



High School Students' Achievement Goals: Assessing Gender, Grade Level and Parental Education

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Abstract

The purpose of this study was to investigate the relationship between high school students' goal orientations, and their gender, grade level and parents' level of education. Data were collected from 266 high school students in Turkey during the Spring semester of 2011-2012. A multiple-goal perspective with approach and avoidance dimensions was considered. Goal orientations of learning-approach (LPGO), learning-avoidance (LVGO), performance-approach (PPGO), and performance-avoidance (PVGO) were measured using the 2x2 Achievement Goal Orientation Scale developed by Akin in 2006. A series of multivariate ANOVAs and univariate F-tests were conducted with gender, grade level and parental level of education as independent variables, and with LPGO, LVGO, PPGO, and PVGO as dependent variables. Findings showed that there were significant differences on gender and grade level, but no significant associations between the scale scores and parental level of education.

Introduction

Goals are essential parts of human motivation. They have been viewed within a motivational framework because goals are ends toward which individuals direct their effort (Pintrich, 2000a). One of the most significant research tradition in the area of motivation has been the goal orientation (or achievement goal orientation) theory (ie., Ames, 1984; Atkinson, 1957; Dweck, 1986; Elliot, 1999, Maehr, 1983; Nicholls & Miller, 1984) which claims that students' goals impact their academic performance. This line of research also attempts to determine the types of and ways in which goals impact student success. Even though goal orientation theory is mostly studied in areas of education (Dweck, 1986; Elliot & McGregor, 2001; Erözkan, 2004; Urđan, 2004) it has also been widely used in areas such as sports psychology (Weiss, 1993), health psychology (Ryan & Deci, 2007), and social psychology (Blanchard & Vallerand, 1996).

Achievement goal orientation theory views goal orientation as "reflecting individual differences in work-related behaviors and task performance outcomes. The goal orientation construct reflects internal motivational processes that affect an individual's task choice, self-set goals, and effort mechanisms in learning and performance contexts" (McKinney, 2003, p. 1). Researchers exploring goal orientation (i.e., Elliot, 1999) often distinguish between mastery and performance orientations. Some also refer to these two orientations as learning goal orientation and performance goal orientation respectively. Thus typically, students with the former orientation, which is coined by some authors as learning goals (Dweck & Leggett, 1988) or task-involved goals (Nicholls & Miller, 1984), are concerned about learning the material and mastering the tasks at hand while those with the latter orientation are concerned

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about “demonstrating their ability and performance as measured by their relative standing to others’ achievement” (Was, 2006, p. 3).

Some researchers view mastery orientation as the preferable way to improving learning, self-efficacy, effort, persistence and effective meta-cognitive and cognitive strategy use (i.e., Middleton & Midgley, 1997; Nicholls & Miller, 1984; Was, 2006). The rationale for this conviction is that students with this orientation are more likely to persist longer on challenging task and attribute outcomes (whether positive or negative) of their efforts to internal reasons. Elliot (1999) divides mastery orientation into mastery approach and mastery avoidance orientations. While mastery approach orientation leads one to completion of the task in order to improve his or her knowledge, mastery avoidance causes the person to avoid the task due to the fear that he or she may not be capable doing so. According to Brophy (2005) mastery avoidance students also try to master the task but they have more emphasis on avoidance of failure, mistakes or reduction of the existing skills (Cited in Was, 2006).

Unlike students with a mastery orientation, those with performance orientation are more likely to become frustrated during the completion of a challenging task thus are less likely to persist. In addition, they are more likely to attribute failure to uncontrollable external factors such as luck (Lepper, 1988). Performance orientation is also divided into performance approach (gaining favorable judgment) and performance avoidance (avoiding negative judgment) orientations. Students with the predominantly performance approach orientation tend to have confidence in their ability and thus tend to prefer competing with others and demonstrating those abilities. Somuncuoğlu and Yıldırım (1999) refer to this tendency as ego-social orientation with which persons attempt to obtain high grades and outperform peers as a means of attaining approval and improving self-esteem. On the other hand, students with the predominantly performance avoidance orientation view themselves as lacking the ability to perform the task at hand thus they tend to avoid others becoming aware of this lack of ability (with their lack of achievement or their failure). To some researchers, these students are more likely to put unrealistically high or low goals and procrastinate (Was, 2006). These students attempt to avoid failure as way of maintaining a sense of self-worth.

