



## RELATIONSHIP BETWEEN LEADERSHIP CHARACTERISTICS AND CRITICAL THINKING:EXAMPLES OF SCHOOL STUDENTS IN PHYSICAL EDUCATION AND SPORTS

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### Abstract

The aim of this research is to determine the relationship between leadership features of physical education of sports school students and their critical thinking tendencies. The study group consisted of 344 students of physical education and sports at Ordu University. In this research, 'Leadership Orientation Scale' and 'California Thinking Disposition Scale' is used as data collection tool. The results of the study reveals positive and negative relations between the sub-dimensions and total scores between leadership and critical thinking disposition ( $p<0.01$ ). According to results, it is found that there is a moderately positive relationship between analyticity sub-dimension scores and human-oriented, structure-oriented, transformational and charismatic and leadership scale total score sub-dimension scores and this relationship is statistically significant. Moreover, the lowest level of relationship between the leadership scale sub-dimension and total scores are determined between the curiosity sub-dimension.

**Keywords:** Leadership, Critical Thinking, Physical Education and Sports College Students

### INTRODUCTION

Leadership is one of the features which we face in many areas, and it has great importance to generate high performance and team loyalty in sports. Leadership is the point of collective action of individuals. The leader, taking into consideration the needs and desires of the people that he gathers, and moving their attention towards his own ideas, shifts their energy towards the aims of the group (Ergun, 1981). Leadership is the process of guiding group members towards goals that are determined voluntarily without using force (Koray, 1997). Leadership is the action of a community, a particular person, and for the purposes of a group rather than only a process which is specific to official activities. Besides, leadership is a combination of personal characteristics and abilities rather than status and position (Doğan, 2001.) In the light of these explanations, leadership can explained as the ability to move the masses towards the idea frame of the group, the experience of managing the masses and the process of having the technique and knowledge to reach the determined goals.

Leadership has great importance to generate high performance and team loyalty in sports. Therefore, the leadership style which is chosen by the leader in sport significantly influences the effectiveness of the person as a leader. In contrast, whether the team is successful depends on the leader's choosing the right type of leadership. Leadership types are grouped under seven titles. These are the autocratic leader, the democratic leader, the liberal leader, the transformational and the interactive leader, the visionary leader, the charismatic leader and the strategic leadership. Choosing a suitable leadership style and using

appropriate motivation techniques leads to the success of both individual and organizational goals. In Counsinsman's works, it is said that each trainer has a style that suits him/herself in sport, and first of all that it is necessary to win the love and respect of the athletes (Koç, 2014). It can be said that leadership is capable of attracting people and is open to development through education. The survey had been done, the Canadian Center of Management (2010) looked at the characteristics of the leaders of successful organizations and concluded that personal characteristics such as Critical Thinking, Collaboration and Creativity/Innovative are important to be a good leader. Leadership is defined as the action and ability to mobilize individual or individuals in the direction of projected goals (Kaya, 1991). In this case, effective leaders need critical thinking to activate their groups and prevent bad decisions and raise their business. According to Brandon Hall Group executives, the only and most important skill for directors and managers of all institutions is to think critically. One of the aims of today's education is to educate individuals who can adapt to different conditions and think openly and flexibly (Seferoğlu and Akbıyık 2006). In the same breath, critical thinking, which is among the basic necessities of this age as a life skill, requires individuals to make reasoning effectively, to consider different perspectives, to ask questions, to produce solutions for problems and to think about decisions which he makes. Taking into account the physical education course programs which are developed in our country last 5 years, critical thinking comes at the beginning of the basic skills that are aimed to be gained (MEB, 2000). McBride (2002) defines critical thinking in physical education as reflective thinking in order to make advocate and logical decisions about a movement. Thus, the necessity to interact with cognitive difficulties with action-oriented activities makes critical thinking in sports environment extremely important. In sports environment and education classes, students can not be expected gain thinking tendencies and to use them. This opportunity, environment provide by physical education and sports college students. In this context, it is stated that among the general objectives of Turkish National Education, it is possible to keep up with the developing and changing world, to think and to use their thoughts in problem situations, to make quick and effective decisions, to raise individuals who have human relations. In this sense, it is important that teachers,

sport managers and coaches who contribute to the thinking and leadership of the students, athletes, to exhibit a leading personality and think critically can not be ignored. This research examines that the relationship between the students' critical thinking tendencies and leadership characteristics.

