

Investigating the Achievement Goals of University Students in terms of Psycho-social Variables^{*}

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Abstract

It is the aim of this research to investigate the achievement goals of university students. Firstly, university students' adoption levels of achievement goals are described. Next, how their level of academic self-efficacy, irrational beliefs, perfectionism, self-determination, locus of control and gender predict each achievement goal is depicted. The participants consisted of 1509 university students. The findings showed that students generally adopted the mastery-approach at a high level, mastery-avoidance at a medium level, and both performance-approach and performance-avoidance at a low level. Furthermore, according to the results of hierarchical regression analysis, it was found that perfectionism related to higher standards, academic self-efficacy, perfectionism related to order, self-determination, internal locus of control, perfectionism related to dissatisfaction and gender (female) predicted the mastery-approach achievement goal significantly. Mastery-avoidance achievement goal was significantly predicted by perfectionism related to higher standards, irrational beliefs, perfectionism related to order and discrepancy and gender (female). Irrational beliefs, academic self-efficacy, perfectionism related to discrepancy, self-determination and gender (male) significantly predicted the performance-approach achievement goal. Irrational beliefs, perfectionism related to the discrepancy, self-determination, perfectionism related to higher standards and academic self-efficacy significantly predicted the performance avoidance achievement goal.

Keywords: Achievement goals • Academic self-efficacy • Irrational belief • Self-determination • Perfectionism • Locus of control

^{*} This study was based on Ahmet Rifat Kayis's (2013) master thesis entitled "Investigating Achievement Goals of University Students" under A. Aykut Ceyhan's supervision at Graduate School of Educational Sciences, Anadolu University, Eskişehir, Turkey.

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Just like intellectual factors, non-intellectual factors also play an important role in the academic achievement level of individuals. In particular, one can notice that researchers in recent years have sought to prove the impact of non-intellectual factors on academic achievement. In this framework, within the body of literature, explanations on the theory of achievement goals (Elliot, 1999) related to how individuals are motivated to be successful through their personal and social characteristics have an important place.

The theory of achievement goals was developed to explain how the achievement level of individuals can differ even with the same intelligence and ability level (Dweck, 1986; Dweck & Leggett, 1988). According to this theory, the reason for different levels of success in individuals with the same ability and level of intelligence stems from the different forms of motivation and goals they set in order to be successful (Elliot & Dweck, 1988). The goals of individuals attained towards success and their unique forms of motivation for being successful are closely related to each other (Dweck, 1986). In other words, the goals of individuals attained towards success can significantly affect their level of motivation while they deal with academic tasks. In this context, the theory of achievement goals is expressed as a cognitive, affective, and behavioral process which includes the purposes an individual wants to achieve during fulfillment of an academic task (Elliot & Dweck, 1988; Nicholls, 1984). Therefore, it is understood that achievement goals are forms that include the different dimensions of an individual's personality and psychological characteristics.

When achievement goals theory first emerged, it was argued that individuals could adopt two different achievement goals: mastery and performance (Dweck, 1986). In later years, performance achievement goals were divided into two dimensions, and the trichotomous achievement goals model was adopted. The achievement goals were described as a three-dimensional structure containing mastery, performance-approach, and performance-avoidance (Elliot & Harackiewicz, 1996). After the trichotomous achievement goals model, the mastery achievement goal was divided into two dimensions and a 2 x 2 achievement goals model was developed (Elliot & McGregor, 2001). With this model, addressing achievement goals in the four dimensions of mastery-approach, mastery-avoidance, performance-approach and performance-avoidance began.

In the 2 x 2 achievement goals model, each achievement goal has unique qualities. In this framework, individuals adopting the mastery-approach achievement goal have characteristics such as improving their abilities, studying their learning materials fully, improving their knowledge and being ambitious when encountering a mistake (Elliot, 1999; Elliot & Dweck, 1988; Elliot & Harackiewicz, 1996). Individuals having the mastery-avoidance achievement goal have characteristics such as concern about showing a lower performance than before, setting high achievement standards for themselves, fear of failure, concerns about forgetting what they have learned and learning incorrectly (Elliot & McGregor, 2001). Individuals with performance-approach achievement goal have characteristics such as being more successful compared to others, competitive, having a fear of failure, and using superficial study strategies (Elliot, 1999; Elliot & Harackiewicz, 1996). Individuals with performance-avoidance achievement goals have characteristics such as avoiding being unsuccessful compared to others, fear of failure, disorganization, avoidance of difficult tasks, and leaving tasks unfinished (Elliot, 1999; Elliot & Harackiewicz, 1996; Elliot & McGregor, 2001). In the framework of these explanations, when these four achievement goals are assessed, it can be pointed out that individuals set criteria according to their own success or the success of others and when they motivate themselves to success, preferring a successful approach or avoiding being unsuccessful as the baseline.

In the body of literature, qualifications for each of the four achievement goals are also assessed in the context of being adaptive or maladaptive. In this context, Elliot and McGregor (2001) have argued that the most adaptive achievement goal is the mastery-approach, while the most maladaptive achievement goal is performance-avoidance. This case can be explained with the positive characteristics of the mastery-approach achievement goal since individuals use their own ability level as a criteria for success and they study to learn, while the characteristics of performance-avoidance achievement goals are when an individual selects the abilities of others as success criteria and learns in order not to appear unsuccessful. In addition, it is also indicated that the mastery-avoidance and performance-approach achievement goals are located somewhere between the mastery-approach and performance-avoidance achievement goals in so far as they are adaptive or maladaptive (Elliot & McGregor, 2001). It can

be stated that this case arises due to the fact that mastery-avoidance and performance-approach achievement goals have both adaptive and maladaptive characteristics. In this context, it can be suggested that the mastery-avoidance achievement goal has a positive characteristic since individuals use their own ability level as success criteria and it has negative characteristics such as fear of failure. The performance-approach achievement goal has positive characteristics like focusing on success and also negative characteristics since individuals set their success criteria according to the abilities of others. Indeed, some research findings have given statements supporting the explanations given for the adaptive and maladaptive aspects of achievement goals in terms of their relationships with several variables such as academic achievement, need for success, fear of failure, academic self-efficacy, and self-determination (Elliot & McGregor, 2001; Harackiewicz, Barron, & Elliot, 1998; Middleton & Midgley, 1997; Pintrich, Conley, & Kempler, 2003). The findings of a research investigating the relationship of achievement goals with academic achievement demonstrated that academic achievement has a positive relation with the mastery-approach achievement goal (in terms of the trichotomous achievement goal model) (Taş, 2008). In support of these findings, Eryenen (2008) and Buluş (2011) also indicated that there was a positive relation between the mastery-approach achievement goal and academic achievement. On the other hand, Pintrich et al. (2003) found that the performance-approach achievement goal has a similar positive relation with academic achievement as the mastery-approach achievement goal. Thus, the research results indicated that the level of academic achievement of individuals who focus on succeeding instead of avoiding failure is higher.

The relationship between achievement goals and gender was also investigated. Within this context, some research (Akin, 2006a; Küçükoglu, Kaya, & Turan, 2010; Toğluk, 2009) investigating the achievement goals of individuals in terms of gender suggested that female students adopt the mastery-approach achievement goal more often than male students. Other research (Akin, 2006a; Roeser, Midgley, & Urdan, 1996) demonstrated that male students adopt the performance-approach achievement goal more often than female students. It has also been found that achievement goals are not different in terms of gender (Çelik-Menderes, 2009). When the findings of this research are generally evaluated, it is worthy to note that female students mostly adopt the mastery-approach goal while male

students mostly adopt the performance-approach goal. In other words, it may be said that while female students evaluate their success levels, they base this on their own ability levels, while male students base this on the ability level of other individuals.