In the early years of the goal orientation theory, Middleton and Midgely (1997) suggested a three-category model of goal orientation: mastery goals, performance-approach goals and performance-avoidance goals. In the following years, in line with models by Elliot (1999) and Pintrich (2000b), Elliot and McGregor (2001) proposed a 2x2 achievement goal framework that consisting of: performance-approach, performance-avoidance, mastery-approach and mastery-avoidance goals.

As the theory evolved, a host of variables have been investigated with respect to their relationship to goal orientation. Gender is one of those variables (i.e., Patrick, Ryan & Pintrich, 1999). Findings regarding goal orientation and gender have been mixed. While some have found males to be more performance oriented than females (i.e., Midgley & Urdan, 1995) others have reported either females as more likely to have a performance goal orientation (i.e., Chan, 2007) or no gender differences. Meanwhile, several studies have reported no significant gender differences on task, performance-approach, or performance-avoidance goal orientations (i.e., Abrahamsen, Robert & Pensgaard, 2007).

Studies investigating goal orientations and parenting variables have often focused on parenting styles. Some of these studies (i.e., Chang, 2007; De Bruyn, Dekovid & Meijnen, 2003; Eccles, Barber & Jozefowicz, 1998; Grolnick, Ryan & Deci, 1991) hypothesized that parenting styles would be linked to individuals’ goal orientation because parenting is an essential variable in the family context in which persons’ social cognitive characteristics develop- particularly through the parent-child interaction (De Bruyn, Dekoviç & Meijnen, 2003). Most of these studies (i. e., Amato & Gilbreth, 1999; Lamborn, Mounts, Steinberg & Dornbusch, 1992; Steinberg, Lamborn, Darling, Mounts & Dornbusch, 1994) report results favoring authoritative parenting over authoritarian or permissive parenting. Likewise, some studies have found associations between more egalitarian ways of parenting (i.e., their degree of

supporting children's autonomy) and variables such as intrinsic motivation, self-regulation and competence (Bickley, Trivett & Singh, 1993; De Bruyn et al., 2003; Keith, Keith, Troutman, Srivastawa, 1995). Although studies examining parental education and achievement goals are fewer, they consistently point significant differences in children's goal orientations according to parents' levels of education (Lin, Hung & Lin, 2006; Roebken, 2007).

Research findings regarding students' grade levels and their goal orientation often report significant decline between elementary and middle school. This is often attributed to children's developmental changes as well as the changes that are inherent in middle school life such as heterogeneous classrooms less close monitoring by teachers. On the other hand, students' achievement goals seem to be moderately stable through time (Middleton, Kaplan & Midgley, 2004; Skaalvik, 1997). This stability might alter when significant changes such as transition from middle school to high school occur.

There has been a growing body of literature on achievement goal orientation since Akın's development of the 2x2 Achievement Goal Orientation Scale (AGOS; Akın, 2006) and his adaptation (2007) of Achievement Goal Orientation Scale by Midgley et al (1998). Studies have examined relationships between goal orientation and; factors on the big five (Palancı, Özbay, Kandemir & Çakır, 2010); academic procrastination (Özer & Altun, 2011); self-handicapping (Akın, 2012); locus of control (2010); self-compassion (Akın, 2007); teachers' views on constructivism (Arslan, 2011). All these studies have been done with samples of students.

Given its young population (over 1/3 persons between 0–18 years old age; Turkish Statistical Institute-TÜİK, 2012), the country's striving toward development and poor performance on the (29th place among the participating 30 countries) PISA (Programme for International Student Assessment) in both 2003 and 2006 (Eraslan, 2009), Turkey is in urgent need for improving student learning. Thus studies examining various variables that might impact student motivation and success are vital. Thus, the purpose of this study was to investigate the relationship between high school students' goal orientations, and their gender, grade level and parents' level of education.