## METHODS

### Working Group

The research group consists of 207-2018 academic year, 344 physical education and sports college students (144 female, 200 male) studying at Ordu University in spring term.

### Data Collection Tools

#### Leadership Orientation Scale

Leadership orientation scale which is developed by Bolman and Deal (1991) and adapted to Turkish by Dereli (2003) is used to determine the leadership characteristics of amateur football players. Leadership Orientation Scale is a 5 point likert scale. It consists of 32 parts and contains 4 subscales; structure oriented leadership (structural environment), human oriented leadership (human resourced environment), transformational leadership (political environment), charismatic leadership (symbolic environment).

According to the validity and reliability study conducted by Dereli (2003), the Cronbach alpha internal consistency coefficient for the sub-dimensions of the scale is 0.87 for the structure-oriented leadership (structural framework) sub-dimension, 0.87 for the sub-dimension of human-oriented leadership (human resource framework) for the sub-dimension of the transformational leadership (political framework) is 0.84, and for the sub-dimension of the charismatic leadership (symbolic framework) is 0.88.

The leadership orientation scale consists of 32 items. The 4 sub-dimensions of the scale consist of 8 items. Human Leadership (Articles 2, 6, 10, 14, 18, 22, 26 and 30), Leadership in Structure (1, 5, 9, 13, 17, 21, 25 and 29), Transformational Leadership (3, 7, 11, 15, 19, 23, 27 and 31) and Charismatic Leadership (4, 8, 12, 16, 20, 24, 28 and 32 items) are used to determine the leadership orientation of the scale players with 4 sub-dimensions. The 5-point Likert-type scale is scored according to the given answers, 1: never, 2: sometimes, 3: rarely, 4: frequently, 5: always. The sub-dimension of the scale (structural framework),

which is a sub-dimension of the scale, symbolizes a leadership profile that construes the problems within the logical framework and organizes the members of the group well; is defined as a leadership profile related to feelings and thoughts, supporting group members and encouraging participation. The transformational leadership (political frame) sub-dimension, which is one of the other sub-dimensions, is known as a skillful leadership feature that encourages the members of the group to act with their powerful structure and to solve the problem with their negotiating ability, while the sub-dimension of the charismatic leadership (symbolic framework).

### California Critical Thinking Disposition Scale (CCTDS)

This scale appeared in 1990 as a result of the Delphi project organized by the American Philosophical Society. There are 7 sub-scales and 75 items of the scale which have been determined theoretically and tested psychometrically. The internal consistency coefficients of the sub-scales of the California critical thinking tendency scale, consisting of 7 dimensions and 75 items, varied from 0.60 to 0.78, while the internal consistency coefficient of the scale for the total score is 0.90 (Kökdemir, 2003). The study of adaptation of the scale to Turkish is carried out by Kökdemir (2003) on 913 students. The scale is reduced from 75 items

to 51 items, from 7 to 6 Dimensions (Analyticity, open mindedness, Curiosity, self-confidence, searching for Truth and systematic) as a result of total score correlation and basic components analysis. The internal consistency coefficients of the lower dimensions of the new scale ranged from 0.61 to 0.78, while the internal consistency coefficient of the scale is 0.88. The total variance arranged by the scale is 36.13%. 56-6-9-11-15-18 198-20-21-22-23-25-27-28-33-36-41-43-45-47-49-50 items are added in reverse. When the scale is considered as a whole, it can be said that people whose scores are less than 240 have lower overall critical thinking tendencies and those whose scores are more than 300 are higher. The options for scale items are given as “1=I disagree, 2=I disagree, 3=I disagree, 4=I agree, 5=I agree and 6 = I totally agree”. In this study, Cronbach Alpha correlation coefficient is calculated as 0.83 for the total scale of the data collected.