There are researches investigating relationships between achievement goals and some psychosocial variables such as academic self-efficacy, perfectionism, motivation processes, self-determination, and locus of control in the literature. In this context, it was found that there is a positive relationship between the mastery-approach achievement goal and academic self-efficacy (Roeser et al., 1996). Similarly, it was determined that there is an important relationship between the mastery-approach achievement goal and academic self-efficacy levels of university students (Sakız, 2011). Results of these researches indicated that individuals having high academic self-efficacy more frequently adopt the mastery-approach achievement goal.

When the relationship between the personality traits and achievement goals of university students was investigated, it was found that there is a meaningful relationship between big five personality traits and perfectionism with the mastery-approach, mastery-avoidance, performance-approach and performance-avoidance achievement goals (Palancı, Özbay, Kandemir, & Çakır, 2010). Also, research results demonstrated that maladaptive perfectionist individuals adopt the performance-approach and performance-avoidance achievement goals better than adaptive perfectionist and non-perfectionist individuals (Hanchon, 2010). Additionally, adaptive perfectionist individuals adopt the performance-approach and performance-avoidance achievement goals to a lesser degree (Hanchon, 2010). In this context, it is understood that while the adaptive parts of perfectionism are related to mastery achievement goals, its maladaptive parts are related to performance achievement goals.

Wolters (1998) determined that individuals using inner motivation strategies adopt mastery achievement goals more and individuals using external motivation strategies adopt performance achievement goals more. A meta-analytical study indicated that individuals adopting mastery achievement goals have external motivation to a lesser degree than individuals adopting performance achievement goals (Rawsthorne & Elliot, 1999). Also, Elliot and McGregor (2001) found that self-determination has a positive relationship with mastery-approach achievement

goals and a negative relation with mastery-avoidance and performance-approach achievement goals. In this context, considering that inner and external motivational processes are closely related to self-determination (Deci & Ryan, 2000), it is remarkable to note a strong relationship between achievement goals and self-determination.

It was found that the internal locus of control positively predicts mastery achievement and the external locus of control positively predicts performance-avoidance achievement goal (Buluş, 2011). In other research (Akin, 2010), it was found that while the academic external locus of control negatively predicts the mastery-approach achievement goal, it positively predicts mastery-avoidance, performance-approach and performance-avoidance. On the other hand, it was found in the same research that the academic internal locus of control positively predicts mastery-approach and mastery-avoidance achievement goals and negatively predicts performance-approach and performance-avoidance achievement goals. These findings have shown that the locus of control and achievement goals are closely related to each other.

When the findings of the researches are generally evaluated, it is understood that achievement goals are not independent from gender, and some psychological variables as well as the nature of the achievement goals may change depending on these variables. Thus, it is so important to understand the nature of the achievement goals of individuals within the context of being successful in the educational environment and to compose these environments accordingly. This is because the main purpose of students is to complete the educational stages in which they study in a qualified way by developing every aspect throughout their educational life. Each one, mastery-approach, mastery-avoidance, performance-approach and performance-avoidance, includes different dynamics in terms of explaining how individuals motivate themselves to be successful. Using this framework, the current research related to the achievement goal levels of students can be thought to both help students identify themselves in terms of their psychological features and give important clues in the planning of educational programs and educational environments in an adaptive way as motivation for students to be successful. Thus, it may be foreseen that students show adaptive behaviors while they motivate for success. Especially by investigating the achievement goals of students in universities, which are seen as the last stage before beginning their professional life, this

will contribute importantly to the organization of more qualified educational environments. Also, as has been mentioned, psychological features like academic self-efficacy, perfectionism, self-determination and locus of control are seen as psychological features related to achievement goals at an important level. Additionally, the irrational beliefs of which achievement goals and relations were not investigated before have been included in this research. It was found in previous research that irrational beliefs are related to academic achievement (Bozkurt, 1998) and test anxiety, which is one of the factors affecting academic achievement (Boyacıoğlu & Küçük, 2008). For this reason, putting forth the relation between achievement goals, which is an important feature in terms of the motivation of students for success, and irrational beliefs may make important contributions with regard to motivation for success. In contrast to previous research, the relations of academic self-efficacy, perfectionism, self-determination and locus of control with achievement goals were investigated together instead of being investigated individually in the research, irrational beliefs included.

Purpose

The purpose of this research is to put forth the nature of the achievement goals of university students. Within this context, firstly, university students' adoption levels are revealed for each achievement goal (mastery-approach, mastery-avoidance, performance-approach and performance-avoidance). After that, how psychosocial features like academic self-efficacy, irrational beliefs, perfectionism, self-determination, focus of control and gender predict each achievement goal are analyzed.

Method

The research was carried out using the relational-screening model. In this context the current situation was described.

Participants

Research was conducted in Anadolu University in the spring semester of the 2012-2013 academic year. The participants consisted of 1509 student from 12 different faculties. Of the participants, 881 (58.4%) were female and 628 (41.6%) were male. At the same time, 295 (19.5%) of the participants were freshman, 382 (25.3%) were sophomores, 438 (29%) were

juniors, 387 (25.6%) were seniors, and 7 (0.6%) were in their fifth year. The ages of the participants ranged from 18 to 44 years old ($M = 21.7$, $SD = 2.05$). In addition, the academic GPA of the students ranged from 0.67 to 4.00 ($M = 2.64$, $SD = 0.54$).

Instrument

2 x 2 Achievement Goal Orientations Scale:

The 2 x 2 achievement goal orientations scale was developed by Akin (2006b) in order to determine how university students motivate themselves for choosing academic tasks. The scale has four sub-scales: mastery-approach, mastery-avoidance, performance-approach and performance-avoidance. It consists of 26 items. Each sub-scale is separately scored and the total score is not obtained from the scale (Akin, 2006b). High grades obtained from each sub-scale indicate an increase in the level of mastery-approach, mastery-avoidance, performance-approach or performance-avoidance. During the studies concerning validity of the scale, the following results were found. The factor loads of the scale items varied between .41 and .98 and they explained 67% of the total variance. For the sub-scales of mastery-approach, mastery-avoidance, performance-approach and performance-avoidance, the internal consistency coefficients of the scale were found to be .92, .97, .97, and .95 respectively (Akin 2006b). In the context of this research, the internal consistency coefficients were .73, .66, .78, and .62 respectively.

Academic Self-efficacy Scale: The scale was developed by Jerusalem and Schwarzer, (1981 as cited in Yilmaz, Gürçay, & Ekici, 2007) then adapted into Turkish by Yilmaz et al. (2007). The scale is a four-point Likert-scale consisting of 7 items. It is also a single-dimensional scale whose points vary between 7 and 28. High scores acquired from the scale indicate an increase of academic self-efficacy. The validity studies of the scale demonstrated that the factor load of the items varied between .50 and .83 and explained 45% of the total variance. The scale's criterion-related validity study revealed that the correlation coefficient between the scale and the self-esteem scale was 0.44. In the scope of this study, the internal consistency coefficient of the scale was identified as .77.

