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Relationships between Motivation to Study Lesson and Classroom Engagement

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Abstract

The goal of this study is to examine the relationships between motivation to study lesson and classroom engagement. The study was conducted on 214 female and 197 male, in total 411, students who were 10th and 11th grade high school students. Data were collected via Motivation to Study Lesson and Classroom Engagement Scales in the study. The relations between motivation to study and gender were examined via independent samples t-test technique. Furthermore, the relations between motivation to study and classroom engagement were evaluated with multiple regression analysis technique. According to the findings of the study, it was found out that the cases of intrinsic motivation for studying for girls were higher than the boys. Boys, on the other hand, had higher scores than the girls in terms of amotivation for studying. Regression analysis results showed that the cases of getting motivated to study were related to emotional engagement. Moreover, it was important for the girls to engage cognitively in the lesson in their intrinsic motivation for studying lesson. In conclusion, emotional engagement and gender seems important in students' motivation for studying lesson.

Keywords: Study lesson, intrinsic motivation, extrinsic motivation, amotivation, class engagement

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Introduction

Academic life helps students acquire skills in various fields. Academic life, also, contributes students to be productive and generative individuals in the community. In order for all these goals to be achieved, students need to be motivated to learn. Two important factors, academic motivation and engagement are effective factors in this process. Conducting studies on academic motivation and engagement might make it easy to reach the educational goals.

One of the significant factors that affect the success of the students both at school and out of school is motivation (Elliot & Trash, 2001; Matuga, 2009). The factors that give direction and energy to the individuals' behaviors; affect their continuation and density are called motive (Woolfolk, 2004). Regulation of the individuals' behaviors via motives named as motivation (Pintrich & Schunk, 2002). Motivation issue is a topic that is studied in various fields such as business, health and industry in today's world. Education is one of these fields.

In the center of the motivation in education environment issue is learning. Factors which increase and decrease students' learning are evaluated in the context of motivational factors (Stipek, 2002). Academic motivation concept in literature is treated within the frame of self-determination theory (Deci and Ryan, 2000). According to self-determination theory, academic motivation has three basic patterns. One of them is intrinsic motivation. For students learning a subject only to fulfill their intrinsic curiosity, emotions and to present their selves in the activity that they are doing is evaluated as intrinsic motivation. Another one is extrinsic motivation. In a case of extrinsic motivation, individuals tend to the behavior with the effect of external regulators which are beyond them such as punishment and reward. In the case of not being motivated, the individual loses the connection between the behavior and its consequences (Vallerand et al., 1993). Another concept closely related to motivation is engagement.

In literature, it is seen that motivation has been used instead of engagement, and also engagement is used instead of motivation (Evans, 2000). However, engagement and motivation are related to each other, but they are different structures. At this point, engagement has been defined as the connection between the individual and the activity (Finn, 1993; Fredericks, Blumenfeld & Paris, 2004). Engagement issue has been examined in the individual, community and context level (Skinner, Furrer, Marchand & Kindermann, 2008). Engagement in education context is examined in points such as engagement in school and engagement in classroom. In this context, school engagement is defined as feeling that the individual belongs to the school and adopt the goals of the school (Finn, 1993). School engagement has three components; emotional, cognitive and behavioral (Fredericks, Blumenfeld & Paris, 2004). Behavioral engagement includes participating in social and out of lesson activities as well as academic study and effort and following the school rules. Emotional engagement contains showing positive feelings and reactions to teachers and classmates in academic aspect, interest and value. Cognitive engagement includes thinking that he/she can overcome hard duties, grasping complex opinions and using strategy (Fredericks et. al., 2004).

Engagement in classroom level has three indicators; cognitive emotional, and behavioral. While, for students, being in curiosity emotion in the lesson, seeing that they are integrated with the subject, to feeling excitement because of the learning and to be interested to the subject are indicators of emotional engagement, for students to attend the lesson preparedly, to ask questions to the teacher, to answer the questions that the teacher asks and to try to teach the subject are indicators of behavioral engagement. As for cognitive engagement, for students to associate the subject with daily life, to compare the subject to the previous information and to follow the subject cognitively during the instruction are indicators of cognitive engagement (Skinner, Furrer, Marchand & Kindermann, 2008; Eryılmaz, 2014).