### Analysis Of The Data

Statistical analysis is carried out in computer environment via package program. Pearson correlation and Sperman correlation tests are used to determine the relationship between frequency, percentile distribution, mean, standard deviation and groups.

## RESULTS

**Table 1.** Personal (demographic) features of physical education and sports school students

		Frequency	
		n	%
Gender	Man	200	58.1
	Women	144	41.9
Age	18 - 19	61	17.7
	20 – 21	141	41.0
	22 - 23	97	28.2
	24 and above	45	13.1
	Physical Education and Sports Students	118	34.4
Department	Sports Management	113	32.8
	S.Management (Secondary Education)	113	32.8
Mother Education Level	Primary School	231	67.2
	High School	83	24.1
	University	30	8.7
Father Education Level	Primary School	197	57.3
	High School	117	34.0
	University	30	8.7

The place which family live	Province	146	42.4
	District	163	47.4
	Town - village	35	10.2
Active Status Of Doing Sports	No	178	51.7
	Yes	166	48.3

When Table 1 is examined, 344 students participated the research according to data including demographic information of physical education and sports students. The gender distributions, male ratio and female ratio were 58.1% and %41.1, respectively. The age distribution of the students who participated the research is 17.7% between the ages of 18-19, 41.0% between the ages of 20-21, 28.2% between the ages of 22-23, and 13.1% at 24 and above. According to the department, 34.4% in teaching, 32.8% in management and 32.8% in management (evening education). When maternal educational status analized, primary school is 67.2%, high school is 24.1% and university is 8.7%. According to the educational status of the father, primary school is 57.3%, high school is 34.0 %, university is 8.7%. According to the family living place, the province is seen as 42.4%, the district is 47.4% and the town-village is 10.2%. According to the active sports making variable, “no” is 51.7% and “yes” is 48.3%.

**Table 2.** Descriptive statistics regarding the scores of the california critical thinking disposition scale and leadership orientation scale of the physical education and sports college students

		n	Average ( $\bar{x}$ )	Standard Deviation	Minimum	Maximum
California Critical Thinking Disposition Scale	Analyticity	344	43.66	7.59	25.00	89.00
	Open-Mindedness		29.75	4.96	16.00	39.00
	Inquisitiveness		38.11	7.05	17.00	54.00
	Self Confidence		29.02	5.35	11.00	42.00
	Truth-Seeking		15.99	2.98	7.00	21.00
	Systematicity		17.96	2.12	10.00	23.00
	Total Points		174.52	15.50	123.00	219.00
Leadership Orientation Scale	Human Resource Leadership	344	31.42	5.18	13,00	40.00
	Structural Leadership		30.81	5.34	14,00	40.00
	Transformational Leadership		30.80	5.37	17.00	60,00
	Charismatic Leadership		30.71	5.30	15.00	40.00
	Total Points		123.76	19.48	62.00	160.00

When the scores of the students of the physical education and sports college on the California critical thinking disposition scale are examined, it is seen that the lowest score is in the truth-seeking subscale and the highest score is in the analiticity subscale. On the other hand, in terms of the leadership orientation scale, it is determined that the scores of the students of physical education and sports school, has the lowest average value on charismatic leadership subscale and the highest average value on people’s leadership subscale.

**Table 3.** The pearson correlation analysis results of the relationship between “the analicity subscale of critical thinking disposition scale” and “subscales and total score of leadership orientation scale”

	n	Pearson Correlation Coefficient	p
Analytical – Human Resource	344	.508	<b>0.000 *</b>
Analytical - Structural		.516	<b>0.000 *</b>
Analytical - Transformational		.478	<b>0.000 *</b>
Analyticity - Charismatic		.452	<b>0.000 *</b>
Analyticity - Total Score of Leadership Orientation Scale		.532	<b>0.000 *</b>

\*p<0.01.