Irrational Belief Scale-Short Form: This scale was developed by Türküm (2003) to determine the irrational-beliefs level of an individual. The scale consists of 15 items and three sub-scales (need for approval, interpersonal relationships, and self). The

points of the scale vary between 15 and 75. A high score indicates a high level of irrational belief. The validity studies of the scale demonstrated that the factor load of the items varied between .51 and .74. In addition, the sub-scales of need for approval, interpersonal relationships, and self explain 15.03%, 14.54%, and 13.36% of the total variance respectively. The internal consistency coefficient of the scale was found to be .75 (Türküm, 2003). In the context of this research, the internal consistency coefficient was found to be .72.

APS Perfectionism Scale: This scale, developed by Slaney, Rice, Mobley, Trippi, and Ashby (2001), was adapted to Turkish by Abacı and Sapmaz (2006). The scale was developed to identify individuals with adaptive and maladaptive levels of perfectionism. The original scale has three sub-scales: high standards, order and discrepancy. In the Turkish adaptation of the study, some items in the discrepancy sub-scale were loaded into a fourth dimension called dissatisfaction. The scale consists of 23 items. Each sub-scale is separately scored and the total score is not obtained from the scale. High scores from each sub-scale indicate the adoption of perfectionism for the relevant dimension. According to factor analysis results, the sub-scales of high standards, order, discrepancy, and dissatisfaction sub-scales explain 5.80%, 14%, 8.70%, and 21.70% of the total variance respectively. The factor load of the items varied between .33 and .85. For the sub-scales of high standards, order, discrepancy and dissatisfaction, the internal consistency coefficient of the scale was found to be .72, .83, .72, and .81 respectively (Sapmaz, 2006). In the context of this research, the internal consistency coefficients of the sub-scales were found to be .83, .88, .77, and .84 respectively.

Self-determination Scale: The scale was developed by Sheldon and Deci (1996 as cited in Ersoy-Kart & Güldü, 2008) and adapted to Turkish by Ersoy-Kart and Güldü (2008). The original scale has two sub-scales, self-contact and choicefulness. The original scale consists of 10 items but the Turkish version of the scale consists of 9 items. The factor load of the items varied between .47 and .70. The sub-scales of self-contact and choicefulness explained 13.14% and 22.33% of the total variance respectively. The criterion-related validity study of the scale revealed that the correlation coefficients of the empathetic tendencies scale with the total score of the scale, and the self-contact and choicefulness sub-scales scores were .39, .27 and .35 respectively. The internal consistency coefficient of each sub-scale was found

to be .70 (Ersoy-Kart & Güldü, 2008). In the context of this research, the internal consistency coefficient was found to be .82 for the total score of the scale.

Rotter Internal-External Locus of Control Scale:

The scale was developed by Rotter (1966) and adapted into Turkish by Dağ (1991). The scale consists of 29 items with six filler items. The scale's score can range from 0 and 23. A high score points out a high level of external locus of control and a low score indicates a high level of internal locus of control. The items of the scale explain 46.70% of the total variance and the factor load of the items varied between .35 and .72. The criterion-related validity study of the scale revealed that the correlation coefficient between Rosenbaum's learned resourcefulness schedule, symptom check list, and the scale were -.29 and .21 respectively.

Personal Information Questionnaire: The questionnaire was prepared by the researcher to collect some personal information about participants. In this context, the questionnaire included information about age, gender, grade level, department and GPA.

Procedures

The data of the study was collected through data collection tools in a single session, for which the researcher was given permission, during the spring semester of the 2012-2013 academic year. During the implementation phase, students were informed that they could voluntarily participate in the survey and that the collected data would be kept confidential. Implementation of the data collection tools took approximately 25 minutes. The data was collected from 1958 students. However, 254 data sets which were both incomplete and erroneous were excluded from the analysis. The analyses were made on the remaining 1704 data sets. In the preliminary analysis, 93 data sets that were identified as deviating from the normal distribution as well as 102 data sets that did not meet the estimations of regression analysis (the Mahalanobis distance criterion value was greater than $X^2(9) =$

16.919, $p = .05$) were also excluded. The data sets of these 195 participants were not evaluated due to having extreme values. Finally, analysis of the research was made with the remaining data sets from 1509 participants. The data was analyzed through the Statistical Package for Social Sciences (SSSP) for Windows software. In analyzing the data, descriptive statistics, Pearson product-moment correlation coefficient and multiple linear regression analysis were employed. In this study, gender was included in the regression analysis as a dummy variable and codified as follows: female = 0 and male = 1. In analysis, the level of significance was accepted as .5.

Results

Research Findings Concerning Achievement Goal Levels

The study primarily analyzed the achievement goal levels of university students. In this context, descriptive statistics concerning mastery-approach, mastery-avoidance, performance-approach and performance-avoidance levels of the students are shown in Table 1.

In consideration of the findings shown in Table 1, the mean score for the mastery-approach achievement goal was 30.42 and the standard deviation was 4.36. Considering the facts that the lowest possible score concerning the mastery-approach sub-scale is 8 and the highest is 40, the lowest score for the scale was 17 and the highest was 40, and the percentile distribution was 27 (25%), 31 (50%) and 34 (75%) points, it can be said that university students generally adopted the mastery-approach goal at a high level.

The mean average for the mastery-avoidance achievement goal was 15.77 and the standard deviation was 3.64. The lowest score that can be acquired from the scale concerning mastery-avoidance is 5 and the highest is 25, the lowest score for the scale was 6 and the highest was 25 and their percentile distribution was 13 (25%), 16 (50%) and 18 (75%) points. Therefore, it can be said that

Table 1
The Level of University Student Achievement Goal Orientations (N = 1509)

Achievement Goal Orientations	Minimum Score	Maximum Score	M	SD	Percents		
					25%	50%	75%
Mastery-approach	17	40	30.42	4.36	27	31	34
Mastery-avoidance	6	25	15.77	3.64	13	16	18
Performance-approach	7	33	17.06	5.41	13	16	21
Performance-avoidance	6	27	14.99	4.12	12	15	18

university students generally adopted a moderate level for the mastery-avoidance goal.

The mean score and standard deviation for the performance-approach goal were 17.06 and 5.41 respectively. The lowest score that can be acquired from the scale for performance-approach is 7 and the highest is 35, the lowest score of the scale was 7 and the highest was 33 and their percentages were 13 (25%), 16 (50%) and 21 (75%) points. In this context, it can be said that university students adopted a generally low level for the performance-approach goal.

The mean and standard deviation scores for the performance-avoidance goal was 14.99 and 4.12 respectively. The lowest score that can be acquired from the scale concerning the performance-avoidance goal is 6 and the highest is 30. The lowest score for the scale was 6 and the highest was 27, and their percentages were 12 (25%), 15 (50%) and 18 (75%). In this framework, it can be said that university students generally adopted a low level for the performance-avoidance goal.

Research Findings Concerning the Predictors of Achievement Goal Orientations

The study also analyzed whether university students' levels of academic-efficacy, irrational beliefs, perfectionism (high standards, order, discrepancy, dissatisfaction), self-determination, locus of control, and gender are significant predictors of mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance achievement goal orientations. For this purpose, hierarchical regression analysis was used for the mastery-

approach, mastery-avoidance, performance-approach and performance-avoidance achievement goal orientation levels separately. Before hierarchical regression analysis was performed, the relations between these variables were examined through the Pearson product-moment correlation coefficient. These values are presented in Table 2.

Table 2 shows significant relations between the variables that were analyzed in the study. Accordingly, the correlation coefficients between the variables vary between -.30 and .45.

