

## Investigation of students' level of leadership and creativity studying at the School of Physical Education and Sports

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### Abstract

The aim of the study is to investigate students' level of leadership and creativity studying at the School of Physical Education and Sports. The research group was made up of 115 females and 85 males, 200 in total, studying at the Physical Education and Sports School of Karamanoglu Mehmetbey University. To achieve the purpose of the research, 'A Scale of Achievement Leadership' and 'Adaptation-Innovation Inventory (KAI)' were applied to the students who were participated in the research. In the analysis and assessment of the data, Kolmogorov–Smirnov test, t-test and one-way ANOVA test were used, and the significance was taken as  $p < 0.05$ . In the evaluation of the data and the determination of the calculated values, the Statistical Package for the Social Sciences package program was used. At the end of the study, it is revealed that it is important to develop creative thinking skills through successive remediation and creative reaction so that students' level of leadership gets higher.

**Keywords:** Leadership, creativity, student.

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## 1. Introduction

With the fast developments and changes in sports, it becomes important to meet physical and emotional needs and to guide the abilities properly. Furthermore, there are many different teaching strategies used to develop various abilities (Atabek, 2020; Tajali, Safania & Moosavi, 2013).

Education is one of the significant and vital organizations in human life. In education, individuals with creative ability are needed mostly. Education has an important role in unveiling innovative and creative students. To encourage individuals to be creative, there are many things that the leaders want to do. Leaders should be creative for two reasons: (1) increase productivity and (2) prevent annihilation.

Teachers as leaders should try to reveal the creativity of children to develop their abilities. The studies generally focus on the levels of creativity and leadership. Moreover, according to the studies, intrinsic motivation, strengthening the followers, innovation and support have a positive effect on creativity in supporting leader's working environment (Afshari, Siraj, Faizal & Marjan, 2011; Ukpabi, 2019).

Educators suggest dealing with leadership behaviours to increase the creative performance (charism, intellectual alertness, inspirational motivation and individual thoughts) (Tajali et al., 2013).

Elkins and Keller (2003) sorted transformist leadership behaviours such as being closer, innovation, encourage, familiarization and creativity. In fact, these notions not only promote creativity but also are helpful instrumentally (Afshari et al., 2011; Sosik, Kahai & Avolio, 1998).

In literature studies about the nature of creativity, Torrance (1998) asserted that there should be alternatives in case of conflicts between students. Teachers should find solutions to unusual problematic situations in learning environment, and he/she should praise students and encourage students' creativity. In fact, these behaviours also exist in transformist leadership, and individual attention and intellectual alertness stand for two components in transformist leadership (Afshari et al., 2011; Sosik et al., 1998).

Creative thoughts compose of different thinking structures including distant union and pattern. Within discovering while thinking, detailing thinking styles and creative ideas may develop producing different ideas. To develop productive thinking, leaders encourage followers by analysing, synthesising and evaluating the problem in view of the practices which are not traditional. It is possible to develop discovery thinking with critical thinking, rationality and rethinking of the ideas. For this reason, teachers define producing ideas as a power of fostering creativity depending on the intellectual alertness (Sosik et al., 1998).

According to Deci, Connell and Ryan (1988), strengthening is the other source of creativity. Authorities may show creative performances. In line with this, creative people may have self-autonomy. For this reason, transformist leaders may complete the student duties by defining them, and teachers' creative approach toward students may affect the creativity levels of the students.

It is important to direct students to the right activities in accordance with their physical and emotional abilities. In addition, different training methods should be used considering the students' different abilities. Education has a vital role in encouraging students to think creatively and innovatively. Developing the abilities of creativity is necessary to awaken the individual's potential of creativity. The aim of the study is to investigate students' level of leadership and creativity studying at the School of Physical Education and Sports.

## 2. Method

### 2.1. Research group

The research group was made up of 115 females and 85 males ( $\bar{x}$  age = 214,607  $\pm$  18,792), 200 in total, studying at the Physical Education and Sports School of Karamanoglu Mehmetbey University.

