysis model, λ, Φ and Ψ are named the parameter matrixes. Therefore the correlation matrix of original variables is a function of parameter matrixes.

For orthogonal factor model, equation (2) can be notated as:

$$R = ll' + Y$$

The correlation between original variables and factor:

$$
\begin{aligned}
E\left(ZF'\right) &= E\left[\left(\lambda F + \varepsilon\right)F'\right] \\
&= \lambda E\left(FF'\right) + E\left(\varepsilon F'\right) \\
A &= \lambda\Phi
\end{aligned}
$$

For orthogonal factor model, A=l. Therefore model constants for orthogonal factor model are equal to structural loads and generally named as loads of variables. In the study, principal component factoring method was employed as factor forming method and to provide the easy interpretation of the loads of factors, varimax of orthogonal rotating methods was used. Number of factors was determined according to eigenvalue being greater than 1. (Sharma 1996, Tabachinich and Fidell 2001)

RESULTS AND DISCUSSIONS

The identifying statistics of the study are presented in Table 1 and the observed and reproduced correlation constants are in Table 2. When Table 2 is observed, the remaining correlation constants from Bsupport with Conduct and Kcommitment are seen to be significant statistically.

Table 1: Descriptive statistics for variables (n = 70)

Variable	Mean	SE mean	Min	Max
Vision	29.729	0.079	27	30
Conduct	34.514	0.113	31	35
kcommitment	28.129	0.210	23	30
Bsupport	29.686	0.072	27	30
Intel	29.529	0.099	27	30
yperform	29.286	0.144	25	30

The results of the factor analyses of variables considered to be relevant to transformationist leadership are presented in Table 3. These factors whose eigenvalues are greater than 1 are taken to perform the later calculations. The analyses made according to factors yield a variance (eigenvalue) of 2.523 for the first factor which plains %42.1 of total variation, while second factor's eigenvalue is 1.697. The second factor explains %28.2 of the total variation. These two factors together explain %70.3 of the total variation.

The communality value for any variable shows the part of the variance explainable with the factors and equals to the sum of squares of factor loads of that variable. In this case, for instance %72.2 of the variance of variable vision Change and %79 of the variance of

Table 2: Observed and reproduced correlations among variables

		Vision	Conduct	Kcommitment	Bsupport	Intel
Conduct	Observed	0.67**				
	Reproduced	0.71				
Kcommitment	Observed	0.53**	0.53**			
	Reproduced	0.64	0.70			
Bsupport	Observed	0.37**	0.16	0.20		
	Reproduced	0.37	0.13	0.16		
Intel	Observed	0.53**	0.58**	0.46**	0.40**	
	Reproduced	0.66	0.62	0.43	0.43	
Yperformance	Observed	0.48**	0.28*	0.30*	0.48**	0.41**
	Reproduced	0.46	0.27	0.28	0.72	0.50

Table 3: Factor analysis results

				Factor Loadings				
				Unrotated		Varimax rotated		
Factor	Variance	%Variance	% Cumulative		Factor 1	Factor 2	Factor 1	Factor 2	Communality
1	3.146	52.4	52.4	Vision	0.700	0.722	0.781	0.335	0.722
2	1.075	17.9	70.3	Conduct	0.595	0.790	0.887	0.054	0.790
3	0.543	9.1	79.4	Kcommit	0.500	0.615	0.777	0.105	0.615
4	0.506	8.4	87.8	Bsupport	0.311	0.783	0.090	0.880	0.783
5	0.461	7.7	95.5	Intel	0.626	0.627	0.671	0.419	0.626
6	0.269	4.5	100.0	Yper	0.412	0.684	0.251	0.788	0.684
Total	6.000	100.0		Σa^2			2.523	1.697	4.220
				% Variance			0.421	0.282	0.703
				% Covariance			0.598	0.402	

Table 4: Factor score coefficient

Variable	Unrotaded		Rotated	
	Factor 1	Factor 2	Factor 1	Factor 2
Vision	0.266	-0.137	0.298	0.031
Conduct	0.245	-0.411	0.430	-0.209
Kcommit	0.225	-0.315	0.361	-0.140
Bsupport	0.177	0.639	0.202	0.631
Intel	0.252	-0.017	0.219	0.124
Yper	0.204	0.485	0.095	0.517

variable Conduct can be explained with Factor 1 and Factor 2.