Predictors of Mastery-approach Achievement

Goal: Before the regression analysis concerning mastery-approach achievement goals was performed, statistical values with regard to the assumption of regression analysis were assigned. In this context, while statistical values concerning multicollinearity were examined, it was found that variance inflation factor (VIF) values varied between 1.04 and 1.91 and were lower than the criterion value of 10 (Field, 2005). Tolerance values varied between .52 and .96 and were higher than the criterion value of .2 (Field, 2005). Finally in the analysis, the existence of auto-correlations was checked. The Durbin-Watson test coefficient was found to be 1.933. This value was between the criterion values of 1 and 3 (Field, 2005). Therefore, it was observed that the assumptions of regression analysis were met. In this context, hierarchical regression analysis was made and the results of this analysis are presented in Table 3.

According to Table 3, the model is statistically significant ($p < .001$). In consideration of the explanatory capacity of the model, it was found

Table 2
Descriptive Statistics and Correlations between Variables (N = 1509)

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. Mastery-approach	-											
2. Mastery-avoidance	.33**	-										
3. Performance-approach	.07**	.30**	-									
4. Performance-avoidance	-.07*	.40**	.59**	-								
5. Academic self-efficacy	.41**	-.02	.11**	-.16**	-							
6. Irrational belief	.11**	.28**	.32**	.32**	.01	-						
7. Self-determination	.24**	-.06*	-.06*	-.21**	.34**	-.08**	-					
8. Locus of control	-.18**	-.001	-.04	.08**	-.25**	.06*	-.18**	-				
9. High standards	.45**	.28**	.20**	.03	.38**	.27**	.15**	-.12**	-			
10. Order	.31**	.27**	.13**	.07*	.18**	.26**	.11**	-.05	.48**	-		
11. Discrepancy	-.08**	.25**	.18**	.33**	-.30**	.31**	-.37**	.16**	.15**	.08**	-	
12. Dissatisfaction	.04	.23**	.19**	.21**	-.05	.26**	-.25**	.00	.39**	.10**	.59**	-
M	30.4	15.8	17.1	14.9	19.5	55.5	33.4	12.1	37.1	21.3	24.6	23.0
SD	4.4	3.6	5.4	4.1	3.3	6.6	6.4	3.6	6.9	5.3	6.7	7.9

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

that all independent variables explain 30% of the total variance ($R = .55$, $R^2 = .30$, $p < .001$) for the mastery-approach achievement goal. The predictor variables were examined in accordance with the standardized regression coefficients (β) and it was determined that high standards was the most important predictor of the mastery-approach achievement goal. This variable was followed by the variables of academic self-efficacy, order, self-determination, locus of control, dissatisfaction, and gender. When the levels of academic self-efficacy, high standards, order, and self-determination increased, the mastery-approach achievement goal level increased and vice versa. On the other

hand, when the levels of dissatisfaction and external locus of control increased, the level of the mastery-approach achievement goal decreased and vice versa. In addition, with regard to the fact that gender is a predictor of achievement goal, the mastery-approach achievement goal levels for female students are higher than male students.

Predictors of Mastery-avoidance Achievement

Goal: Before regression analysis concerning mastery-avoidance achievement goal was conducted, statistical values with regard to the assumptions of regression analysis were

Table 3
Summary of Hierarchical Regression Analysis for Variable Predicting Mastery-approach Goal Orientations

Model	Variables	B	SE _B	β	t	R	R ²	ΔR^2	F
1	Academic self-efficacy	.53	.03	.41	17.27***	.41	.16	.16	298.47
	Academic self-efficacy	.32	.03	.25	9.67***				
	High standards	.21	.02	.34	11.36***				
2	Order	.09	.02	.11	4.32***	.53	.28	.12	119.48***
	Discrepancy	-.01	.02	-.02	-.76				
	Dissatisfaction	-.04	.02	-.08	-2.60**				
	Academic self-efficacy	.30	.03	.23	8.89***				
	High standards	.21	.02	.32	10.85***				
	Order	.09	.02	.11	4.19***	.54	.29	.01	102.55***
	Discrepancy	.00	.02	-.001	-.02				
	Dissatisfaction	-.03	.02	-.06	-2.08*				
	Self-determination	.06	.02	.09	3.62***				
	Academic self-efficacy	0.29	.03	.22	8.35***				
	High standards	.20	.02	.32	10.81***				
	Order	.09	.02	.11	4.21***	.54	.295	.005	89.84***
	Discrepancy	.01	.02	.01	.32				
	Dissatisfaction	-.04	.02	-.07	-2.34*				
	Self-determination	.06	.02	.08	3.36***				
	Locus of control	-.09	.03	-.07	-3.15**				
	Academic self-efficacy	.29	.03	.22	8.32***				
	High standards	.20	.02	.32	10.62***				
	Order	.08	.02	.10	3.99***	.54	.295	.00	78.78***
	Discrepancy	.00	.02	.01	.10				
	Dissatisfaction	-.04	.02	-.07	-2.372**				
	Self-determination	.06	.02	.08	3.38***				
	Locus of control	-.09	.03	-.07	-3.21***				
	Irrational belief	.02	.02	.03	1.11				
	Academic self-efficacy	.29	.03	.22	8.47***				
	High standards	.20	.02	.32	10.59***				
	Order	.08	.02	.09	3.71***	.55	.30	.005	70.64***
	Discrepancy	.00	.02	.01	.10				
	Dissatisfaction	-.04	.02	-.07	-2.25*				
	Self-determination	.06	.02	.08	3.29***				
	Locus of control	-.09	.03	-.08	-3.30***				
	Irrational belief	.02	.02	.02	1.02				
	Gender (Female = 0, Male = 1)	-.40	.20	-.05	-2.04*				

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 4
Summary of Hierarchical Regression Analysis for Variable Predicting Mastery-avoidance Goal Orientations

Model	Variables	B	SE _B	β	t	R	R ²	ΔR^2	F
1	High standards	.08	.02	.15	5.10***				
	Order	.12	.02	.18	6.37***				
	Discrepancy	.11	.02	.20	6.62***	.38	.14	.14	64.32***
	Dissatisfaction	.01	.02	.03	.952				
2	High standards	.07	.02	.13	4.42***				
	Order	.10	.02	.15	5.46***				
	Discrepancy	.09	.02	.16	5.25***	.41	.155	.015	59.57***
	Dissatisfaction	.01	.02	.02	.76				
	Irrational belief	.08	.01	.15	5.90***				
3	High standards	.07	.02	.14	4.51***				
	Order	.10	.02	.15	5.49***				
	Discrepancy	.08	.02	.15	4.85***	.41	.155	.00	49.76***
	Dissatisfaction	.009	.015	.020	.633				
	Irrational belief	.08	.01	.15	5.88***				
	Self-determination	-.01	.02	-.02	-.91				
4	High standards	.09	.02	.16	4.96***				
	Order	.10	.02	.15	5.45***				
	Discrepancy	.07	.02	.13	4.11***				
	Dissatisfaction	.01	.02	.02	.67	.41	.16	.005	43.38***
	Irrational belief	.08	.01	.15	5.91***				
	Self-determination	-.01	.02	-.01	-.51				
	Academic self-efficacy	-.06	.03	-.06	-2.08*				
5	High standards	.09	.02	.16	4.93***				
	Order	.10	.02	.15	5.45***				
	Discrepancy	.07	.02	.14	4.19***				
	Dissatisfaction	.01	.02	.02	.59	.41	.16	.00	38.07***
	Irrational belief	.09	.01	.15	5.96***				
	Self-determination	-.01	.02	-.02	-.59				
	Academic self-efficacy	-.07	.03	-.06	-2.20*				
	Locus of control	-.02	.03	-.02	-.96				
6	High standards	.08	.02	.16	4.89***				
	Order	.10	.02	.14	5.05***				
	Discrepancy	.07	.02	.14	4.20***				
	Dissatisfaction	.01	.02	.03	.77				
	Irrational belief	.08	.01	.15	5.82***	.42	.17	.01	35.01***
	Self-determination	-.01	.02	-.02	-.73				
	Academic self-efficacy	-.06	.03	-.06	-1.95				
	Locus of control	-.03	.03	-.03	-1.10				
	Gender (Female = 0, Male = 1)	-.53	.18	-.07	-2.98***				

