

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

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### Abstract

The purpose of this study is to investigate the students' level of motivation and creativity studying at School of Physical Education and Sports. The research group comprised 93 female and 107 male ( $\bar{x}$  age = 21.4607  $\pm$  1.8792), 200 in total, studying at the Physical Education and Sports School of Karamanoglu Mehmet Bey University. 'A Scale of Achievement Focused Motivation' and 'Adaptation-Innovation Inventory' were applied to the students who participated in the research. In the analysis and assessment of the data, Kolmogorov-Smirnov test, Kruskal-Wallis *H* test, Mann-Whitney *U* test and Correlation test were used and significance was taken as  $P < 0.05$ . As a result of the study, there is no significant difference between the levels of creativity and sub-dimensions of motivation (internal and external action, setting higher goals and self-conscious) according to gender, parent's educational background and doing sports actively which are the variables of participating students.

Keywords : Creativity, motivation, student.

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## 1. Introduction

Creativity is a pursuit of finding unknown, being original and finding different solutions for a every new encountering problem (Brockman, 1993). Motivation is one of the necessary conditions for the sportsmen to perform better. It is important to know the factors affecting motivation. One of the fundamentals of sports and sports psychology is being motivated. For this reason, it is important for everyone to deal with motivation and to know this concept very well (Terzioglu, 1992). When it comes to creativity and motivation, creativity is necessary to overcome social problems. Creativity presents different kinds of lifestyles and saves the individual from stress of modern life (Beetlestone, 1998). Every individual has an ability of creativity, but some individuals are not aware of this ability. The individuals, who discovered their creativity, can realise themselves. In view of society, being a creative person and realising oneself is very important. Because of the fact that creativity makes a society to go further and it can prevent from becoming stereotyped, which is one of the most important problems of developing countries. The basis of creative teaching is to give opportunities for all individuals to express themselves. It aims to use their creative energy and to generate new ideas by making original bonds. Teachers who adopt creative teaching give the feeling of 'we can do everything' (Beetlestone, 1998).

A creative person tries to reach his/her goals from different ways, he/she is also motivated to research new situations and take charge in. Olson (1999) stated that everyone has the ability of creativity, and in order to reveal this, it is necessary to benefit from the education and motivation. Conti, Collins and Picariello (2001) carried out a study with high school students, and he found out that male students may be more creative and genuine than female students. Baer, Oldham and Cummings (2003) stated that there is a positive correlation between extrinsic motivation and creativity for superficial individuals. It is observed that extrinsic motivation doesn't increase creativity in innovative individuals (like promotion, prize and rewards). Intrinsic motivation has a positive effect on innovative individuals (like praise, being known, showing respect and freedom). Rubinstein (2003) stated that oppression and authority affects creativity negatively.

Generally, individuals have the ability of creativity naturally. Motivation is an important concept in the performance of a sportsman. It has a vital role in developing creativity and directing creativity effectively. Motivation is the tendency to perform a behaviour. Some factors like extrinsic (reward and punishment) and intrinsic (having its source in individual) may motivate the people. Motivation makes the person participate reluctantly in a setting. It is necessary to obtain satisfaction in business life and be successful. Inspiration and creation is prerequisite for creativity. Repeating and simple rewards prevent the naturality of the performance and it decreases creativity. The rewards given for performances coming up with new and original ideas develop creativity. The rewards for completing a work affect creativity (e.g., restriction of freedom of a person affects extrinsic motivation).

## 2. Method

### 2.1. Research group

The research group was made up of 93 female and 107 male ( $\bar{x}_{age} = 21.4607 \pm 1.8792$ ), 200 in total, studying at the Physical Education and Sports School of Karamanoglu Mehmet Bey University.

### 2.2. Data collection tools

To achieve the purpose of the research, 'A Scale of Achievement Focused Motivation' originally developed by Semerci (2010) and 'Adaptation-Innovation Inventory' originally developed by Kriton (1999) were based on and applied to the students that participated in the research.

### 2.3. Analysis of data

In the analysis and assessment of the data, Kolmogorov–Smirnov test, Kruskal–Wallis  $H$  test, Mann–Whitney  $U$  test, and Correlation test were used and significance was taken as  $P < 0.05$ ; and in the evaluation of the data and the determination of the calculated values, Statistical Package for Social Sciences package program was used.