In literature, that engagement and motivation issues are different but related structures are expressed theoretically (Skinner, Furrer, Marchand & Kindermann, 2008). In that point, the factors which increase or decrease the connection between the individual and the activity are evaluated as motivational factors. For instance, Evans (2000) treats motivation as a case consisted of all the factors that determine the level of the willingness to participate in an activity or as forming such a case. Similarly, Tucker, Zayco and Herman (2002) evaluate motivation as cognitive, emotional and behavioral determiners that determine the student's investment and commitment for education. All the things told are stated as theoretically. Supporting this theoretical information with empirical information is important. In this context, there are few studies in which motivation and engagement issues are dealt together

Motivation issue in education is very important. Motivating to study is evaluated in academic motivation issue context in education (Pintrich & Schunk, 2002). It was found out that most of the students could not get motivated from time to time (Brophy, 2008; Lepper, Corpus & Iyengar, 2005). In parallel with the increase in motivating to study, individuals' academic success and learning increase (Stipek, 2002). Furthermore, students' subjective well-being levels come to a positive position (Eryılmaz & Aypay, 2011). Students who have high academic motivation experience drug addiction less (Wormington, Anderson & Corpus, 2011). Additionally, it is seen that engagement in school and lesson produce positive results. These results can be listed as; continuation of education life, academic success, having social harmony in a high level and well-being (Eryılmaz & Aypay, 2011; Fredricks, Blumenfeld & Paris, 2004; Skinner, Furrer, Marchand, & Kindermann, 2008). Besides, there are very few numbers of studies which examine the relations between engagement and academic motivation in an empirical way. In conclusion, it is aimed to examine the relations between the participation in lesson and getting motivated to study in this study.

Method

Research design

On the purpose of examining the relations between academic motivation and engagement in classroom, the study was conducted based on cross-sectional model. In the study, the issue of motivation to study was treated in the context of academic motivation. In the study, the following questions were tried to be answered:

- Do states of motivation to study differentiate in terms of gender?

- Do engagement dimensions explain intrinsic motivation for studying in a meaningful and significant way?

- Do engagement dimensions explain extrinsic motivation for studying in a meaningful and significant way?

- Do engagement dimensions explain not being motivated (amotivation) to study in a meaningful and significant way?

The study was conducted on adolescents who were students at high school. In the study, data were collected from the adolescents at different ages who were studying at high school and cross-sectional study design was used. In the study, t-test for independent groups and multiple regression analysis techniques were benefited for the data analysis. Data of the study were collected between October 2015 and January 2016. Application of the scales changed between 30-35 minutes. Before the study, necessary permissions were taken from the related institutions. Data were collected in the way of group application in the study. Data were collected from the participants within the course hours with the help of the teacher of the course, too. While collecting data, voluntary basis was taken. First, participants were informed about the aim of the study shortly and then scales were given to the participants who volunteered to join to the study. Furthermore, additional explanations were made to the participants when necessary.

Study group

This study was conducted on adolescents who were studying at high school. The individuals on whom measuring instruments would be applied were determined via purposive sampling. The basis of this sampling is taking one or several subsections on purpose as samples instead of a representative sample of a universe in accordance with the goals of the study. In other words, purposive sampling means making the most convenient part of the universe to the problem an investigation object (Sencer, 1989). In purposive sampling, the researcher determines a sampling based on the previous theoretical information about the universe and his own knowledge and the specific goal of the study (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz & Demirel, 2008; Fraenkel & Wallen, 1993). In this study, Maximum Variety Method from purposive sampling varieties was adopted in determination of the research group and in this context, by considering the representative of the universe, the cases of studying in Anatolian high school, not having psychiatrist diagnose and being at the age range of 15-18 were taken into account in selecting the participants and measuring instruments were applied to these individuals.

Data collection tools used within the context of the study was applied to 415 participants. Before the data analysis, the answers that the participants gave to the data collection tools were reviewed. Four students who had psychiatrist diagnose were excluded from the sampling. Ultimately, analyses were made with the data collected from 411 participants of which 214 were female (52%) and 197 were male (48%) high school students studying at 10^{th} and 11^{th} grades. While mean of age for girls were 15.81 and standard deviation was 0.74, mean of age for boys was 15.94 and standard deviation was 0.76.

Instrument

In the study, Classroom Engagement and Motivation to Study Lesson Scales was utilized. Information about the psychometric features of the scales was as follows:

Personal Information Form: Data on demographic features of the participants such as age, gender and education status were obtained through personal information form.