### 2.2. Data collection tools

To achieve the purpose of the research, 'A Scale of Achievement Leadership' developed by Stogdill (1963) and adapted to Turkish by Ergun (1981) and 'Adaptation-Innovation Inventory (KAI)' originally developed by Kriton (1999) were applied to the students who were participated in the research

### 2.3. Analysis of data

In the analysis and assessment of the data, Kolmogorov–Smirnov test, *t*-test and one-way ANOVA test were used, and the significance was taken as  $p < 0.05$ . In the evaluation of the data and the determination of the calculated values, the Statistical Package for the Social Sciences package program was used.

## 3. Results

**Table 1. According to the gender variable, t-test results about the level of leadership students studying at physical education and sports schools**

		<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>t-test</i>	<i>p</i>
Structure	Male	115	565,826	69,104	2.255	0.025
	Female	85	543,176	71,717		
Consciousness	Male	115	582,348	70,142	1.658	0.099
	Female	85	565,294	74,268		
Leadership total score	Male	115	1,148,174	116,171	2.302	0.022
	Female	85	1,108,471	126,270		

The *t*-test results about the level of leadership students are shown in Table 1; there is a significant difference between the levels of gender subdimensions of leadership structure variables of students studying at the School of Physical Education and Sports [ $t = 2.255$ ;  $p = 0.025 < 0.05$ ].

There is no significant difference between the levels of gender subdimensions of leadership consciousness variables of students studying at the School of Physical Education and Sports [ $t = 1.658$ ;  $p = 0.099 > 0.05$ ].

There is a significant difference between the levels of gender subdimensions of leadership total score variables of students studying at the School of Physical Education and Sports [ $t = 2.302$ ;  $p = 0.022 < 0.05$ ].

**Table 2. According to the gender variable, t-test results about the level of creativity at physical education and sports schools**

		<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>t-test</i>	<i>p</i>
Creativity	Male	115	1145,913	176,550	-0.263	0.793
	Female	85	1152,353	163,879		

The *t*-test results about the level of creativity are shown in Table 2; there is no significant difference between the levels of gender creativity variables of students studying at the School of Physical Education and Sports [ $t = -0.263$ ;  $p = 0.793 > 0.05$ ].

**Table 3. According to the mother's educational background variable, one-way ANOVA test results about the level of leadership students studying at physical education and sports schools**

		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>p</i>
Structure	Between groups	329,654	5	65,931	1.321	0.257
	Within groups	9,685,466	194	49,925		
Consciousness	Between groups	407,750	5	81,550	1.586	0.166
	Within groups	9,976,230	194	51,424		
Leadership Total Score	Between groups	877,112	5	175,422	1.187	0.317
	Within groups	28,671,508	194	147,791		

The one-way ANOVA test results about the level of leadership students are shown in Table 3; there is no significant difference between the levels of mother's educational background subdimensions of leadership structure variables of students studying at the School of Physical Education and Sports [ $F = 1.321$ ;  $p = 0.257 > 0.05$ ].

There is no significant difference between the levels of mother's educational background subdimensions of leadership consciousness variables of students studying at the School of Physical Education and Sports [ $F = 1.586$ ;  $p = 0.166 > 0.05$ ].

There is no significant difference between the levels of mother's educational background subdimensions of leadership total score variables of students studying at the School of Physical Education and Sports [ $F = 1.187$ ;  $p = 0.317 > 0.05$ ].

**Table 4. According to the mother's educational background variable, one-way ANOVA test results about the level of creativity students studying at physical education and sports schools**

		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>p</i>
Creativity	Between groups	923,789	5	184,758	0.627	0.680
	Within groups	57,189,566	194	294,792		

The one-way ANOVA test results about the level of creativity students are shown in Table 4; there is no significant difference between the levels of mother's educational background and creativity variables of students studying at the School of Physical Education and Sports [ $F = 0.627$ ;  $p = 0.680 > 0.05$ ].