### 3. Findings

If the test results are examined in Table 1; there is no significant difference between the levels of gender and sub-dimensions of motivation such as external action variables of students studying at School of Physical Education and Sports [ $U = 4956.000 P = 0.962 > 0.05$ ].

Table 1. According to the gender variable, Mann–Whitney  $U$  test results about the level of motivation of students studying at Physical Education and Sports Schools

		$N$	Mean rank	Sum of ranks	$U$	$Z$	$p$
External action	Male	93	100.71	9366.00	4956.000	-0.048	0.962
	Female	107	100.32	10734.00			
Internal action	Male	93	102.91	9570.50	4751.500	-0.551	0.582
	Female	107	98.41	10529.50			
Setting higher goals	Male	93	99.04	9210.50	4839.500	-0.335	0.738
	Female	107	101,77	10889,50			
Self-conscious	Male	93	102.61	9542.50	4779.500	-0.486	0.627
	Female	107	98.67	10557.50			

There is no significant difference between the levels of gender and sub-dimensions of motivation such as internal action variables of students studying at School of Physical Education and Sports [ $U = 4751.500 P = 0.582 > 0.05$ ].

There is no significant difference between the levels of gender and sub-dimensions of motivation setting higher goals variables of students studying at School of Physical Education and Sports [ $U = 4751.500 P = 0.582 > 0.05$ ].

There is no significant difference between the levels of gender and sub-dimensions of motivation self-conscious action variables of students studying at School of Physical Education and Sports [ $U = 4751.500 P = 0.582 > 0.05$ ].

If the test results are examined in Table 2; there is no significant difference between the levels of gender creativity variables of students studying at School of Physical Education and Sports [ $U = 4291.000 P = 0.094 > 0.05$ ].

Table 2. According to the gender variable, Mann–Whitney  $U$  test results about the level of creativity of students studying at School of Physical Education and Sports

		$N$	Mean rank	Sum of ranks	$U$	$Z$	$p$
Creativity	Male	93	107.86	10031.00	4291.000	-1.677	0.09
	Female	107	94.10	10069.00			

If the test results are examined in Table 3; there is no significant difference between the levels of doing sports actively and sub-dimensions of motivation external action variables of students studying at School of Physical Education and Sports [ $P > 0.05$ ].

Table 3. According to the 'who do sports and who don't do sports' variable, Mann–Whitney *U* test results about the level of motivation of students studying at Schools of Physical Education and Sports.

		<i>N</i>	Mean rank	Sum of ranks	<i>U</i>	<i>Z</i>	<i>p</i>
External action	Who do sports	123	97.92	12044.00	4418.000	-0.801	0.423
	Who do not sports	77	104.62	8056.00			
Internal action	Who do sports	123	100.96	12418.50	4678.500	-0.144	0.886
	Who do not sports	77	99.76	7681.50			
Setting higher goals	Who do sports	123	97.94	12047.00	4421.000	-0.794	0.427
	Who do not sports	77	104.58	8053.00			
Self-conscious	Who do sports	123	101.17	12443.50	4653.500	-0.208	0.835
	Who do not sports	77	99.44	7656.50			

There is no significant difference between the levels of doing sports actively and sub-dimensions of motivation internal action variables of students studying at School of Physical Education and Sports [ $P > 0.05$ ].

There is no significant difference between the levels of doing sports actively and sub-dimensions of motivation setting higher goals variables of students studying at School of Physical Education and Sports [ $P > 0.05$ ].

There is no significant difference between the levels of doing sports actively and sub-dimensions of motivation self-conscious action variables of students studying at School of Physical Education and Sports [ $P > 0.05$ ].

If the test results are examined in Table 4; there is no significant difference between the levels of doing sports actively and creativity variables of students studying at School of Physical Education and Sports [ $U = 4616.000 P = 0.764 > 0.05$ ].

Table 4. According to the variable doing sports actively, Mann–Whitney *U* test results about the level of creativity of students studying at School of Physical Education and Sports

		<i>N</i>	Mean rank	Sum of ranks	<i>U</i>	<i>Z</i>	<i>p</i>
Creativity	Who do sports	123	99.53	12242.00	4616.000	-0.300	0.764
	Who do not sports	77	102.05	7858.00			

If the test results are examined in Table 5; there is no significant difference between the levels of mother's education and sub-dimensions of motivation external action variables of students studying at School of Physical Education and Sports [ $\chi^2 = 3.179 = 0.786 > 0.05$ ].

