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The Relationship between Academic Motivation and Academic Achievement of the Students

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Abstract

The aim of this study is to investigate the relationship between academic motivation level and academic achievement of physical education and sports students. The population of the study was composed of all students (n = 500) studying at Balikesir University. The sample consisted of a total of 120 students who were educated in physical education and sports education. In the collection of data; Vallerand *et al.* (1992) developed the Academic Motivation Scale (AMS) developed in Canada and a questionnaire that included the descriptive characteristics of the students developed by the researchers. The scale consists of 28 items. Three intrinsic motivations, three extrinsic motivations and one amotivational dimension, each of which consists of four sub-dimensions, each with four items. As the subscales are evaluated separately, the result is that 28 of the values obtained for each subscale are higher in individuals. The data were analyzed with non-parametric analyzes (Mann Whitney-U and Spearman Correlation) because they did not show normal distribution. Type I error level was accepted as $p < 0.05$. In the study, it was determined that the students' academic motivation scores were above the middle. According to gender, there was no significant difference in terms of academic motivation scale scores and sub-dimensions. The academic average score of women was higher than the score of men. Men's academic motivation average score was higher than in women. When the academic achievement of the students in physical education and sports school increases, the self-test scores of the extrinsic motivation also increase.

Keywords: Motivation, Academic motivation, Academic achievement, Physical education, Sports.

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Contents

1. Introduction

The main purpose of the education systems is to educate the qualified manpower of that country and to give citizenship education to its citizens. In order to achieve this, every educational system determines the human model it will be educated in the light of its educational philosophy and manpower policy, and organizes its educational activities according to this purpose. Education, which is one of the basic social institutions, is one of the main problems of all societies. The main subject of this basic problem is undoubtedly the teachers (Çelikten *et al*., 2005).

In many countries, the teaching profession, the way in which teachers are raised and their quality are questioned, and most teacher training programs aim to develop prospective teachers' beliefs about education (Capa and Çil, 2000; Çakıroğlu and Işıksal, 2009). In terms of evaluating the degree to which these programs have reached their goals, on the prospective teachers; besides the concepts such as selfness (Pehlivan, 2010) attitude (Bozdoğan *et al*., 2007) learning strategies (Şahin and Çakar, 2011) academic motivation (Abootorabi, 2011; Eymur and Geban, 2011; Şahin and Çakar, 2011) and academic the concepts of self-efficacy (Usher and Pajares, 2006; Aslan, 2010; Durdukoca, 2010; Vasile *et al*., 2011) have been investigated.

Academic motivation is an important concept in education because it produces motivational outputs. According to researchers, the concept of motivation has a larger degree of multi-faceted, non-cognitive psychosocial structure, whereas academic motivation is a more specific concept, which is creative thinking skills and learning skills, students' satisfaction from school and reasons for school attendance and doing homework. Their performance is related to cognitive, behavioral, and affective training factors (Vallerand *et al*., 1992; Deci and Ryan, 2000b; Vallerand *et al*., 2008).

The concept of motivation is defined as "a process in which direct target activity is started and maintained" (Pintrich and Schunk, 2002) or "creating a situation or a situation of all factors determining the degree of willingness to participate in an activity". The concept of motivation is defined as "the production of energy required for academic works" (Bozanoğlu, 2004).

Motivation is defined as "a general concept that includes requests, desires, needs, impulses and interests" (Cüceloglu, 2005). Motivation is the starting point for learning a lesson, mobilizes the student and contributes to the student to perform what he / she should do during the school years (Peklaj and Levpušček, 2006).

Motivation is about how people are treated and how they feel about the work they do. As a partner of the learning process, students want to play an active role in the classroom. It is a behavior that should be achieved by the teacher. The learning needs of the students in the classroom should be well known. The negative behavior and failure of the student is closely related to the negativity of the learning environment created for him. If the instructional needs of the student are known, a more positive learning environment can be created (Akbaba, 2006).