Classroom Engagement Scale: This scale developed by Eryılmaz (2014). The scale is composed of 15 items about the cases of students' participation in lesson. In the scale there are three sub-dimensions. These are named as emotional engagement, cognitive engagement and behavioral engagement. The variance explained by these three sub-dimensions is 64.04. Moreover, it is stated that alpha reliability coefficient of the scale is 0.92. High scores taken from the scale mean that engagement levels of the individuals are high. Furthermore, reliability study was also made for the adolescents in this study. According to that, reliability value for Emotional Engagement was 0.90; reliability value for Behavioral Engagement was 0.81; reliability value for Cognitive Engagement was 0.86 and reliability value of the scale in total was 0.94.

Motivation to Study Lesson Scale: This scale was developed by Eryılmaz and Ercan (2014). The scale is composed of 13 items in total containing expressions about getting motivated to study for adolescents. The scale has three sub-dimensions. These dimensions are stated as 'intrinsic motivation', 'extrinsic motivation' and 'amotivation'. The variance explained by these three dimensions is 60.52. About the reliability of the sub-dimensions of the scale the following information was obtained: alpha reliability coefficient of intrinsic motivation was 0.81; alpha reliability coefficient of extrinsic motivation was 0.75 and alpha reliability coefficient of amotivation was 0.84. It was stated that alpha reliability coefficient of the total scale was 0.80. The scale can use sub-dimensions and total point in determining individuals' motivation for studying. High grades taken from the scale mean that motivation levels of the individuals are high. Moreover, concurrent validity of the scale was examined via General Need Satisfaction Scale.

Findings

Findings of the study were dealt in four basic headings. First of all, findings about whether the case of motivation to study differed according to gender, engagement dimensions explain intrinsic motivation, engagement dimensions explain extrinsic motivation, and also engagement dimensions explain not being motivated (amotivation) to study. To begin with, descriptive statistics belonging to the research group are indicated below.

Descriptive statistics

Table 1. Descriptive statistics

	Gender	N	M	SD
Emotional engagement	Female	214	16.08	4.22
	Male	197	16.19	4.60
Behavioral engagement	Female	214	17.24	3.82
	Male	197	17.59	4.07
Cognitive engagement	Female	214	17.61	3.93
	Male	197	18.06	4.35
Instrinsic motivation	Female	214	18.24	3.22
	Male	197	17.15	4.40
Extirinsic motivation	Female	214	10.81	2.29
	Male	197	10.64	2.69
Amotivation	Female	214	6.42	2.80
	Male	197	7.07	2.92

Independents t-test results

Table 2. Independent t-test results

Motivational states	Gender	N	M	SD	DF	t	p
Instrinsic motivation	Female	214	18.24	3.22	409	2.88	.00**
	Male	197	17.15	4.40			
Extirinsic motivation	Female	214	10.81	2.29	409	.68	.49
	Male	197	10.64	2.69			
Amotivation	Female	214	6.42	2.80	409	-2.28	.02*
	Male	197	7.07	2.92			

***** $p<.05$, ****** $p<.01$

When table 2 was examined, it was seen that amotivation showed a significant difference in terms of gender, t(409)= -2.28, $p<.05$. Amotivation scores of male participants (M = 7.07) were higher than the female participants (M = 6.42). This finding might be interpreted as there is a significant relation between amotivation and gender. According to the results of the analysis, intrinsic motivation showed a significant difference according to gender, t (409) = 2.88, p<.01. Intrinsic motivation scores of female participants (M = 18.24) were higher than the male participants (M = 17.15). This finding might be interpreted as there is a significant relation between intrinsic motivation and sex.

Results of multiple regression analysis

Table 3. Multiple *regression results for females*

	B	SEB	Beta	t
Emotional engagement	-.24	.06	-.37	-4.01*
Behavioral engagement	-.08	.07	-.11	-1.23
Cognitive engagement	-.03	.06	-.03	-.37

*Constant: Amotivation, R=.47, R^2=.22, F= 19.95, ***** p<.05, ****** p<.01*

When Table 3 was examined, it was seen that emotional engagement explained amotivation in a significant way (R=.47, R^2=.22, F= 19.95, p<.01) for females. When the relations of variables with amotivation were dealt one by one, it was concluded that emotional engagement (β= .37; p<.01) explained amotivation best in a significant way and positively in regression equation. Moreover, the effect of cognitive engagement and behavioral engagement on amotivation was not found significant in regression equation. According to these results, the related variables explain 22% of variance in amotivation.