* $p < .05$, ** $p < .01$, *** $p < .001$

determined. In this context, while statistical values concerning multicollinearity were examined, it was found that variance inflation factor (VIF) values varied between 1.04 and 1.91 and were lower than the criterion value of 10 (Field, 2005). Tolerance values varied between .52 and .96 and were higher than the criterion value of .2 (Field, 2005). Finally in the analysis, the existence of auto-correlation was checked. The Durbin-Watson test coefficient was found to be 2.001. This value was between the criterion values of 1 and 3 (Field, 2005). Therefore,

it was observed that the assumptions of regression analysis were met. In this context, the hierarchical regression analysis was conducted and the results of this analysis are presented in Table 4.

According to Table 4, the model is statistically significant ($p < .001$). In consideration with the explanatory capacity of the model, it was found that all independent variables explain 17% of the total variance ($R = .42$, $R^2 = .17$, $p < .001$) for the mastery-avoidance achievement goal. Predictor

variables were examined in accordance with the standardized regression coefficients (β) and it was determined that high standards were the most important predictor for the mastery-avoidance achievement goal. This variable was followed by the variables of irrational belief, order, discrepancy, and gender. Mastery-avoidance achievement goal was not significantly predicted by academic self-efficacy, self-determination locus of control and dissatisfaction. When the levels of irrational beliefs, high standards, order and discrepancy increase, the mastery-avoidance achievement goal level increases and vice versa. In addition, with regard to the fact that gender is a predictor of achievement

goal, the mastery-avoidance achievement goal levels for female students were found higher than male students.

Predictors of Performance-approach Achievement

Goal: Before regression analysis concerning performance-approach achievement goal was conducted, statistical values with regard to the assumption of regression analysis were determined. In this context, while statistical values concerning multicollinearity were examined, it was found that variance inflation factor (VIF) values varied between 1.04 and 1.91 and were lower than the criterion value of 10 (Field, 2005). Tolerance values varied between

Table 5
Summary of Hierarchical Regression Analysis for Variable Predicting Performance-approach Goal Orientations

Model	Variables	B	SE _B	β	t	R	R ²	ΔR^2	F
1	Irrational belief	.26	.02	.32	12.97***	.32	.10	.10	168.24***
2	Irrational belief	.21	.02	.26	9.80***	.35	.12	.02	41.11***
	High standards	.08	.02	.10	3.14**				
	Order	.01	.03	.01	.20				
	Discrepancy	.04	.03	.05	1.75				
	Dissatisfaction	.03	.02	.05	1.43				
3	Irrational belief	.21	.02	.26	9.82***	.36	.13	.01	37.87***
	High standards	.03	.03	.04	1.24				
	Order	.01	.03	.01	.25				
	Discrepancy	.08	.03	.10	3.05**				
	Dissatisfaction	.03	.02	.05	1.50				
	Academic self-efficacy	.20	.05	.12	4.38***				
4	Irrational belief	.21	.02	.26	9.77***	.37	.135	.005	33.09***
	High standards	.04	.03	.05	1.49				
	Order	.01	.03	.01	.34				
	Discrepancy	.07	.03	.09	2.62**				
	Dissatisfaction	.03	.02	.04	1.19				
	Academic self-efficacy	.22	.05	.13	4.67***				
	Self-determination	-.05	.02	-.05	-1.98*				
5	Irrational belief	.21	.02	.26	9.86***	.37	.135	.00	29.36***
	High standards	.04	.03	.05	1.44				
	Order	.01	.03	.01	.33				
	Discrepancy	.075	.027	.092	2.775**				
	Dissatisfaction	.02	.02	.04	1.05				
	Academic self-efficacy	.21	.05	.13	4.37***				
	Self-determination	-.05	.02	-.06	-2.11*				
	Locus of control	-.07	.04	-.04	-1.72				
6	Irrational belief	.22	.02	.26	9.96***	.37	.14	.005	26.63***
	High standards	.04	.03	.05	1.48				
	Order	.02	.03	.02	.58				
	Discrepancy	.07	.03	.09	2.78**				
	Dissatisfaction	.02	.02	.03	.923				
	Academic self-efficacy	.20	.05	.12	4.18***				
	Self-determination	-.05	.02	-.06	-2.02*				
	Locus of control	-.06	.04	-.04	-1.62				
	Gender (Female = 0, Male = 1)	.56	.27	.05	2.07*				

* $p < .05$, ** $p < .01$, *** $p < .001$

.52 and .96 and were higher than the criterion value of .2 (Field, 2005). Finally in analysis, the existence of auto-correlation was checked. The Durbin-Watson test coefficient was found to be 1.894. This value was between the criterion values of 1 and 3 (Field, 2005). Therefore, it was observed that the assumptions of regression analysis were met. In this context, the hierarchical regression analysis was conducted and the results of this analysis are presented in Table 5.

According to Table 5, the model is statistically significant ($p < .001$). In consideration of the explanatory capacity of the model, it was found that all independent variables explain 14% of the total

variance ($R = .37$, $R^2 = .14$, $p < .001$) for the mastery-avoidance achievement goal. Predictor variables were examined in accordance with the standardized regression coefficients (β) and it was determined that irrational beliefs were the most important predictor of performance-approach achievement goal. This variable was followed by the variables of academic self-efficacy, discrepancy, self-determination and gender. The performance-approach achievement goal was not significantly predicted by high standards, order, locus of control and dissatisfaction. When the levels of irrational beliefs, academic self-efficacy and discrepancy increased, the level of performance-

Table 6

Summary of Hierarchical Regression Analysis for Variable Predicting Performance-avoidance Goal Orientations

