

Thinking Styles as Predictors of Leadership Style: A Research on the Mid-Level Managers

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Abstract: *The purpose of this study is to assess certain factors predicting the leadership style as well as their levels of leadership style. The survey within the scope of the study, the scales of thinking style and leadership style have been applied to mid-level managers who work in the biggest agriculture firm of Black Sea Region through complete inventory method. For the first problem, the frequency and percentage distribution of the variables have been observed to see what the features of the sample are. For the second problem, multiple regression analysis is used to understand which are considered to predict the leadership style. For the third problem, the group tests are used to analyze how the demographic factors, which include gender, marital status, working life residence, income and age, differ. According to the obtained results, it has been seen that the only one significant predictor of the leadership style is internal thinking style. Also there is no difference between task and people oriented leadership style in terms of the thinking style and demographic factors.*

Keywords: Leadership Style, Thinking Styles, People Oriented Leadership, Internal Thinking Style

1. Introduction

The understanding of the leadership, which is the one of the oldest preoccupations, has figured strongly in the quest for knowledge. Purposeful stories have been told through the generations about leaders and their competencies, ambitions and failings [1]. In the modern age, first theories about leadership explain the term with trait approach, which concludes leaders possess a great number of desirable personality traits, and they emphasize the great men, while second theories explain with behaviors. And then situational viewpoint is used to understand the nature of leadership [2]. This means that leadership is seen as a result of time, place, circumstances or a situation.

On the other hand, one of the most widely accepted personal-situational theories is Fiedler's contingency theory which includes task and people oriented leadership behavior since 1967 [3]. Sergiovanni, Metzcus and Burden (1969) used the Leader Behavior Description in their study and as a result of this empirical research; leadership style followed one of the two dimensions. Also, task oriented and people oriented leadership style are regarded as authoritative and democratic leadership in some studies [4]. The concept of the leadership styles can define shortly as described below [5]:

-Task oriented leadership style: This style include leadership behaviors which are directly about task, target and business such as initiating structure, threatening punishment for disobedience and providing information about tasks. High level task oriented leaders concentrate on meeting the goals, achieving the certain performance standard, while another is interested in motivation, satisfaction and well-being of the workers.

-People oriented leadership style: It is about relations and workers, so includes two-way interactions with the workers and emphasize on human relations in all activities. Thus, leader displays relations-oriented behaviors such as providing rewards for a job well-done, expressing

appreciation, considering subordinate feelings. And, the organizational structure helps workers offer approaches to the problem solving, make task assignment, try out new ideas and gain creative experience.

The approach of the leader might be affected by different factors. It is an issue of concern why leaders choose these behaviors and which factors affects them in an organization. There are different studies about leadership style and its precursor. One of these studies, Bass et al. (1990) find that there is a difference in the pattern of relationships between leadership style and mental health, while no overall difference between women and men's mental health. According to the study, women in male-dominated industries reported worse mental health when they utilized an interpersonally oriented leadership style, whereas men in male-dominated industries reported better mental health. This means that gender ratio of the industry influence leadership style, stress and mental health [6].

Eagly and Johnson's (1990) study contribute to an understanding of the relationship between leadership style and gender differences. Based on the social role theory, they find that women tend to adopt a more democratic or participative style and a less autocratic or directive style than did men. Consistent with stereotypical expectations about a different aspect of leadership style, there are some differences in social behavior between men and women [7]. On the contrary, according to the study of Engen et al. (2001) the departments' gender-typing don't affect perceived leadership styles, while the site of the department store influences the leader behavior [8]. Avolio et al. (1999) use a different variable to understand the leadership style and find that the leadership style is moderated by the use of humor in its relationship with individual and unit-level performance [9]. All these studies or researches show that the leadership style has an involved nature and can be affected by personal, interpersonal or situational factors. In this study, it is wondered whether the thinking style, which can be one of the effective factors, has a role in the leadership style or not.