Table 4. Multiple *regression results for males*

	B	SEB	Beta	t
Emotional engagement	-.20	.07	-,32	-2.86*
Behavioral engagement	.00	.08	,00	.02
Cognitive engagement	.04	.07	,06	.54

*Constant:Amotivation ; R=. 27, R^2=.07, F= 5.66, ***** p<.05, ****** p<.01*

When Table 4 was examined, it was seen that emotional engagement explained amotivation significantly (R=. 27, R^2=.07, F= 5.66, p<.01) for males. When the relations of variables with amotivation were examined one by one, it was concluded that emotional engagement (β= .32; p<.01) explained amotivation best in a significant way and positively in regression equation. Furthermore, the effect of cognitive and behavioral engagement on amotivation was not found significant in regression equation. According to these results, the related variables explain 07% of variance in extrinsic motivation.

Table 5. Multiple *regression results for females*

	B	SEB	Beta	t
Emotional engagement	.17	.05	.31	3.39*
Behavioral engagement	.07	.05	.12	1.38
Cognitive engagement	.02	.05	,05	.56

*Constant: Extrinsic motivation; R=. 44, R^2=.20, F= 17.14, * p<.05, ** p<.01*

When Table 5 was examined, it was seen that emotional engagement explained extrinsic motivation in a significant way (R=. 44, R^2=.20, F= 17.14, p<.01) for females. When the relations of variables with extrinsic motivation were examined one by one, it was concluded that emotional engagement (β= .31; p<.01) explained extrinsic motivation best significantly and positively in regression equation. Moreover, the effect of cognitive and behavioral engagement on extrinsic motivation was not found significant in regression equation. According to these results, the related variables explain 20% of variance in extrinsic motivation.

Table -6. Multiple *regression results for males*

	B	SEB	Beta	t
Emotional engagement	.22	.06	.37	3.64**
Behavioral engagement	.11	.06	.16	1.72
Cognitive engagement	.02	.06	.03	.31

*Constant: Extrinsic motivation; R=.52, R^2=.27, F=24.00 , * p<.05, ** p<.01*

When Table 6 was examined, it was seen that emotional engagement explained extrinsic motivation in a significant way (R=. 52, R^2=.27, F= 24.00, p<.01) for males. When the relations of variables with extrinsic motivation were examined one by one, it was concluded that emotional engagement (β= .37; p<.01) explained extrinsic motivation best in a significant way and positively in regression equation. Furthermore, the effect of cognitive and behavioral engagement on extrinsic motivation was not found significant in regression equation. According to these results, the related variables explain 27% of variance in extrinsic motivation.

Table 7. Multiple *regression results for females*

	B	SEB	Beta	t
Emotional engagement	.30	.06	.40	4.80 **
Behavioral engagement	.04	.07	.05	.55
Cognitive engagement	.18	.06	.22	2.98 **

*Constant: Intrinsic motivation ; R=.60, R^2=.36, F=39.44 , *****p<.05, ****** p<.01*

When Table 7 was examined, it was seen that emotional and cognitive engagement explained intrinsic motivation in a significant way (R=. 60, R^2=.36, F= 39.44, p<.01) for females. When the relations of variables with intrinsic motivation were examined one by one, it was concluded that emotional engagement most (β= .40; p<.01) and then cognitive engagement (β= .22; p<.01) explained intrinsic motivation significantly and positively in regression equation. Moreover, the effect of behavioral engagement on intrinsic motivation was not found significant in regression equation. According to these results, the related variables explain 36% of variance in intrinsic motivation.

Table 8. Multiple *regression results for males*

	B	SEB	Beta	t
Emotional engagement	.34	.09	.35	3.57 *
Behavioral engagement	.12	.10	.11	1.17
Cognitive engagement	.14	.09	.14	1.5

*Constant: Intrinsic motivation; R=.55, R^2=.30, F=28.05, ***** p<.05, ****** p<.01*

When Table 8 was examined, it was seen that emotional engagement explained intrinsic motivation in a significant way (R=. 55, R^2=.30, F= 2.05, p<.01) for males. When the relations of variables with intrinsic motivation were examined one by one, it was concluded that emotional engagement most (β= .35; p<.01) explained intrinsic motivation in a significant way and positively in regression equation. Furthermore, the effect of behavioral and cognitive engagement on intrinsic motivation was not found significant in regression equation. According to these results, the related variables explain 30% of variance in intrinsic motivation.