Tucker *et al*. (2002) describe motivation as "a mental, emotional and behavioral determinants of student investment in education and commitment". Motivation is also carried out as academic participation, which is the most influential in student performance among all other factors (Francis *et al*., 2004) Even in some definitions, motivation takes place within the definition of successful students. A successful student is a socially adequate, goal-oriented and internally motivated student who can effectively balance the social and academic aspect of the school (Pintrich and De Groot, 1990; Renchler, 1992; Ellis and Worthington, 1994; Scheuermann, 2000). Amrai *et al*. (2011) reported a positive and significant relationship between academic motivation and academic achievement in their study.

Pintrich (2003) stated that motivation is the most important factor affecting the academic success or failure of an individual in the learning process. The concept of motivation is a concept that is important for both teachers and students in perceiving the cause of success or failure in education (Uyulgan and Akkuzu, 2014).

The student believes that he / she can achieve the teaching activities and goals to be realized with a certain effort and difficulty. It can negatively affect the student's motivation in events as easy as very difficult events. If a learning activity will provide a benefit for the student, the student sees this activity as valuable and makes efforts (Okutan, 2012). Particularly with respect to students, motivation for academic achievement is of great importance. By such motivation people are stimulated to successfully complete an assignment, achieving a goal or a degree of qualification in their professions (Mohamadi, 2006).

The aim of this study is to investigate the effect of academic motivation levels of the students who are studying in Balikesir University Physical Education and Sports College in 2016-2017 academic year.

2. Materials and Methods

This descriptive study was conducted by face to face to the students studying at School of Physical Education and Sports, Balikesir University between 1st November 2016 and 15th January 2017.

2.1. Study group

Balikesir University, located in the north-west coast of Turkey, is in Balikesir province. The population of the study was composed of all students (n = 500) studying at Balikesir University Physical Education and Sports College in 2016-2017 academic year. The sample of the study consisted of 120 students who were educated in physical education and sports teaching department, who were permitted, reported, not attendable and agreed to participate in the study.

2.2. Dependent and Independent Variables

Independent variables of the study; gender, age, class, place of life, type of family, income level, mother education, father education, reading department, dependent variable is the status of evaluation of academic motivation levels.

2.3. Procedures

Socio - demographic characteristics form and Academic Motivation Scale (AMS) were used for data collection. Socio-demographic characteristics form; gender, age, class, place of life, type of family, income level, mother education, father education, the section is composed of questions about the socio - demographic characteristics.

Academic Motivation Scale (AMS) The validity and reliability study of Turkish, which was developed by Vallerand et al. In Canada in 1992, was used in 2012 by Karagüven's Academic Motivation Scale (AMS). The scale consists of 28 items. It consists of a total of seven different dimensions, each with four items, with three intrinsic motivations, three extrinsic motivations and one amotivational dimension. These are respectively; Intrinsic motivation to know (IM-to know), Intrinsic motivation toward accomplishments (IM-to accomplish), Intrinsic motivation to experience stimulation (IM- to experience stimulation), Extrinsic motivation identified (EM-identified), Extrinsic motivation introjected (EM-introjected), Extrinsic motivation external regulation (EM-external regulation) and Amotivation dimensions. The scores from the subtests range from 4 to 28. As the subscales are evaluated separately, the result is that 28 of the values obtained for each subscale are higher in individuals. The Cronbach Alpha value of the scale was 0.83 (Karagüven, 2012). In this study, Cronbach's Alpha value of the scale was 0.86.

2.4. Statistical Analysis

The data were analyzed in SPSS 20.0 program. Number-percentage distributions of the findings about the students' introductory characteristics were made and the min-max values of the academic motivation scale mean scores were taken. The comparisons between some demographic characteristics of the students and the mean scores of the academic motivation scale were examined by non-parametric analyzes (Mann Whitney-U and Spearman Correlation) because the data were not normally distributed. Type I error level was accepted as $p < 0.05$ in the study (Aksayan *et al.*, 2002).

2.5. Ethic Approval

In order to carry out the study, written permission was obtained from the directorate of physical education and sports school and verbal consent was obtained from the students.

3. Results

3.1. Personal Characteristics of the Research Group

The data and comments on the demographic characteristics of the students are given below.

Table-1. Descriptive Characteristics of the Students Included in the Study (n = 120).