Model	Variables	B	SE _B	β	t	R	R ²	ΔR^2	F
1	Irrational belief	.20	.02	.32	13.30***	.32	.10	.10	176.89
2	Irrational belief	.16	.02	.26	10.08***	.42	.17	.07	62.39***
	High standards	-.07	.02	-.12	-3.93***				
	Order	.03	.02	.04	1.50				
	Discrepancy	.15	.02	.24	7.94***				
3	Dissatisfaction	.02	.02	.04	1.31	.42	.175	.005	54.60***
	Irrational belief	.16	.02	.26	10.04***				
	High standards	-.06	.02	-.09	-3.10**				
	Order	.04	.02	.05	1.65				
	Discrepancy	.13	.02	.21	6.78***				
	Dissatisfaction	.01	.02	.03	.81				
4	Self-determination	-.06	.02	-.09	-3.62***	.43	.18	.005	47.53***
	Irrational belief	.16	.02	.26	10.08***				
	High standards	-.04	.02	-.07	-2.18*				
	Order	.03	.02	.04	1.61				
	Discrepancy	.12	.02	.19	5.97***				
	Dissatisfaction	.01	.02	.03	.85				
	Self-determination	-.05	.02	-.08	-3.18***				
	Academic self-efficacy	-.07	.03	-.06	-2.09*				
5	Irrational belief	.16	.02	.26	10.07***	.43	.18	.00	41.57***
	High standards	-.04	.02	-.07	-2.18*				
	Order	.03	.02	.04	1.61				
	Discrepancy	.12	.02	.19	5.96***				
	Dissatisfaction	.01	.02	.03	.83				
	Self-determination	-.06	.02	-.09	-3.19***				
	Academic self-efficacy	-.07	.04	-.06	-2.10*				
	Locus of control	-.01	.03	-.01	-.18				
6	Irrational belief	.16	.02	.26	10.07***	.43	.185	.005	36.93***
	High standards	-.04	.02	-.07	-2.17*				
	Order	.04	.02	.05	1.63				
	Discrepancy	.12	.02	.19	5.96***				
	Dissatisfaction	.01	.02	.03	.81				
	Self-determination	-.05	.02	-.08	-3.17**				
	Academic self-efficacy	-.07	.04	-.06	-2.11*				
	Locus of control	-.01	.03	-.01	-.17				
	Gender (Female = 0, Male = 1)	.05	.20	.01	.27				

* $p < .05$, ** $p < .01$, *** $p < .001$

approach achievement goal increased and vice versa. On the other hand, when the level of self-determination increased, the level of mastery-approach achievement goal decreased and vice versa. In addition, with regard to the fact that gender is a predictor of achievement goals, the level of performance-approach achievement goal for male students was found to be higher than female students.

Predictors of Performance-avoidance Achievement

Goal: Before regression analysis concerning performance-avoidance achievement goal was conducted, statistical values with regard to the assumption of regression analysis were determined. In this context, while statistical values concerning multicollinearity were examined, it was found that variance inflation factor (VIF) values varied between 1.04 and 1.91 and were lower than the criterion value of 10 (Field, 2005). Tolerance values varied between .52 and .96 and were higher than the criterion value of .2 (Field, 2005). Finally in the analysis, the existence of auto-correlation was checked. The Durbin-Watson test coefficient was found to be 1.994. This value was between the criterion values of 1 and 3 (Field, 2005). Therefore, it was observed that the assumptions of regression analysis were met. In this context, hierarchical regression analysis was conducted and the results of this analysis are presented in Table 6.

According to Table 6, the model is statistically significant ($p < .001$). In consideration of the explanatory capacity of the model, it was found that all independent variables explained 18.5% of the total variance ($R = .43$, $R^2 = .185$, $p < .001$) for the mastery-avoidance achievement goal. Predictor variables were examined in accordance with the standardized regression coefficients (β) and it was determined that irrational beliefs was the most important predictor of performance-approach achievement goal. This variable was followed by the variables of discrepancy, self-determination, high standards and academic self-efficacy. The performance-approach achievement goal was not significantly predicted by order, dissatisfaction, locus of control, and gender. When the levels of irrational beliefs and discrepancy increased, the level of performance-avoidance achievement goal increased and vice versa. On the other hand, when the level of self-determination, high standards, and academic self-efficacy increased, the level of performance-avoidance achievement goal decreased and vice versa.

Discussion

Research findings about the level of achievement goal orientations of university students indicated that university students generally adopted mastery-approach goal orientations at a high level, mastery-avoidance achievement goal orientations at a medium level and performance-approach and performance-avoidance achievement goal orientations at a low level. These findings are consistent with Toğluk's (2009) findings. In this way, as mastery-approach has the most adaptive features among achievement goals (Elliot & McGregor, 2001), it can be interpreted that students may have adaptive characteristics in terms of their achievement goal orientations. Moreover, adaptation of mastery-approach goal orientations at a high level by students might indicate that they consider their own level of skills and talents.

The research findings of this study demonstrated that *mastery-approach goal orientation* was significantly predicted in order of significance by the high standards dimension of perfectionism, academic self-efficacy, the order dimension of perfectionism, self-determination, internal locus of control, the dissatisfaction dimension of perfectionism, and gender (for females) respectively. In the literature, there are several studies identifying a positive relationship between mastery-approach goal orientations and academic self-efficacy (Eryenen, 2008; Roeser et al., 1996). Apart from that, some studies found that there is a positive relationship between mastery-approach goal orientation and self-determination (Odacı, Berber-Çelik, & Çikrikçı, 2013; Wolters, Yu, & Pintrich, 1996). These results are similar to the findings of the current study. These relations between academic self-efficacy and mastery-approach goal orientations also support the fact that mastery-approach goal orientations have adaptive features.

According to research findings, an increase in high standards and order dimensions of perfectionism leads to an increase in the mastery-approach goal orientation level. On the other hand, a decrease in the dissatisfaction dimensions of perfectionism causes a decrease in the mastery-approach goal orientation level. These results are compatible with the research findings of Hanchon (2010; 2011). Moreover, individuals with mastery-approach goal orientation choose goals that they are able to achieve. At this point, although they set high standards, these goals are realistic and accessible. Perfectionist individuals perform adaptive behaviors when they choose high but accessible goals. In this context,

it can be said that individuals with a mastery-approach goal orientation choose difficult but realizable goals for themselves. In addition, in line with research findings, there is a low possibility that individuals with mastery-approach goal orientation experience dissatisfaction when achieving their accessible goals.

Research findings showed that the mastery-approach goal orientation level increases when the level of self-determination increases. Individuals who adopt the mastery-approach goal orientations consider their own skill levels as a criterion of achievement (Elliot, 1999). At the same time, some studies demonstrate that the internal motivation level of individuals who adopt the mastery-approach goal orientation is high (Rawsthorne & Elliot, 1999; Wolters, 1998). Self-determined individuals can make their own decisions and their internal motivation levels are high (Deci & Ryan, 2000). In this context, the results of this study concerning the mastery-approach goal orientation are compatible with the results of other studies.

Research findings demonstrated that the mastery-approach goal orientation level increases as the internal locus of control level increases. A research investigating relationships between achievement goal orientations and locus of control showed that internal locus of control positively predicted mastery-approach goal orientation (Buluş, 2011). Similarly, academic internal locus of control positively predicted mastery-approach goal orientation and academic external locus of control negatively predicted mastery-approach goal orientations (Akin, 2010). According to research findings from previous studies, both internal locus of control and academic internal locus of control have a positive relationship with mastery-approach goal orientations. Therefore, these results seem to be compatible with the findings of the current study. In addition, the high level of internal locus of control of individuals with a mastery-approach goal orientation can be explained with the fact that they have self-reference.

Research findings demonstrate that female students have a higher level of mastery-approach goal orientation in comparison to male students. Several studies have indicated that female students adopt mastery-approach goal orientation more than male students (Akin, 2006a; Elliot & McGregor, 2001; Küçüköğlu et al., 2010; Toğluk, 2009; Tutaş, 2011). Their findings seem to support the findings of this study. On the other hand, some studies found that mastery-approach goal orientation does not depend on gender (Çelik-Menderes, 2009; Odacı

et al., 2013). However, research findings point out that female students adopt mastery-approach goal orientation better than male students.