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The thinking style is generally analyzed with educational outcomes such as academic performance or achievement and learning style. For example, the study of Grigorenko et al. (1997) indicate that after controlling for levels of abilities, styles of thinking significantly contribute to prediction of academic performance [10]. Another study belongs to Cano-Garcia and Hughes (2000) and it highlights the relation between learning style, thinking style and academic achievement. The results show that students' academic achievement was related to students' thinking styles. Individualistic students prefer being alone so they would rather rule and procedures than creating and formulating [11].

The last study has a similar approach to this study and it emphasizes the relations between leadership experience, thinking style and other demographic factors. According to the Zhang (2001), thinking styles statistically predicts academic achievement beyond self-rated abilities and also particular thinking styles are related to age, leadership experience, travel experience, and hobbies [12].

The theory of mental self-government holds that thinking style can be understood in terms of constructs from human notions of government. According to the Sternberg and Wagners (1992) this theory shows us an external reflection of ways people can organize or govern themselves. So people can be understood in terms of the functions, forms, levels, scopes and leanings of government. The first thinking style is "functions" and it has three functions of government as legislative, executive and judicial. These styles shortly can be explained as noted below [13], [14]:

-Legislative: It is about to predilection for tasks, projects or situations that require the creation, formulation, planning and strategies. Legislative workers would rather decide alone than be directed by managers. So, they prefer the new strategies, create their own laws and enjoy giving commands.

-Executive: Provide structure, procedures or rules of work are preferable for tasks or projects and these are used as guidelines to measure progress. The manager should decide and direct the workers based on their skills as usual. So, they need to know all details about duty.

-Judicial: Evaluation, analysis, comparison-contrast and judgment of existing ideas or projects are required in this style. Workers who tend to be judicial prefer to evaluative essays, assess others' strengths and weakness and comment on others ideas. So, they want to analyze the main idea, while hate being criticized.

The second thinking style is "scopes" and it has two scopes of mental self-government as internal and external. The scope of these styles shortly as indicated below [15], [16]:

-Internal: This style is about to be independent from others and being uncomfortable with people or in a group. Internally oriented workers prefer to study for task only by themselves and avoid the interacting with others. Introvert workers are directed toward work or task and they utilize internal focus to solve analytical and creative problems.

External: Working with others in a group or interacting with others at different stages of progress are preferred than being alone. So, spending time with others are needed to be more effective. This style is useful for team works and collaborating with others. Social contact with others is so comfortable and easy for external style.

The third thinking style is "forms" which have four different sub-factors as monarchic, hierarchic, oligarchic and anarchic. Another style of thinking is about "levels" of mental self-government and has local and global types. The last thinking style is "leanings" and it includes liberal and conservative thinking style. Sternberg's thinking styles are used to understand the way of thinking into thirteen way of thinking and to describe the using of capacities [17]. In literature, researches try to find relations between thinking styles and other factors such as learning, achievement, and explain the behaviors as hereinbefore defined. However, the thinking styles defined in the theory of mental self-government have not been tested against the leadership style as task or people oriented the most widely recognized leadership styles in literature.

2. Research Methods

The Problem of the Study and Its Importance

The purpose of this study is to assess certain factors predicting the leadership style as well as their levels of leadership style. For this purpose, the leadership style, with two dimensions as task oriented and people oriented is accepted as the dependent variable. The legislative, executive, judicial, external and internal thinking styles known as "functions" and "scopes" of thinking styles are accepted as independent variables. Also, gender, age, marital status, income and work life residence, known as demographic factors, are analyzed as independent variables. Therefore, the relational screening model [18] is used for this study.