Discussion

This study was conducted to examine the relations between motivation to study and engagement in classroom. According to the results of the study, it was found that on the issue

of motivation to study, female students had a higher level of intrinsic motivation than the male students; on the other hand, male students had higher amotivation cases than the female students. For both males and females it is concluded that emotional engagement dimension from the dimensions of engagement in classroom is related to the cases of being motivated to study. On the other hand, for female students who have intrinsic motivation, as long as both emotional and cognitive engagement increases, their motivation for studying also increases. When the results of the study were examined it is seen that girls had a higher level of intrinsic motivation than boys in the case of being motivated to study. It is observed that studies similar to the findings of this study were conducted in literature. For example, it was found out that female students had higher intrinsic motivation than the male students academically (Meece & Holt, 1993; Meece, Glienke & Burg, 2006). At this point, the findings of this study overlap with the findings of other studies. Another reason of this difference may be cultural factors. It is stated that males and females pass from different socialization processes in Turkey. Girls pass time at home more than boys, they take responsibilities about the housework and girls are expected to fit in the traditional motherhood roles in Turkey (Güneri, Sümer & Yıldırım, 1999). As a result of all this socialization process, especially with the effect of the dimension of taking responsibility, girls seem in a more positive state than boys in the academic responsibilities issue, too. Consequently, because of this maturity, girls' intrinsic motivation levels might be higher than boys; boys' amotivation levels might be higher than girls.

In literature, it is reported that the issues of engagement and motivation are related (Fredricks, Blumenfeld & Paris, 2004). Sometimes it is seen that researchers use engagement instead of motivation (Finn, 1993). However, engagement is the connection between the individual and an activity (Skinner, Furrer, Marchand & Kindermann, 2008), while the factors that strengthen this connection are evaluated as motivational factors. Because the findings of this study are in modest level, it proves that the cases of academic motivation and engagement issue are different structures.

According to the results of the study, it is observed that emotional engagement is related with all the cases of being motivated to study (amotivation, extrinsic and intrinsic motivation) both for girls and boys. In other words, when high school students engage in lesson emotionally, their extrinsic motivation and intrinsic motivation increase; the cases of amotivation decrease. One of the reasons of this result might be the role of emotions in learning and academic motivation process. For instance, Pnitrich and De Groot (1990) states that there are three significant dimensions in academic motivation issue: expectation, value and emotion. Being interested in the lesson, having a sense of wonder, feeling integrated with the lesson and being happy during the lesson are seen to be the indicators of emotional engagement (Eryılmaz, 2014). When the content of emotional engagement is examined, it is observed that these are positive feelings. Studies in positive psychology reveal that positive feelings widen individuals' viewpoint, build capacity and repair the negativity of past (Fredrickson, 1998; Fredrickson & Branigan, 2005). In this study, the increase in emotional engagement dimension might have caused to increase aforementioned gains of positive

feelings. With the effect of these gains, levels of being motivated to study for both girls and boys might have increased both intrinsically and extrinsically.

It was found in the study that the levels of intrinsic motivation for studying increased in parallel with the increase in emotional and cognitive engagement for girls. The reason of this case can be explained with the importance that girls place on. In academic motivation issue while girls emphasize more on effort; boys emphasize more on talent (Burgner & Hewstone, 1993; Georgiou, 1999). Emphasizing the importance of effort requires making more effort. At this point, the emotional and cognitive engagement of girls might be the indicator of effort. The increasing effort may have increased getting motivated to study intrinsically with it.

In fact, the concepts of motivation and engagement are related (Fredricks, Blumenfeld & Paris, 2004). Besides, culture is a significant factor in students' motivation. Teachers in Turkish national education system, structure the instruction process based on the transmission. In the instruction process based on transmission, while the teacher is active, students are passive. From this point of view, we may not have found a relation between students' motivation cases and cognitive and behavioral engagement dimensions. When this case is evaluated in terms of evolution theory, not participating in the lesson cognitively and behaviorally is seen as adaptive mechanisms (Buss, 2000).

In conclusion, this study shows that emotional engagement is important for Turkish adolescents to get motivated to study. It is stated that emotional engagement may be an important means in the education process. Making activities which include emotional engagement might increase the students' motivations. In the oncoming process, studies might be conducted on different groups.

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