Variables		N	%
Gender	Female	50	41.7
	Male	70	58.3
Age	18-20	58	43.3
	21-23	52	43.3
	24 and over	10	8.3
Grade	1st	26	21.7
	2nd	41	34.2
	3rd	31	25.8
	4th	22	18.3
Living Place	Village	8	6.7
	Country	24	20.0
	City	88	73.3
Family Type	Elementary	89	74.2
	Extended	27	22.5
	Fragmented	4	3.3
Level of Income	Low	10	8.3
	Medium	94	78.3
	High	14	11.7
	Very High	2	1.7
Mother Education	Illiterate	21	17.5
	Primary School	62	51.7
	High School	30	25.0
	University	7	5.8
Father Education	Illiterate	16	13.3
	Primary School	49	40.8
	High School	38	31.7
	University	17	14.2
Department Satisfaction	Well Satisfied	61	50.8
	Satisfied	55	45.8
	Not Satisfied	2	1.7
	Not all Satisfied	2	1.7

When Table 1 is examined, 41.7% of the students were female, 58.3% were male, 43.3% were 18-20 years old, 43.3% were 21-23 years old and 8.3% were 24 years and older. 21.7% were first grade, 34.2% were second grade, 25.8% were third grade and 18.3% were in fourth grade; 6.7% in the village; 20% of the county, 73.3% live in the city; 74.2% of the nuclear family, 22.5% of the extended family, 3.3% of whom were in the fragmented family; 8.3% had low level of income, 78.3% had medium, 11.7% had high, 1.7% had very high level; 17.5% of the mothers were illiterate, 51.7% of them were primary school graduates, 25% of them were high school graduates and 5.8% of them were university graduates; The father of 13.3% was not literate, 40.8% were primary school graduates, 31.7% were

high school graduates and 14.2% were university graduates; 50.8% were very satisfied with the department, 45.8% were very satisfied, 1.7% were not satisfied, and 1.7% were not satisfied at all.

Table-2. Mean scores students' academic motivation scale sub-dimensions (n = 120).

AMS Sub-Dimensions	Min.	Max.	X± SD
IM-to know	6	28	20.66±5.49
IM-to accomplish	5	28	16.77±5.36
IM- to experience stimulation	5	28	16.88±5.42
EM-identified	8	28	**21.71±6.67**
EM-introjected	4	28	15.92±5.37
EM- external regulation	7	28	19.82±5.00
Amotivation	4	28	**10.29±5.87**

Source: This table is result of participants' min. and max. points.

When the points taken from the scale subscale scores of the students who participated in the study, the highest mean value was found in the external motivational identified dimension (21,71 ± 6,67), and the lowest mean value in the amotivation dimension (10,29 ± 5,87) they are seen Table 2.

Table-3. The students' academic mean scores according to their gender n = 120).

	N	X±Ss	Min	Max
Academic Average				
Female	50	2.87±0.38	1.80	3.61
Male	70	2.78±0.42	1.80	3.77
Total	120	2.82±0.41	1.80	3.77
Scale Total				
Female	50	121.32±26,25	68	178
Male	70	122.62±24.52	55	163
Total	120	122.08±25.15	55	178

Source: This table is result of participants' min. and max. points.

When the students' academic average scores were examined according to their genders, the mean score of women (2.87 ± 0.38) was; the mean score of men (2.78 ± 0.42) is observed Table 3. It was found that women's academic achievement scores were higher than men. Academic motivation scale scores were found in women (121,32 ± 26,25); men (122.62 ± 24.52). It was found that male academic motivation average score was higher than female.

Table-4. According to students' working status Mann Whitney-U scores (n = 120).

AMS Sub-Dimensions	Yes X±ss	No X±ss	Test U	Test p
IM-to know	20.64±4.31	20.59±5.66	819.00	.715
IM-to accomplish	14.23±5.75	17.19±5.22	560.50	.020
IM- to experience stim.	14.47±6.10	17.26±5.25	614.50	.055
EM-identified	21.70±3.80	21.65±7.06	861.00	.964
EM-introjected	14.00±5.62	16.24±5.31	654.50	.106
EM- external regulation	21.29±4.23	19.55±5.11	718.50	.258
Amotivation	6.64±3.12	10.96±5.99	505.00	.006
Total	113.00±23.55	123.48±25.31	621.50	.062

Source: This table is about the result of participants' mean scores.