The basic principle in the ways of thinking is to help leaders make the fullest possible use of methods of directing and motivating others and to realize the best way to invest their potentials. Because the knowledge of the ways of thinking for leaders, helps to guide them in the selection of alternatives for problem solving and deciding. Here the problem of current study is defined as identifying styles of thinking and demographic factors that are characteristic of mid-level manager in light of their leadership style, and this could be achieved by answering the following questions:

- 1) What are the prevailing ways of leadership among mid-level managers?
- 2) Which the thinking style and demographic factor predict the leadership style includes task and people oriented leadership?
- 3) Are there significant differences at the level of significance in the ways of leadership prevalent among mid-level managers due to the variables of gender, age, marital status, income, work life residence?

2.1. Scale and Measurement

The T-P (task-people) Leadership Questionnaire was developed by Sergiovanni, Metzcus and Burden (1969) and then revised by Luthans (1992) [19], [20]. Also the questionnaire was adapted to local culture and used in various researches such as Taşkıran (2005) and Nigmatullina (2011) [21], [22]. This questionnaire originally obtained measures along two dimensions of leadership behavior named task oriented leadership style (initiating structure) and people oriented leadership style (consideration). In this study, this instrument is used with 15 items and considered two dimensions as task oriented and people oriented leadership styles.

Sternberg and Wagners' thinking styles inventory (1992) was used for assessing managers' thinking styles. The inventory was adapted by Buluş (2005) and used in different studies, like Karabulut (2014) in Turkey [23], [24]. Sternberg's theory describes different thinking styles and their sub-dimensions. According to the theory, people can be understood in terms of the functions, forms, levels, scopes, and leanings of government. There are three functions of government as legislative (8 items), executive (9 items) and judicial (8 items). Also, there are two scopes of mental self-government as internal (7 items) and external (6 items). Other thinking styles are not considered in this study, just two styles and their five sub-dimensions are analyzed. Consequently, the thinking style is analyzed with 38 items as "functions", "scopes" and their sub-dimensions. For the first problem, the frequency and percentage distribution of the variables have been observed to see what the features of the sample are. For the second problem, multiple regression analysis is used to understand which are considered to predict the leadership style. For the third problem, the group tests are used to analyze how are the variables, which include gender, marital status, working life residence, income and age, differences between groups.

2.2. Study Sample

The survey within the scope of the study, the scales of thinking style and leadership style have been applied to mid-level managers who work in the biggest agriculture firm of Black Sea Region through complete inventory method. Hereat, the sample consisted of 122 mid-level managers who have the following characteristics.

Table 1: The Frequencies and Percentages of the Participants

	Variables	f	%
Gender	Female	53	43,4
	Male	64	52,5
	Missing Value	5	4,1
Age	19-25	23	18,9
	26-32	18	14,8
	33-39	24	19,5
	40-46	19	15,6
	47 +	35	28,7
	Missing Value	3	2,5
Marital status	Married	82	67,2
	Single	32	26,2
	Other	3	2,5
	Missing Value	5	4,1

According to the results of descriptive statistic, the percentages of the gender are very similar for both two groups, while the age level of "47 and above" have a sharp frequency among 122 participants. Most of the managers are married and earn between 3001-5000 Turkish Liras a month and they have worked for more than 15 years.

Table 2: The Frequencies and Percentages of Income and Working Years

	Variables	f	%
Income	0-3000	37	30,3
	3001-5000	56	45,9
	5001 +	22	18,0
	Missing Value	7	5,8
Working life residence	1-5 years	38	31,1
	6-10 years	17	13,9
	11-15 years	11	9,0
	15 +	49	40,2
	Missing Value	7	5,8

2.3. Methodology

Little's MCAR test, t-test, F-test and multiple regression analyses are used to examine the data. Firstly, it is examined by MCAR test whether the missing values are missing at completely random (MCAR) or not. According to the results of MCAR, there is no relationship between the missingness of the data and any values and the data can be used; leadership style (chi-square: 64,30, df: 84, p=0,94) and thinking style (chi-square: 72,16, df: 54, p=0,50). It can be seen that the values of leadership styles are Missing Completely at Random (MCAR), while the values of thinking styles are missing at random (MAR). In literature, missing values which are MAR can be recalculated with the expected maximization method [25]. Therefore, the expected maximization method is used to correct the data in this study.