Table 5. According to the mother's education variable, Kruskal–Wallis *H* test results about the level of motivation of students studying at School of Physical Education and Sports

		<i>N</i>	Mean rank	$\chi^2$	<i>p</i>
External action	Illiterate	9	107.11	3.179	0.786
	Literate	14	117.61		
	Elementary	59	98.51		
	Secondary school	54	94.48		
	High school	48	105.26		
	Associate degree	12	88.21		
	Degree	4	116.13		

Internal action	Illiterate	9	75.39	3.776	0.707
	Literate	14	98.54		
	Elementary	59	103.72		
	Secondary school	54	101.51		
	High school	48	95.11		
	Associate degree	12	114.79		
	Degree	4	124.50		
Setting higher goals	Illiterate	9	144.50	7.585	0.270
	Literate	14	105.39		
	Elementary	59	97.97		
	Secondary school	54	99.55		
	High school	48	101.17		
	Associate degree	12	87.50		
	Degree	4	65.50		
Self-conscious	Illiterate	9	124.67	8.668	0.193
	Literate	14	133.89		
	Elementary	59	98.73		
	Secondary school	54	94.51		
	High school	48	99.15		
	Associate degree	12	80.63		
	Degree	4	112.13		

There is no significant difference between the levels of mother's education and sub-dimensions of motivation internal action variables of students studying at School of Physical Education and Sports [ $X^2 = 3.776 = 0.707 > 0.05$ ].

There is no significant difference between the levels of mother's education and sub-dimensions of motivation setting higher goals variables of students studying at School of Physical Education and Sports [ $X^2 = 7.585 p = 0.270 > 0.05$ ].

There is no significant difference between the levels of mother's education and sub-dimensions of motivation self-conscious variables of students studying at school of physical education and sports [ $X^2 = 7.585 p = 0.270 > 0.05$ ].

If the test results are examined in Table 6; there is no significant difference between the levels of mother's education creativity variables of students studying at School of Physical Education and Sports [ $X^2 = 4.333 P = 0.632 > 0.05$ ].

Table 6. According to the mother's education variable, Kruskal–Wallis  $H$  test results about the level of creativity of students studying at School of Physical Education and Sports

		$N$	Mean rank	$X^2$	$p$
Creativity	Illiterate	9	101.56	4.333	0.632
	Literate	14	115.32		
	Elementary	59	103.95		
	Secondary school	54	94.04		
	High school	48	100.24		
	Associate degree	12	109.92		
	Degree	4	57.50		

If the test results are examined in Table 7; there is no significant difference between the levels of father's education and sub-dimensions of motivation external action variables of students studying at School of Physical Education and Sports [ $X^2 = 6.901 = 0.228 > 0.05$ ].

Table 7. According to the father's education variable, Kruskal–Wallis  $H$  test results about the level of motivation of students studying at School of Physical Education and Sports

		$N$	Mean rank	$X^2$	$p$
External action	Literate	10	109.95	6.901	0.228
	Elementary	34	118.43		
	Secondary school	47	105.02		
	High school	68	88.79		
	Associate degree	27	95.17		
	Degree	14	102.21		
Internal action	Literate	10	57.30	14.704	0.012
	Elementary	34	122.40		
	Secondary school	47	110.95		
	High school	68	93.07		
	Associate degree	27	87.26		
	Degree	14	104.75		
Setting higher goals	Literate	10	113.55	4.224	0.518
	Elementary	34	107.35		
	Secondary school	47	106.87		
	High school	68	91.80		
	Associate degree	27	105.43		
	Degree	14	85.89		
Self-conscious	Literate	10	143.65	14.821	0.011
	Elementary	34	122.13		
	Secondary school	47	100.52		
	High school	68	90.04		
	Associate degree	27	93.61		
	Degree	14	81.14		

There is a significant difference between the levels of father's education and sub-dimensions of motivation internal action variables of students studying at School of Physical Education and Sports [ $X^2 = 14.704 = 0.012 < 0.05$ ].

There is no significant difference between the levels of father's education and sub-dimensions of motivation setting higher goals variables of students studying at School of Physical Education and Sports [ $X^2 = 4.224 P = 0.518 > 0.05$ ].