In Table 4 the highest mean value of the students who answered the study according to their working status in terms of scale sub-dimensions was found in the sub-dimension of external motivation identified (21,70 ± 3,80), while the lowest mean value was in the sub-dimension of amotivation (6, 64 ± 3,12). Again, according to the study status, the highest average value of the students who gave the answer to the scores of the subscales in the scale of external motivation identified size (21.65 ± 7.06), the lowest average value of the amotivation size (10.96 ± 5.99).

In addition, it was found that the arithmetic average of the students who did not work anywhere in the scale of Intrinsic motivation toward accomplishments dimension and amotivation dimension was a high and significant value ($p<0.05$).

Table-5. Mean scores of academic motivation scale according to academic average of students (n = 120)

AMS Sub-Dimensions	X±ss	Test r	Test p
Academic Average	**02.82±0.41**	0.88	.169
IM-to know	20.66±5.49	.092	.158
IM-to accomplish	16.77±5.36	.095	.150
IM- to experience stim.	16.88±5.42	.023	.403
EM-identified	**21.71±6.67**	.023	.401
EM-introjected	**15.92±5.37**	.151	**.050**
EM- external reg.	19.82±5.00	.076	.206
Amotivation	**10.29±5.87**	.045	.311
Total	122.08±25,15	.088	.169

Source: This table is about the result of participants' academic scores.

When the points taken from the academic motivation scale sub-dimensions according to the academic average of the students who participated in the study, the highest score was found in the sub-scale extrinsic motivation

identified sub-dimension (21.71 ± 6.67) and the lowest score was in the sub-dimension of amotivation (10.29 ± 5.87). In addition, it was determined that the students' academic average scores (02.82 ± 0.41).

In Table 5, a statistically significant value was obtained in the sub-dimension of extrinsic motivation introjected according to the academic average of physical education and sports teacher ($p<0.05$).

Table-6. Correlation relationship between academic averaging and internal extrinsic motivation.

		Academic Achievement	(EM-introjected)
Academic Success	**r**	1	.151*
	p		.050
	N	.120	120
(EM-introjected)	**r**	.151	1
	p	.050	
	N	120	120

*p<.05.

In the data in Table 6, the correlation coefficient between the academic achievement scores and the extrinsic motivation introjected scores was found to be r = 0,151 and the significance level was p = 0,05. Here it is $p<0.05$ and since the correlation coefficient is much greater than 0, it can be mentioned that there is a positive and meaningful relationship between academic achievement score and extrinsic motivation introjected score. It can be said that this relationship has a low level and when the academic achievement of physical education and sports school students increases, the scores of extrinsic motivation introjected increase. When the determination coefficient is examined ($r^2 = 0.023$), it can be said that 23% of the sub-dimension extrinsic motivation introjected that is reflected in it is caused by academic achievement.

4. Discussion

In the study, it was determined that the students' academic motivation scores were above the middle. Academic motivation levels of students were found to be higher than the students in the study which was related to academic motivation and school climate relationship (Çelik *et al.*, 2017). This result supports our study. In the study, the students obtained the highest mean score in extrinsic motivation identified dimension and the lowest mean score in the scale of amotivation. The high degree of extrinsic motivation identified indicates that students are more inclined to engage in behavior for individual benefit and personal attention (Deci *et al.*, 1991; Vallerand *et al.*, 1992; Deci and Ryan, 2000b). In a study conducted on pre-service teachers, it was concluded that there was a high level of extrinsic motivation identified scores and a low level of amotivation scores (Gömleksiz and Serhatlıoğlu, 2013). Research findings support our study. In addition to the studies, the expectation of graduation as a successful professional is another factor that increases academic motivation in students (Domene *et al.*, 2011). At the same time, it has been determined that optimistic expectations for the future have a positive effect on all types of motivation (Vallerand *et al.*, 1993).

According to gender, the mean score of women was higher than the average score of men. In a study titled features athletes, it was stated that individual characteristics are related to academic achievement. They also showed that non-cognitive characteristics such as academic motivation, academic self-concept, mental health and education goals are also related to academic performance. In addition, race, gender, competition level and all the individual characteristics of the athlete were found to be related to academic achievement. As a result, it was found that female athletes performed better academic performance than their male peers, similar to their non-athletes (Comeaux and Harrison, 2011).