The high value loads of factors in Table 3 are highlighted. These values are correlations between relevant factors and variables. In this case, while Vision, Conduct, Kcommitment and Intel variables show high correlation with Factor 1 and are grouped into factor 1, Bsupport and Yper variables show high correlation with Factor 2 and are grouped into factor 2. Factors are enerally interpreted according to variables showing high correlation with them. In this case, while Factor 1 consists of Vision, Conduct, Kcommitment and Intel, Factor 2 consists of Bsupport and Yper.

The factor score constants in Table 4 are constants similar to regression constants. With these constants, score values for each individual can be obtained.

In factor analyses, for a good factor model, the residual correlation matrix which is the differential matrix of observed correlation matrix and produced correlation matrix is expected to be as small as possible (Sharma 1996). Residual correlation matrix is summarized by calculating the RMSR (Root Mean Square Residual). In the study this value was found to be 0.094 (RMSR=0.094). As this value is small enough, it is possible to conclude that sufficient factor analyses have been made.

Suggestions: The following suggestions have been developed with this research aiming to evaluate the opinions of military administrators about transformational leadership development.

When the dimensions are examined in general, arithmetic means are seen to be at high levels.

All ranks of administrators and commanders must be brought up in order to bear the transformational leadership qualities. When the results of the research are examined, military administrators' transformational leadership qualities are seen to be at high levels. Effort must be spent to reach higher levels.

At the information age, the prominent qualities of administrators' are vision possession and creativity. Commandership is an art of control. Art requires creativity. It is impossible for a leader without any creativity to create any visions and make the followers commit to these. Vision is state of a unit of institution a commander or an administrator is aiming to reach within the duration of his duty. As a result of the study, graduates of other schools have evaluated themselves less sufficient relatively on the dimension of "vision and inspiration provision". As long as there's a deficiency in sharing personal visions, there will be a disability in the skill of drawing a prospect. In order to overcome such deficiencies, vision forming through strategic and overall look and creativity must be reached.

As a finding, military administrators have evaluated themselves deficient in the dimension "commitment to group goals". Learning as a team must be emphasised instead of individual learning. Learning as a team also requires learning to cope with obstructions in front of effective dialogs and discussions in work teams. Discipline of team learning just as others also requires practice. However this is what teams lack in modern organisations. That is, establishment of an effective communication within the groups, individuals considering their team mates as workfellows, practices aiming to avoid failure and skill development for this purpose are required. In military, team learning is named "team spirit". Ones that reach this ideal spend the maximum energy to avoid failures and take all necessary measures for success.

According to the study, officers have evaluated themselves less sufficient in raising performance by making one on one contact with juniors in the dimension of "high performance expectation". In order to raise the performance of the organisation, conditions allowing cooperation among members must be formed and an open and reliable communication must be established.

Again in the dimension of "high performance expectation", especially graduates of other schools have evaluated themselves less sufficient in the effective use of information sources. They must attend education programs aiming to improve their effective use of sources, help them provide to their juniors the sources which will help carry their organisations to their goals and enhance skills of effective problem solving.

Another important power of military administrators is knowledge. In order to improve administrator-leaders' ability of reaching and using this constantly developing and renewing knowledge, in-service-training courses, leader development seminars and programs intended to form unity must be arranged. While infrastructure evolves, administrator-leaders must develop with the same pace.

When observed from the year of service view, trainings, seminars and symposiums must be organised in units for officers of 0-15 years of service to reach their colleagues of 16 or more years of service.

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