There is a significant difference between the levels of father's education and sub-dimensions of motivation self-conscious variables of students studying at School of Physical Education and Sports [ $X^2 = 14.821 P = 0.011 < 0.05$ ].

If the test results are examined in Table 8; there is no significant difference between the levels of father's education creativity variables of students studying at School of Physical Education and Sports [ $X^2 = 4.669 P = 0.458 > 0.05$ ].

Table 8. According to the father's education variable, Kruskal–Wallis  $H$  test results about the level of creativity of students studying at School of Physical Education and Sports

		$N$	Mean rank	$X^2$	$p$
Creativity	Literate	10	134.75	4.669	0.458
	Elementary	34	100.46		
	Secondary school	47	94.03		
	High school	68	101.38		
	Associate degree	27	102.72		
	Degree	14	89.32		

If the test results are examined in Table 9; furthermore, there is a significant relationship between creativity levels and the sub-dimensions of motivation (self-conscious and external action).

Table 9. According to the correlation test results about the level of creativity and motivation of students studying at School of Physical Education and Sports

		External action	Internal action	Setting higher goals	Self-conscious
Creativity	Pearson correlation	-0.209	-0.125	-0.026	-0.156
	$P$	0.003	0.078	0.720	0.027
	$N$	200	200	200	200

#### 4. Discussion

There is no significant difference between the levels of gender and sub-dimensions of motivation external action variables of students studying at School of Physical Education and Sports [ $P > 0.05$ ]. In the research of Yazici (2015) as a result, all these research support our research external motivation, attention and effort is important in the readiness of the student to learn. There is no significant difference between the groups as motivation has a critical role in learning.

There is no significant difference between the levels of gender and sub-dimensions of motivation internal action variables of students studying at School of Physical Education and Sports [ $P > 0.05$ ]. The reasons for the emergence of a significant difference between the groups; it is thought that the motivation level of every student is closely related to making decisions between the goals.

There is no significant difference between the levels of gender and sub-dimensions of motivation setting higher goals variables of students studying at School of Physical Education and Sports [ $P > 0.05$ ].

There is no significant difference between the levels of gender and sub-dimensions of motivation self-conscious action variables of students studying at School of Physical Education and Sports [ $P > 0.05$ ].

If the test results are examined in Table 2; there is no significant difference between the levels of gender creativity variables of students studying at School of Physical Education and Sports [ $P > 0.05$ ]. In the research of Tuna (1999), level determination of creativity for the children who takes job training and the ones who don't take has been examined, and it is concluded that gender variable didn't create significant differences in the levels of creativity. Suzen (1987) has searched the relationship between creative thinking skills and self-concepts of 5th grade primary school students, and it is concluded that gender variable didn't create significant differences in the levels of creativity. Cengizhan (1997) has concluded that gender variable didn't create significant differences in the levels of creativity in his research named 'Capacity Evaluation of Creativity of University Lecturers'. The research about

'Creativity in Children' by Boiling and Boiling (1993) showed us that gender variable didn't create significant differences in the levels of creativity. The research by Hirschman (2000) showed us that gender variable didn't create significant differences in the levels of creativity. In the research by Reese, Lee, Cohen and Pucket (2001), the effects of sex on creative thinking ability has been examined and they found out that gender variable didn't create significant differences in the levels of creativity. In the research of Mangir and Aral (1990), they searched the factors that affecting the creativity of the 5 and 6 years old kindergarten students and they found out that gender variable didn't create significant differences in the levels of creativity. As a result, all these research studies support our research. Although there is a significant difference between the gender variables, creativity level, determining the difficulties and finding solutions may have a relationship, so it doesn't mean that it doesn't affect creativity levels. Every individual may be creative on his/her own to some extent.

If the test results are examined in Table 3; there is no significant difference between the levels of doing sports actively and sub-dimensions of motivation external action variables of students studying at School of Physical Education and Sports [ $P > 0.05$ ].

There is no significant difference between the levels of doing sports actively and sub-dimensions of motivation internal action variables of students studying at School of Physical Education and Sports [ $P > 0.05$ ]. The cause of a significant difference in the level of creativity of the students according to whether or not sports physical education is thought to be part of the sample it stems from students. It shows us that physical education and sports of college students create their own creativity inherent in the consciousness.