When Table 3 examined, it is found that there is a moderate positive relationship between analyticity subscale of California Critical Thinking Disposition scores and the human resource, structural, transformational, charismatic subscales and total subscale scores of Leadership Orientation Scale. This relationship is statistically significant (p<0.01). In other words, as the analytical subscale scores of physical education and sports college students increase, all subscale scores of the leadership orientation scale also increase.

**Table 4.** Results of spearman correlation analysis of the relation between “subscale scores of california critical thinking disposition scale” and “subscales of leadership orientation scale” and “total scores of both.”

	n	Spearman Correlation Coefficient	p
Open-Mindedness- Human Oriented	344	-0.385	<b>0.000 *</b>
Open-Mindedness- Structural		-0.359	<b>0.000 *</b>
Open-Mindedness- Transformational		-0.341	<b>0.000 *</b>
Open-Mindedness- Charismatic		-0.309	<b>0.000 *</b>
Open-Mindedness- Total Score of Leadership Orientation Scale		-0.369	<b>0.000 *</b>
Inquisitiveness - Human Oriented		0.543	<b>0.000 *</b>
Inquisitiveness- Structural		0.592	<b>0.000 *</b>
Inquisitiveness - Transformational		0.563	<b>0.000 *</b>
Inquisitiveness - Charismatic		0.560	<b>0.000 *</b>
Inquisitiveness - Total Score of Leadership Orientation Scale		0.614	<b>0.000 *</b>
Self-confidence - Human Oriented		0.489	<b>0.000 *</b>
Self-confidence - Structural		0.526	<b>0.000 *</b>
Self-confidence - Transformational		0.506	<b>0.000 *</b>
Self Confidence- Charismatic		0.541	<b>0.000 *</b>
Self-confidence - Total Score of Leadership Orientation Scale		0.555	<b>0.000 *</b>
Truth Search - Human Oriented		-0.391	<b>0.000 *</b>
Truth Search - Structural	-0.426	<b>0.000 *</b>	
Truth Search - Transformational	-0.409	<b>0.000 *</b>	
Truth Search - Charismatic	-0.392	<b>0.000 *</b>	
Truth Search - Total Score of Leadership Orientation Scale	-0.431	<b>0.000 *</b>	
Systematicity - Human Oriented	0.024	<b>0.656 *</b>	
Systematicity - Structural	0.050	<b>0.357 *</b>	

Systematicity - Transformational	0.022	<b>0.689 *</b>
Systematicity - Charismatic	0.027	<b>0.620 *</b>
Systematicity - Total Score of Leadership Orientation Scale	0.036	<b>0.502 *</b>
Total Score of California Critical Thinking Tendency Scale - Human Oriented	0.465	<b>0.000 *</b>
Total Score of California Critical Thinking Tendency Scale - Structural	0.514	<b>0.000 *</b>
Total Score of California Critical Thinking Tendency Scale - Transformational	0.490	<b>0.000 *</b>
Total Score of California Critical Thinking Tendency Scale - Charismatic	0.504	<b>0.000 *</b>
Total Score of California Critical Thinking Tendency Scale - Total Score of Leadership Orientation Scale	0.540	<b>0.000 *</b>

\*p<0.01.

When Table 4 examined, it is determined that there is a relationship between subscales of California Critical Thinking Disposition Scale, except analyticity subscale, scores and subscales of Leadership Orientation Scale scores and total scores of both. This relationship is determined statistically significant (p<0.01). When the statistical relationship between the “subscales and total scores of the California Critical Thinking Disposition Scale” and “subscales and total scores of Leadership Orientation Scale” is examined, there is a negative relationship between ‘the open-mindedness and the truth-seeking subscales’ and ‘the subscales and total scores of Leadership Orientation Scale’. However ‘self-confidence, inquisitiveness subscales scores and their total scores’ and ‘the subscales and total scores of the Leadership Orientation Scale’ have a positive relationship. The lowest level of statistical relationship is determined between ‘the subscales and total scores of Leadership Orientation Scale’ and ‘open-mindedness subscale of California Critical Thinking Disposition Scale’, on the other hand the highest is between ‘subscales and total scores of The Leadership Orientation Scale’ and ‘the inquisitiveness subscale’.