In our study, it was determined that the average score of academic motivation of men was higher than women. In a study examining the views of prospective teachers about their academic motivation levels, it was found that the academic motivation levels of male pre-service teachers were higher than female teacher candidates (Gömleksiz and Serhatlıoğlu, 2013). As a different result, it was found that chemistry teacher candidates had higher scores than males in the study of the relationship between motivation and academic achievement (Eymur and Geban, 2011).

In the research, when the scores of the students who answered yes or no according to their status in the study in terms of scale sub-dimensions, the highest mean value was found in the extrinsic motivation identified sub-dimension and the lowest mean value was in the sub-dimension of amotivation. In addition, the arithmetic mean of the students who did not work in any place in the Intrinsic motivation toward accomplishments dimension with the scale of amotivation dimension which is one of the sub-dimensions of the scale, was found to be high and it was found to be a significant value ($p<0.05$). In other words, this result shows that students who do not work in any job have high Intrinsic motivation toward accomplishments and high level of amotivation. Motivation is not the intention to act. That is the lack of motivation. Motivation is not to benefit from an activity and not to feel the ability to do the activity (Deci and Ryan, 2000b). Intrinsic motivation toward accomplishments refers to the success of completing a task with success and being happy to produce something new. In this case, we can say that the students have no desire to deal with any extracurricular activities and this does not negatively affect their willingness to succeed.

The mean academic score of the students (02.82 ± 0.41) was found to be significant ($p <0.05$) according to the academic means, a significant value was found in the extrinsic motivation introjected (EMI) sub-dimension ($p<0.05$).

External motivation occurs in activities to achieve results. External motivation is focused on the benefits of activity rather than enjoyment from activity rather than intrinsic motivation (Gömleksiz and Serhatlıoğlu, 2013). As the study group is an athlete, it is our findings that they have a high level of extrinsic motivation resources, and that they create a result by expressing themselves through sports. In our study, Eymur and Geban (2011) found a significant relationship between academic achievement and only two intrinsic motivations (Intrinsic motivation to know and Intrinsic motivation to experience stimulation) in the study of chemistry teacher candidates' relationship between motivation and academic achievement.

According to the correlation analysis, there is a positive and meaningful relationship between academic achievement score and extrinsic motivation introjected score. This relationship can be said to be low. In other words, when the academic achievement of the students of physical education and sports school increases, the points of extrinsic motivation introjected are increasing. Although there are no exact ranges on the interpretation of the correlation coefficient in terms of size, there is no correlation between the correlation coefficients. Despite no fully agreeing intervals on interpretation of the correlation coefficient in terms of size, on Interpretation of the Correlation, it can be said that there is a high relationship low level between 0,00-0,30, mid level between 0,30-0,70, high level between 0,70-1,00 (Büyüköztürk, 2002). In the study which examined the relationship between academic motivations and academic concerns and school achievements of health management students, it was seen that only motivation dimensions of internal motivation were correlated with school success (Akçakanat and Antalyalı, 2016). In addition, past researches reported that extrinsic motivation was generally negatively related to chronology (Harter and Connell, 1984; Pintrich and Garcia, 1991; Mitchell, 1992). Academic achievement of pre-service teachers.

5. Conclusion

In the study, it was determined that the students' academic motivation scores were above the middle. The students have the highest mean score in the extrinsic motivation identified dimension and the lowest mean score in the amotivation dimension. There was no significant difference in terms of academic motivation scale scores and sub-dimensions according to the gender of the students of Physical Education and Sports Teaching Department. According to gender, the academic average score of women was higher than the academic average score of men. However, the mean score of academic motivation for men was higher than women.

The arithmetic average of the amotivated dimension and Intrinsic motivation toward accomplishments dimension of the students who do not work in any place is high and meaningful. The mean academic score of the students was (02.82 ± 0.41) and a meaningful value was obtained in the sub-dimension of extrinsic motivation introjected according to their academic average. There is a low positive and significant correlation between academic achievement score and extrinsic motivation introjected point.

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