Secondly, t-test is used to examine differences between task oriented and people oriented leadership measured on gender and marital status variables, while the F - test is used to find differences between task oriented and people oriented leadership measured on working life residence, age and income variables.

Lastly, multiple regression analysis is used for the examination of the predictors of the leadership style as task oriented leadership and people oriented leadership. Legislative, executive, judicial, external and internal thinking style is analyzed as the predictor of the leadership style.

2.3. Findings

The mean, standard deviation, skewness, standard error of skewness, kurtosis, standard error of kurtosis values of five kinds of the thinking style and two kinds of the leadership style are analyzed and shown below.

Table 3: Descriptive Analyses of Variables

Variables	Mean	Std. Dev.	Skew.	Std. Err. of Skw.	Kurtosis	Std. Error of Krt.
Legislative	32,68	4,50	-0,59	0,21	0,34	0,43
Executive	35,25	4,77	-0,15	0,22	0,30	0,43
Judicial	28,43	5,34	-0,29	0,21	0,87	0,43
Internal	22,81	5,53	-0,00	0,21	-0,37	0,43
External	22,65	4,19	-0,08	0,21	-0,36	0,43
People oriented	28,50	4,80	-0,31	0,21	0,43	0,43
Task oriented	23,3	4,94	-0,06	0,21	0,42	0,43

The skewness and kurtosis measures are used to characterize the location and variability of the data set and it is determined that skewness values are -0,59 and 0,00; kurtosis values are -0,37 and 0,87. The skewness for a normal distribution is between -1 and +1, while the kurtosis for a

normal distribution is between -2 and +2 [26]. So the values of the skewness and kurtosis are acceptable to continue the data analyses for this data.

The means of all variables are above the midpoint of 5 point Likert Scale which includes strongly disagree for 1, disagree for 2, neither agree nor disagree for 3, agree for 4, strongly agree for 5. The highest mean value can be seen the legislative thinking style with 4,09. Then, the executive thinking style with 3,92 mean; external thinking style with 3,78 mean; people oriented leadership style 3,56 mean; judicial thinking style with 3,55mean; task oriented leadership style with 3, 33 mean and lastly internal thinking style with 3,26 mean are ranked. So, it can be said that task oriented leadership style is the prevailing way of leadership among mid-level managers by a narrow margin.

Table 4: Correlation Analyses of Variables

Variables	1	2	3	4	5	6	7
1. Legislative	1						
2. Executive	0,370** 0,000	1					
3. Judicial	0,384** 0,000	0,229** 0,000	1				
4. External	0,256** 0,000	0,436** 0,000	0,481** 0,000	1			
5. Internal	0,359** 0,000	0,084 0,356	0,388** 0,000	0,151 0,097	1		
6. People oriented	0,305** 0,001	0,180* 0,048	0,300** 0,001	0,256** 0,004	0,461** 0,000	1	
7. Task oriented	0,136 0,134	0,078 0,394	0,242** 0,007	0,253** 0,005	0,258** 0,004	0,583** 0,000	1
8. Total leadership	0,247** 0,006	0,144 0,114	0,304** 0,001	0,286** 0,001	0,403** 0,000	0,886** 0,000	0,893** 0,000

**Correlation is significant at the 0.01 level;

*Correlation is significant at the 0.05 level (N: 122).

Based on the previous preparation of the data material a correlations analysis is conducted to analyze significant relationships between the dependent variables (leadership styles) and the independent variables (thinking styles) chosen for the purpose of the present study.

model exert a highly significant ($p < 0, 01$) influence on either one of the dependent variables. The correlation coefficients and their significant levels can be seen clearly from the last line of verse named total leadership style. Total leadership style has highly significant correlations with all variables except the judicial thinking style.