**Table 5. According to the father's educational background variable, one-way ANOVA test results about the level of leadership students studying at physical education and sports schools**

		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>p</i>
Structure	Between groups	429,567	5	85,913	1.739	0.127
	Within groups	9,585,553	194	49,410		
Consciousness	Between groups	755,703	5	151,141	3.045	0.011
	Within groups	9,628,277	194	49,630		
Leadership total score	Between groups	1,712,566	5	342,513	2.387	0.040
	Within groups	27,836,054	194	143,485		

The one-way ANOVA test results about the level of leadership students are shown in Table 5; there is no significant difference between the levels of father's educational background subdimensions of leadership structure variables of students studying at the School of Physical Education and Sports [ $F = 1.739$   $p = 0.127 > 0.05$ ].

There is a significant difference between the levels of father's educational background subdimensions of leadership consciousness variables of students studying at the School of Physical Education and Sports [ $F = 3,045$ ;  $p = 0.011 < 0.05$ ].

There is a significant difference between the levels of father's educational background subdimensions of leadership total score variables of students studying at the School of Physical Education and Sports [ $F = 2.387$ ;  $p = 0.040 < 0.05$ ]

**Table 6. According to the father's educational background variable, one-way ANOVA test results about the level of creativity students studying at physical education and sports schools**

		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>p</i>
Creativity	Between groups	340,097	5	68,019	0.228	0.950
	Within groups	57,773,258	194	297,800		

The one-way ANOVA test results about the level of creativity students are shown in Table 6; there is no significant difference between the levels of father's educational background and creativity variables of students studying at the School of Physical Education and Sports [ $F = 0.228$ ;  $p = 0.950 > 0.05$ ].

**Table 7. According to those who do sports and who do not variable, t-test results about the level of leadership students studying at physical education and sports schools**

		<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Structure	Who do sports	85	555,529	66,807	0.264	0.792
	Who do not sports	96	552,708	75,818		
Consciousness	Who do sports	85	566,471	70,638	0.954	0.341
	Who do not sports	96	576,771	74,091		
Leadership total score	Who do sports	85	1,122,000	114,089	0.409	0.683
	Who do not sports	96	112,9479	129,861		

The *t*-test results about the level of leadership students are shown in Table 7; there is no significant difference between the levels of doing sports actively subdimensions of leadership structure variables of students studying at the School of Physical Education and Sports [ $t = 0.264$ ;  $p = 0.792 > 0.05$ ].

There is no significant difference between the levels of doing sports actively subdimensions of leadership consciousness variables of students studying at the School of Physical Education and Sports [ $t = 0.954$ ;  $p = 0.341 > 0.05$ ].

There is no significant difference between the levels of doing sports actively subdimensions of leadership total score variables of students studying at the School of Physical Education and Sports [ $t = 0.409$ ;  $p = 0.683 > 0.05$ ].

**Table 8. According to the variable, doing sports actively t-test results about the level of creativity students studying at physical education and sports schools**

		<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Creativity	Who do sports	85	1,144,588	177,701	0.323	0.747
	Who do not sports	96	1,153,021	172,634		

The *t*-test results about the level of creativity students are shown in Table 8; there is no significant difference between the levels of doing sports actively and creativity variables of students studying at the School of Physical Education and Sports [ $t = 0.323$ ;  $p = 0.747 > 0.05$ ].

#### 4. Discussion and Conclusion

The aim of the study is to investigate students' level of leadership and creativity studying at the School of Physical Education and Sports. As shown in Table 1, there is a significant difference between the levels of gender subdimensions of leadership structure variables of students studying at the School of Physical Education and Sports [ $p < 0.05$ ]. These results showed that male students have a higher level of leadership than female students. It is also revealed that male students are more effective in

realizing and directing group goals than female students. The research of Caglar, Yakut and Karadag (2005), Erkus (1997) and Hofstede (1980) supports our research.

There is no significant difference between the levels of gender subdimensions of leadership consciousness variables of students studying at the School of Physical Education and Sports [ $p > 0.05$ ]. The research of Atar and Ozbek (2009) and Celik and Sunbul (2008) supports our research.

There is a significant difference between the levels of gender subdimensions of leadership total score variables of students studying at the School of Physical Education and Sports [ $p < 0.05$ ]. According to these results, it is revealed that female students have a higher level of sense of structure than male students. The research of Durukan (2003) and Erkus (1997) supports our research.