Method

Research Design

The current work is a correlational (or descriptive as referred to by some authors) study (Fraenkel, Wallen & Hyun, 2012).

Participants

A convenient sample of 266 (60.2 % male, 39.8 % female) Turkish students attending a public high school during the spring of 2012 were participants of the study. Students' ages ranged from 14 to 17 years. The majority of the participants were 9th graders (50.8 %, n=135), followed by 10th graders (37.2 %, n=99) and 11th graders (12.0 %, n=32). On the other hand, when the surveys were administered school administrators informed the researchers that almost all of the 12th graders were not present at the school. The students had obtained medical reports from doctors so as to prepare for the approaching University entrance exam at home. Therefore, 12th grade students were not included in the sample. Data on students' parents' education showed that 63 % of the mothers and 81 % of the fathers had obtained undergraduate or higher degrees of education.

Procedure

Surveys were administered to students in their classrooms during regular school hours. Students were given consent forms through their teachers to have their parents signed two weeks prior to the study. A separate consent form was given to them during survey administration sessions. Key points in the consent form were also emphasized verbally while in class session. Students were informed about the aim of the study, and were told that there were no right or wrong answers and that the information in the survey would be kept confidential. They were specifically informed that participation was voluntary. They were told that they were free to refuse filling the surveys or to withdraw from participation at any time during the administration session. None of the students present in classes declined participation. Completion of the surveys took about 10-15 minutes.

Instruments

Measuring achievement goal orientation: The 2x2 Achievement Goal Orientation Scale (AGOS; Akin, 2006) was used as a measure of self-reported goal orientation. Participants responded to items using a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5). The AGOS consists of 26 items and comprised of four subscales: Learning-approach goal orientation (LPGO; eight items, e.g., “I like school work that I’ll learn from”), learning-avoidance goal orientation (LVGO; five items, e.g., “I do my best to avoid making mistakes”), performance-approach goal orientation (PPGO; seven items, e.g., “It is important for me to perform better than others”), and performance-avoidance goal orientation (PVGO; six items, e.g., “I worry about the possibility of getting bad grades”). AGOS was developed with 728 university students and Akin (2006) reported internal consistency coefficients as .92, .97, .97, and .95 and the three-week test-retest reliability estimates as .77, .82, .84, and .86, for LPGO, LVGO, PPGO, and PVGO respectively.

Erdem-Keklik and Keklik (2012) were to investigate the four-factor structure of the AGOS with a sample of 465 Turkish high school students. Results of CFA revealed that the model fit to the data and a four-factor structure was similar to that of the original scale. In the sample of high school students the internal consistency coefficients were .82, .73, .81 and .72, for LPGO, LVGO, PPGO, and PVGO respectively. Internal consistency coefficients for the current sample were found .83, .79, .82 and .77 for LPGO, LVGO, PPGO, and PVGO respectively.

Personal Information Form: A Personal Information Form was included to gather information about participants’ age, gender, grade level and their parents’ educational level. Parents’ educational level was a categorical variable ranging from elementary school graduation to graduate degrees.

Data Analysis

As illustrated in Table 1, mean scores on LPGO, LVGO, PPGO and PVGO variables were calculated for all participants and separately for gender, grade level and parental level of education categories.

To control for the inflated Type I error associated with repeated tests of the same theoretical relationship, Multivariate Analysis of Variance (MANOVA) was performed. Means for each category of gender, grade level and parental level of education were taken as grouping variables and LPGO, LVGO, PPGO and PVGO as dependent variables. Univariate ANOVAs were utilized for each dependent variable as a follow-up test for MANOVA.