In this study, research findings showed that irrational beliefs are not a significant predictor of mastery-approach goal orientation. Some studies stated that individuals with irrational beliefs experience academic procrastination and academic failure (Bozkurt, 1998; Bridges & Roing 1997). Mastery-approach goal orientation is positively related with academic success (Buluş, 2011; Eryenen, 2008; Pintrich et al., 2003). Therefore, as the findings of this study demonstrate, the results with regard to the fact that irrational beliefs are not a significant predictor of mastery-approach goal orientation are supported by other studies that revealed the relationship of these two variables with academic achievement.

According to research findings, *mastery-avoidance goal orientation* was predicted in order of significance by the high standard dimension of perfectionism, irrational beliefs, order, the discrepancy dimension of perfectionism, and gender. Research findings indicated that an increase in level of irrational beliefs causes an increase in the mastery-avoidance goal orientation level. Individuals with irrational beliefs have beliefs that are obligatory. For example beliefs such as "I should always be successful. If I make a mistake this will be a disaster for me," and "I should be extremely careful, tidy, and thorough," are irrational beliefs (Ellis, 1994). Mastery-avoidance goal orientation is positively related to fear of failure and the belief that talent is unchangeable (Elliot & McGregor, 2001). In addition to this, both irrational beliefs (Boyacıoğlu & Küçük, 2008; Wong, 2008) and mastery-avoidance goal orientation (Elliot & McGregor, 2001) cause test anxiety. In this context, the research findings of this study concerning the relationship between irrational beliefs and mastery-avoidance goal orientation are supported by the findings of other studies, which presented similar relations through the same variables and theoretical knowledge.

According to research findings, an increase in the high standards, order and discrepancy levels of perfectionism leads to an increase in mastery-avoidance goal orientations. Individuals that adopt mastery-avoidance goal orientation experience a fear of forgetting what they learn and that they are learning their study material erroneously (Elliot, 1999). The reason for these fears is that individuals who adopt mastery-avoidance goal orientation avoid making mistakes due to their own high standards (Pintrich et al., 2003). These explanations coincide with the findings of this research. Besides,

as mastery-avoidance goal orientation is positively related to both high standards and discrepancy, it can be claimed that individuals who adopt mastery-avoidance achievement goals have maladaptive perfectionism.

Research findings indicate that female students have a higher level of mastery-avoidance goal orientations in comparison to male students. Studies based on the trichotomous achievement model showed that female students adopted mastery goal orientations more than male students (Akin, 2006a; Toğluk, 2009; Tutaş, 2011). However, the trichotomous achievement model mostly includes the properties of mastery-approach goal orientation. A study investigating how mastery-avoidance goal orientation changes according to gender demonstrated that female students adopted mastery-avoidance goal orientation more than male students (Odacı et al., 2013). The results of this study seem to be compatible with current findings.

According to research findings, academic self-efficacy, self-determination and locus of control are not related to mastery-avoidance goal orientation. In this context, academic self-efficacy is not related to mastery-avoidance goal orientation because individuals with mastery-avoidance goal orientation included negative characteristics such as fear of failure and erroneous learning as well as positive characteristics like determination of their own achievement criteria. Elliot and McGregor (2001) found that self-determination negatively predicts mastery-avoidance goal orientation. However, this study indicated that self-determination and mastery-avoidance goal orientations are not related. This may stem from the fact that students who participated in these surveys might have adopted positive and negative characteristics of mastery-avoidance goal orientation at different levels. Akin (2010) identified that both external and internal academic locus of control positively predict mastery-avoidance goal orientation. Positive prediction of both of these academic locus of control with mastery-avoidance goal orientation points out that individuals with both external and internal locus of control might adopt mastery-avoidance goal orientation. This situation, although it seems contradictory, can be explained through the fact that mastery-avoidance goal orientation includes both positive and negative characteristics. In light of the findings of this study, irrelevance of locus of control and mastery-avoidance goal orientation might stem from the fact that mastery-avoidance goal orientation includes both positive and negative properties.

According to research findings, *performance-approach achievement goal orientation* was predicted in order of significance by irrational beliefs, academic self-efficacy, discrepancy dimension of perfectionism, self-determination, and gender. The findings showed that an increase in the level of irrational beliefs also causes an increase in level of performance-approach goal orientations. Individuals that adopt performance-approach goal orientation tend to be successful in order to perform better than others and to show that they are capable (Elliot, 1999; Elliot & Harackiewicz, 1996). Irrational beliefs always included thoughts such as “I should always be successful and superior” (Ellis, 1994). In this context, this study seems to be compatible with studies that stated irrational beliefs is a positive predictor of performance-approach goal orientation.

Research findings also showed that an increase in the discrepancy dimension of perfectionism leads to an increase in the level of performance-approach goal orientation. Individuals, who are maladaptive perfectionist and non-perfectionist tend to adopt performance-approach goal orientation more (Hanchon, 2010, 2011). This study found that only the discrepancy dimension of perfectionism predicts performance-approach goal orientation positively. Individuals that are considered as maladaptive perfectionists acquired high scores from both high standards and discrepancy dimensions of perfectionism. Therefore it can be claimed that participating individuals who are not perfectionists more often adopted performance-approach goal orientation.

According to research findings, an increase in academic self-efficacy causes an increase in performance-approach goal orientation. A positive correlation was identified between self-efficacy and performance-approach goal orientation (Wolters et al., 1996). This finding, although not directly related to academic self-efficacy, seems to support the results of this research. On the other hand, self-efficacy negatively predicted performance-approach goal orientation (Odacı et al., 2013). Eryenen (2008), however, found that academic self-efficacy and performance-approach goal orientation are not related. Accordingly, these studies produced different results. However, in light of the findings of these studies, academic self-efficacy positively predicted performance-approach goal orientation. This fact might depend on the positive correlation between academic self-efficacy and performance-approach goal orientation (Elliot & McGregor, 2001; Taş, 2008)

According to research findings, an increase in self-determination causes an decrease in performance-approach goal orientation. Self-determination is connected to individuals who make decisions for themselves and take responsibilities (Gagné & Deci, 2005). Individuals with performance-approach goal orientation are interested in normative performance knowledge and create their own achievement criteria in order to perform better than others (Butler, 1992; Elliot & Harackiewicz, 1996). It might be thought that this theoretical knowledge supports the fact that self-determination negatively predicts performance-approach goal orientation.

Research findings demonstrate that male students have a higher level of performance-approach goal orientation in comparison to female students. Some studies investigating the achievement goal orientations of male and female students found that male students have a higher level of performance-approach goal orientation than female students (Akın, 2006a; Küçükoğlu et al., 2011; Middleton & Midgley, 1997; Roeser et al., 1996). These results support the findings of the current study. On the other hand, Tutaş (2011) found that female students adopt performance-approach goal orientation more than male students. In addition, other studies identified no difference between male and female students in terms of performance-approach goal orientation (Çelik-Menderes, 2009; Odacı et al., 2013). Although the results of these studies are different, they mostly showed that male students have a higher level of performance-approach goal orientation in comparison to female students. This situation seems to be compatible with the findings of this study.