As can be seen in the correlation table, there are several highly significant correlations. Almost all variables in the

Table 5: Group Test Results of Variables

Independent Groups T Test		t	df	p
Task oriented leadership	Gender	1,54	115	0,12
	Marital status	1,46	112	0,14
People oriented leadership	Gender	1,48	115	0,14
	Marital status	1,29	112	0,19
One Way Anova (F test)		F	df	p
Task oriented leadership	Working life residence	0,33	3	0,79
	Age	1,12	4	0,34
	Income	0,04	2	0,96
People oriented leadership	Working life residence	1,98	3	0,12
	Age	1,92	4	0,11
	Income	1,71	2	0,18

According to the t-test results, there are no significant differences between two groups with the task and people

oriented leadership. Likewise, F-test results show that there aren't any significant differences between groups. So, the

results of the test indicated that the common leadership styles came mid in general, it also indicated that there are no statistically differences on level of ($\alpha = 0.05$) attributed to

the variables of gender, marital status, working life residence, age and income in all styles of leadership.

Table 6: Regression Analysis: Thinking Styles as Predictors of the Leadership Style

Dependent Variables	Independent Variables	B	Std. Error	β	t	p	F	p
Task oriented leadership	Constant	13,435	4,02	-	3,33	0,001	3,12	0,01
	Legislative	0,00	0,11	0,00	0,00	0,99		
	Executive	-0,04	0,10	-0,47	-0,45	0,64		
	Judicial	0,07	0,10	0,07	0,68	0,49		
	Internal	0,18	0,08	0,20	2,05	0,04		
	External	0,24	0,12	0,20	1,19	0,05		
People oriented leadership	Constant	11,335	3,27	-	3,16	0,002	8,26	0,00
	Legislative	0,11	0,10	0,10	1,09	0,27		
	Executive	0,04	0,09	0,04	0,44	0,66		
	Judicial	0,03	0,09	0,03	0,34	0,72		
	Internal	0,33	0,07	0,38	4,30	0,00		
	External	0,15	0,11	0,13	1,39	0,16		

The results of the multiple regression analysis clearly document the internal thinking style as positive predictors of leadership style in this sample, while other variables can't be used to predict the leadership style ($R^2: 0,16$, $p: 0,000$). So, it is possible to predict the leadership style with only one kind of thinking style. If other thinking styles can be used and the research can be developed to examine the predicting the leadership style, it can lead to substantial benefit for researchers and professionals.

3. Conclusion

People use mental process named thinking through making many mental and knowledge processes, such as attention, memory, reasoning, generalizing and classification. When people are doing their business, they prefer a thinking style and describe how the individual uses the capacities that their own such as knowledge. Meanwhile, not only some variables such as character and capacities can affect this process, but the process leads some decisions and behaviors also. From this viewpoint, it is examined that which the thinking style and demographic factor predict the leadership style includes task and people oriented leadership in this study.

The legislative, executive, judicial, internal and external thinking styles are tested as independent variables. Only one variable named internal thinking style has a positive predictive value in the task oriented and people oriented leadership style. Moreover, the task oriented leadership style is the prevailing way of leadership among mid-level managers by a narrow margin.

In addition to the predictive model specified and tested in this study, it might be examined through the multiple regression analysis how particular traits, skills and experiences drive leadership or any other management style. Such demographic variables as education can be proxies for underlying forces that may directly influence the behaviors of the leader. In this study certain demographic factors as gender, working residence, age, marital status, and income examined as a predictor of leadership, but there are no significant relations between variables based on task and

people oriented leadership. These results are similar with some researches in the literature, because gender has not significant effects of the leadership in some studies, while there are clearly relations with others as mentioned above. Also, it may not be surprising that there is a positive relation between the internal thinking style and leadership style. Because, being independent from others may help the leader decide easily and direct followers to the targets.

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