There is no significant difference between the levels of doing sports actively and sub-dimensions of motivation setting higher goals variables of students studying at School of Physical Education and Sports [ $P > 0.05$ ]. There is no significant difference between the levels of doing sports actively and sub-dimensions of motivation self-conscious action variables of students studying at School of Physical Education and Sports [ $P > 0.05$ ].

If the test results are examined in Table 4; there is no significant difference between the levels of doing sports actively creativity variables of students studying at School of Physical Education and Sports [ $P > 0.05$ ]. These research studies are parallel to our research. The research of Tekin (2008) is about creativity and multiple intelligent among the secondary school students who do sports and who don't. The research of Bayazit, Ulusoy and Colak (2007) about the level of creativity among the tennis players aged between 12 and 18. The research of Bozkurt (2007) is about the ability of creativity among the young football players. The research of Mirzeoglu and Emir (2005) is about comparison of the creativity level of the candidate teachers and the physical education teachers. The research of Bozkurt (2004) is about the relationship of creativity with the creativity and the multiple intelligent in football. And the last one is the research of Bayazit et al. (2004) study aims to examine the levels of creativity of volleyball players of university students of men in Marmara Region.

If the test results are examined in Table 5; there is no significant difference between the levels of mother's education and sub-dimensions of motivation external action variables of students studying at School of Physical Education and Sports [ $p > 0.05$ ].

There is no significant difference between the levels of mother's education and sub-dimensions of motivation internal action variables of students studying at School of Physical Education and Sports [ $p > 0.05$ ]. There is no significant difference between the levels of mother's education sub-dimensions of motivation setting higher goals variables of students studying at School of Physical Education and Sports [ $p > 0.05$ ]. There is no significant difference between the levels of mother's education and sub-dimensions of motivation self-conscious variables of students studying at School of Physical Education and Sports [ $p > 0.05$ ].

If the test results are examined in Table 6; there is no significant difference between the levels of mother's education creativity variables of students studying at School of Physical Education and Sports [ $P > 0.05$ ].



If the test results are examined in Table 7; there is no significant difference between the levels of father's education and sub-dimensions of motivation external action variables of students studying at School of Physical Education and Sports [ $p > 0.05$ ]. The research of; Halawah (2006) these research studies are parallel to our research.

There is a significant difference between the levels of father's education and sub-dimensions of motivation internal action variables of students studying at School of Physical Education and Sports [ $p < 0.05$ ]. There is no significant difference between the levels of father's education and sub-dimensions of motivation setting higher goals variables of students studying at School of Physical Education and Sports [ $P > 0.05$ ]. There is a significant difference between the levels of father's education and sub-dimensions of motivation self-conscious variables of students studying at School of Physical Education and Sports [ $P < 0.05$ ].

If the test results are examined in Table 8; there is no significant difference between the levels of father's education creativity variables of students studying at School of Physical Education and Sports [ $P > 0.05$ ]. There is no significant difference between creativity and parents' education, because families have an important role in the individual's intellectual development. Parents' duty is to raise their children in an appropriate environment in order to foster creativity. These research studies are parallel to our research: the research of Tekin and Tasgin (2009) is about examining the level of creativity of great talented students. The research of Kandir (1997) is about examining the development of creative thinking among working or non-working boys at the age of 12 and 14 on the streets of Ankara. And the research of Aslan, Aktan and Kamaraj (1997) is about examining the effect of preschool education on creativity and creative problem solving ability.

If the test results are examined in Table 9; furthermore, there is a significant relationship between creativity levels and the sub-dimensions of motivation (self-conscious and external action).

As a result of the study, there is no significant difference between the levels of creativity and sub-dimensions of motivation (internal and external action, setting higher goals and self-conscious) according to gender, mother's educational background, doing sports actively variables of students studying at School of Physical Education and Sports. There is no significant difference between the levels of creativity and sub-dimensions of motivation (external action and setting higher goals) in father's educational background, however; there is a significant difference between internal action and self-conscious dimension which are the sub-dimensions of motivation.

Furthermore, there is a significant difference between creativity levels and the sub-dimensions of motivation (self-conscious and external action). These results show that motivation affects the levels of creativity, and also, it is an important factor in developing creativity level of individuals and making them more enthusiastic.

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