According to the research findings, locus of control is not a significant predictor of performance-approach goal orientation. Buluş (2011) found that locus of control and performance-approach goal orientation are not related. Research findings of this study concerning the relationship between locus of control and performance-approach goal orientation coincide with Buluş's findings. On the other hand, it was found that academic external locus of control negatively predicts and academic internal locus of control positively predicts performance-approach goal orientation (Akın, 2010). In this case, these results might stem from the difference between academic locus of control, which only handles locus of control in terms of academic tasks, and general locus of control. Moreover, individuals with performance-approach goal orientation are externally focused in terms of motivation for

academic tasks in order to perform better than other individuals (Elliot & Harackiewicz, 1996). It can be said that this theoretical explanation contradicts the findings of this study.

According to research findings, *performance-avoidance goal orientation* was significantly predicted in order of significance by irrational beliefs, the discrepancy dimension of perfectionism, self-determination, the high-standards dimension of perfectionism and academic self-efficacy. The findings showed that an increase in the level of irrational beliefs also causes an increase in level of performance-avoidance goal orientation. Performance-avoidance goal orientation has characteristics such as avoidance of looking untalented, fear of failure, and fear of looking unsuccessful and untalented when compared to others (Elliot, 1999; Elliot & Church, 1997). In this context, irrational beliefs such as "I should always be successful," "I should always be recognized by other people," "It is easier to avoid difficulties in my life rather than facing them," and "I can be happy without making much effort," (Ellis, 1994) are similar to beliefs concerning performance-avoidance goal orientation. This theoretical knowledge seems to support the results of this study.

According to research findings, an increase in the discrepancy dimension of perfectionism and a decrease in the high-standards dimension cause an increase in performance-avoidance goal orientation level. Individuals that adopt performance-avoidance goal orientation tend to avoid looking untalented and unsuccessful (Elliot & Harackiewicz, 1996). Therefore, they also avoid academic tasks yet they desire to look successful. Perfectionist individuals experience discrepancy when their desired goals and their real performances do not overlap (Slaney & Ashby, 1996). In this context, the discrepancy experienced concerning performances by individuals who try to look successful but avoid academic tasks at the same time is supported by this theoretical knowledge.

According to research findings, an increase in the level of self-determination causes the level in performance-avoidance goal orientation to increase. Self-determined individuals have a high level of internal motivation (Vallerand, Pelletier, & Koestner, 2008). There are some research findings indicating that individuals with performance-avoidance goal orientation have a low level of internal motivation but a high level of external motivation (Rawsthorne & Elliot, 1999; Wolters, 1998). At the same time, Elliot and McGregor (2001)

found that self-determination negatively predicts performance-avoidance goal orientation. These findings coincide with the findings of this research. In addition, as related to the fact that individuals make their own decisions and individuals with performance-avoidance goal orientation determine their criteria according to others' criteria, it might be considered that there is a negative correlation between self-determination and performance-avoidance goal orientation.

As the findings of the study indicate, an increase in academic self-efficacy causes the performance-avoidance goal orientation level to decrease. It was found that performance-avoidance goal orientation is negatively related to self-efficacy (Odacı et al., 2013), academic self-efficacy, and teacher self-efficacy (Eryenen, 2008). At the same time, it was also identified that there is a positive correlation between academic self-efficacy and academic performance (Chemers, Hu, & Garcia, 2001; Gore, 2006; Satıcı, 2013). Performance-avoidance goal orientation is negatively related to exam performance (Elliot & McGregor, 2001). It is observed that these findings support the findings of this study. In addition, because individuals that adopt performance-avoidance goal orientation set goals that are easily accessible while avoiding being unsuccessful, they consequently avoid academic tasks. From this, it can be considered that they have a low level of academic self-efficacy.

In this study, it was found that locus of control is not a significant predictor of performance-avoidance goal orientation. Buluş (2011) found that external locus of control positively predicts performance-avoidance goal orientation. Similarly, it was identified that performance-avoidance goal orientation was predicted positively by internal academic locus of control and negatively by external academic locus of control (Akin, 2010). These findings coincide with the results of this study. For this reason, it might be considered that further research will contribute in understanding the relationship between locus of control and performance-avoidance goal orientation.

According to the findings of this study, gender is not a significant predictor of performance-avoidance goal orientation. Some studies (Çelik-Menderes, 2009; Odacı et al., 2013) demonstrated that there is no difference among performance-avoidance goal orientation according to gender. These findings are consistent with the results of this study. Some studies identified that male students adopt performance-avoidance goal orientation more

than female students (Akin, 2006a; Middleton & Midgley, 1997; Roeser et al., 1996). On the contrary, Tutaş (2011) found that female students adopt performance-avoidance goal orientation more than male students. Although there are more research results concerned with the better adaptation of male students concerning performance-avoidance goal orientation in the literature, the findings of this study point out that gender may not necessarily be a significant predictor of performance-avoidance goal orientation.

Finally, it is observed that achievement goal orientations that are adopted by university students are not independent from variables such as academic self-efficacy, irrational beliefs, perfectionism, self-determination, locus of control, and gender. In this context, the study reveals the goals and motivations of students for achievement. According to the achievement goal orientations theory, mastery-approach goal orientation is the most adaptive and performance-avoidance is the least adaptive achievement goal orientation profile among achievement goal orientations (Elliot & McGregor, 2001). The adaptive and maladaptive variables that were analyzed in this study and the research findings concerning their relationships with mastery-approach and performance-avoidance goal orientations seem to produce results to support this view. Moreover, some features of mastery-avoidance and performance-approach goal orientations are adaptive while others are not (Elliot, 1999; Elliot & Harackiewicz, 1996; Elliot & McGregor, 2001). The variables investigated in this study and their relationships with mastery-avoidance and performance-approach goal orientations coincide with this view. In this context, the increase of academic self-efficacy, the high standards and order dimensions of perfectionism, self-determination, and internal control of focus levels of students and the decrease of discrepancy and dissatisfaction dimension of perfectionism, irrational beliefs, and external control of focus levels, it is assumed that their levels of mastery-approach achievement goal orientation, which is considered as the most adaptive achievement goal orientation, will increase. Thereby students should try to adopt adaptive goals such as improving their own knowledge and skills, comprehend learning materials completely, and learning from their mistakes.

In light of these research findings, some suggestions can be made. In this context, teachers, school managers, and psychological counselors can benefit from the results of this study to improve

the learning environments of students and to increase their motivation. In such environments, it would be helpful to provide opportunities to students for cooperation, organize activities that encourage learning for students to adopt the most adaptive achievement goal orientation profile: mastery-approach goal orientations. Besides, school counselors in schools can organize activities in order to increase students' level of academic self-efficacy, high standards, and order concerning perfectionism, self-determination and internal locus of control. Therefore, they are able to increase their motivations for success. In addition, activities that might reduce levels of irrational belief, discrepancy and dissatisfaction concerning perfectionism will cause an increase in student motivation.

The findings of this research are considerable as they reveal the nature of student achievement goal orientations. However, it is essential to consider

that the concept of achievement goal orientations, which was employed as an independent variable in analyzing the results of the research, is limited by the properties of a 2 x 2 Achievement Goal Orientations Scale. Furthermore, new studies on different work groups of students in terms of their achievement goal orientation might extend these properties in general concerning their achievement goal orientation. In the scope of results of this study, relationships between achievement goal orientation and locus of control seem to be incompatible with previous research on achievement goal orientations and theoretical knowledge provided by the 2 x 2 Achievement Goal Orientations Scale. Therefore, it is thought that further studies investigating relationships between achievement goal orientations and locus of control might contribute to the literature. In addition, this study was completed using qualitative data. For this reason, new studies analyzing the nature of achievement goal orientations can employ quantitative and empirical methods.

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