## DISCUSSION AND CONCLUSION

344 physical education and sports college students participated voluntarily the research on leadership traits and critical thinking tendencies.

It is determined that charismatic subscale scores of physical education and sports college students have the lowest and human-oriented subscale scores have the highest average value in terms of the Leadership Orientation Scale. In parallel, in the studies done by Efehan (2007), Semiz (2011), Çar (2013), Güngör (2016) and Çelikdağ (2018), average scores of human oriented leadership subscale are found at the highest level, but the average scores of the transformational leadership subscale are found at the lowest level. In this situation, it can be thought that the continuous participation of the students to society in their educational life has a positive effect for being compatible with people and learning to live as required by social life.

When the scores of the students of the physical education and sports college on the California Critical Thinking Disposition Scale are examined, it is seen that the lowest score is in the the truth-seeking subscale and the highest score is in the analyticity subscale. In parallel, Korur and others (2016) concluded that the lowest average score is in the Truth-Seeking subscale, but the highest average score is in the Open-mindedness. This can be interpreted as the fact that the students studying at the physical education and sports college may be inclined to be aware of the problems that may arise and to use reasoning and objective evidence even in the face of difficult problems.

In this study, it is found that there is a moderate positive relationship between ‘analyticity subscale of California Critical Thinking Disposition Scale scores’ and ‘human-

oriented, transformational, charismatic, structural subscales scores' and 'total scores of Leadership Orientation Scale' and this relationship is statistically significant. In other words, as the analyticity subscale scores of physical education and sports college students increase, all subscale scores of the Leadership Orientation Scale also increase. When the field was scanned in summer it was seen that such a study was not done before. According to this finding, it can be said that the students of physical education and sports college having leadership orientation characteristics and abilities such as clearly logical thinking, producing clear targets lead to reason against difficult problems.

Additionally, it is found that there is a relationship between subscales of California Critical Thinking Disposition Scale, except analyticity subscale, scores and subscales of Leadership Orientation Scale scores and total scores of both. This relationship is determined statistically significant. When the statistical relationship between the "subscales and total scores of the California Critical Thinking Disposition Scale" and "subscales and total scores of Leadership Orientation Scale" is examined, there is a negative relationship between 'the open-mindedness and the truth-seeking subscales' and 'the subscales and total scores of Leadership Orientation Scale'. When the literature is reviewed, it is seen that such a study has not done before. According to the findings, it can be said that physical education and sports college students have weaknesses of leadership tendencies, such as supporting others' feelings and sociability, although seeking to find the truth and giving importance to other's ideas are at the forefront.

One of the most important findings of the study is that there is a positive relationship between the 'self-confidence, inquisitiveness subscales scores and their total scores' and 'the subscales and total scores of the Leadership Orientation Scale'. According to the finding, physical education and sports students' tendency to learn new information and high level of self-confidence in their reasoning processes can mean that they have a creative and broad vision of leadership.

There is a moderate positive relationship between analyticity subscale of California Critical Thinking Disposition scores and the human resource, structural, transformational, charismatic subscales and total subscale scores of Leadership Orientation Scale. The relationship

is found to be statistically significant. Within the scope of the study, the lowest level of statistical relationship is determined between 'the subscales and total scores of Leadership Orientation Scale' and 'open-mindedness subscale of California Critical Thinking Disposition Scale'. The highest statistical relationship is between 'subscales and total scores of The Leadership Orientation Scale' and 'the inquisitiveness subscale'. By the way suggestions, It is possible to plan studies in which the sample group of the study is broader. A new study can be planned in which the research group is academicians. It can be examined whether there is any difference between the students studying in different departments and the students of Physical Education and Sports College. Activities can be planned, such as lectures and seminars, which can improve students' critical thinking dispositions and leadership orientations. Studies can be planned to investigate the relationship between the leadership tendencies of physical education teachers, sports managers, and coaches' and their critical thinking tendencies.

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