As shown in Table 2, there is no significant difference between the levels of gender and creativity variables of students studying at the School of Physical Education and Sports [ $p > 0.05$ ]. These results show that creativity levels of the students according to the gender variable and developmental features of the students are important in revealing creativity efforts. The research of Runco (2004), Tanit (2007), Tekin and Gullu (2010), Topoglu (2015) and Yenilmez and Yolcu (2007) supports our research.

As shown in Table 3, there is no significant difference between the levels of mother's educational background subdimensions of leadership structure variables of students studying at the School of Physical Education and Sports [ $p > 0.05$ ].

There is no significant difference between the levels of mother's educational background subdimensions of leadership consciousness variables of students studying at the School of Physical Education and Sports [ $p > 0.05$ ].

There is no significant difference between the levels of mother's educational background subdimensions of leadership total score variables of students studying at the School of Physical Education and Sports [ $p > 0.05$ ].

As shown in in Table 4, there is no significant difference between the levels of mother's educational background and creativity variables of students studying at the School of Physical Education and Sports [ $p > 0.05$ ]. In the development of creativity, both the teacher's role and the parents' educational background are very important. The research of Tekin and Gullu (2010) supports our research.

As shown in in Table 5, there is no significant difference between the levels of father's educational background subdimensions of leadership structure variables of students studying at the School of Physical Education and Sports [ $p > 0.05$ ].

There is a significant difference between the levels of father's educational background subdimensions of leadership consciousness variables of students studying at the School of Physical Education and Sports [ $p < 0.05$ ]. According to these results, physical education and sports students whose fathers are graduates of master's degree have higher levels of understanding than the students whose fathers are primary school graduate.

There is a significant difference between the levels of father's educational background subdimensions of leadership total score variables of students studying at the School of Physical Education and Sports [ $p < 0.05$ ]. According to these results, physical education and sports students whose fathers are graduates of master's degree have higher levels of leadership than the students whose fathers are primary school graduate.

As shown in in Table 6, there is no significant difference between the levels of father's educational background and creativity variables of students studying at the School of Physical Education and Sports [ $p > 0.05$ ]. According to these results, in addition to the curriculum, parents are an important factor in the development of creativity. The research of Aslan (1994), Ulukök, Sarı, Özbek and Çelik (2013) and Yasar and Aral (2011) supports our research.

As shown in in Table 7, there is no significant difference between the levels of doing sports actively subdimensions of leadership structure variables of students studying at the School of Physical Education and Sports [ $p > 0.05$ ].

There is no significant difference between the levels of doing sports actively subdimensions of leadership consciousness variables of students studying at the School of Physical Education and Sports [ $p > 0.05$ ].

There is no significant difference between the levels of doing sports actively subdimensions of leadership and total score variables of students studying at the School of Physical Education and Sports [ $p > 0.05$ ]. There is no significant difference between the results because the departments of the physical education and sports students vary. The research of Durukan (2003) supports our research.

As shown in in Table 8, there is no significant difference between the levels of doing sports actively creativity variables of students studying at the School of Physical Education and Sports [ $p > 0.05$ ]. However, the results may be different if we had a different sample group constituting from different departments because of the fact that different curriculum may affect the creativity level of the students.

There is a significant difference between the subdimension of leadership level and total scores of the students' studying at the School of Physical Education and Sports according to the gender variable; yet, there is no significant difference between the subdimension of leadership level and creativity level of the students' studying at the School of Physical Education and Sports.

There is no significant difference between the subdimension of leadership level (total score, structure and consciousness) and creativity level of the students' studying at the School of Physical Education and Sports according to the mother's educational background variable.

There is a significant difference in the subdimension of leadership level of the students' studying at the School of Physical Education and Sports according to the father's educational background variable; yet, there is no significant difference between the subdimension of leadership (total score, structure and consciousness) level of the students' studying at the School of Physical Education and Sports.

Moreover, there is no significant difference between the total score of leadership and subdimensions of leadership (total score, structure and consciousness).

At the end of the study, it is revealed that it is important to develop creative thinking skills through successive remediation and creative reaction so that students' level of leadership gets higher.

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