Table 1.
Univariate Statistics for Groups and AGOS Subscales

Independent Variables		N	LPGO		LVGO		PPGO		PVGO	
			Mean	SD	Mean	SD	Mean	SD	Mean	SD
Gender	Male	160	30.49	4.987	16.04	3.788	22.59	5.863	17.31	4.795
	Female	60	31.45	4.911	17.83	3.875	21.13	6.099	17.22	5.035
Class	9 th graders	135	31.59	4.980	17.64	3.751	21.35	5.985	18.08	4.612
	10 th graders	99	30.05	5.106	16.21	3.737	22.95	5.774	17.05	5.122
	11 th graders	32	30.38	4.109	14.66	4.147	21.88	6.455	15.69	4.902
	Elementary*	12	30.58	5.452	18.17	4.064	20.42	5.838	17.25	5.029
Mothers' Level of Education	Middle school**	22	28.73	2.963	15.36	3.001	22.50	6.639	17.77	4.879
	High school***	65	31.05	5.051	16.22	4.307	22.00	6.317	16.08	4.849
	University	147	30.84	5.003	16.98	3.824	21.90	5.693	17.51	4.796
	Master's or doctoral degree	20	33.10	5.350	17.50	3.749	23.25	6.695	18.85	5.234
Fathers' Level of Education	Elementary*	12	30.25	4.808	17.75	4.025	21.08	5.017	16.83	4.509
	Middle school**	10	29.90	5.953	17.00	4.397	22.90	4.458	17.20	3.824
	High school***	28	28.86	4.964	14.79	3.872	20.68	7.232	15.75	4.461
	University	157	31.03	4.697	16.99	4.032	22.22	5.888	17.41	4.896
	Master's or doctoral degree	59	31.71	5.401	16.81	3.324	22.10	6.093	17.73	5.258

* Grades 1-5
 ** Grades 6-8
 *** Grades 9-11

LPGO: Learning approach goal orientation
 LVGO: Learning avoidance goal orientation
 PPGO: Performance approach goal orientation
 PVGO: Performance avoidance goal orientation

Results

The results of the study were twofold. The first part of the analysis investigated main effects and the second part focused on the univariate ANOVAs.

One-way MANOVAs

Prior to conducting a series of one-way MANOVAs, the assumption of homogeneity of variance-covariance was tested with Box's M test. Based on a series of Box's M tests, assumptions of the homogeneity of variance-covariance matrices between the groups were considered satisfactory ($p > .05$). Then, in order to assess if there were any differences in the sample according to various demographic variables, a series of one-way MANOVAs were conducted, with gender, grade level and parents' level of education serving as independent variables; and the 2x2 AGOS subscales serving as dependent variables. In the Table 2, all of the multivariate test results are presented.

Table 2.
Multivariate Tests.

Effect	Wilks's Lambda (λ)	F-value	df ₁	df ₂	p-value	Partial ϵ^2
Gender	.920	5.681	4	261	.000	.080
Grade Level	.885	4.112	8	520	.000	.059
Mothers' Level of Education	.911	1.532	16	788.841	.082	.023
Fathers' Level of Education	.936	1.085	16	788.841	.365	.016

Results of the one-way MANOVAs revealed significant differences in the linear combination of the dependent variables across gender [$\lambda=.920$, $F(4,261)=5.681$, $p<.001$, partial $\epsilon^2=.080$] and grade level [$\lambda=.885$, $F(8,520)=4.112$, $p<.001$, partial $\epsilon^2=.059$]. However, no significant multivariate effect across mothers' [$\lambda=.911$, $F(16,788.841)=1.532$, $p=.082$, partial $\epsilon^2=.023$] and fathers' level of education [$\lambda=.936$, $F(16,788.841)=1.085$, $p=.365$, partial $\epsilon^2=.016$] were observed.

Univariate ANOVAs for Gender and Grade Levels

In the previous multivariate analyses, there were observed significant gender and grade level differences in the linear combination of the 2x2 AGOS subscales. Prior to determining how the dependent variables differ for gender and grade level, firstly homogeneity of variances assumptions were checked for by Levene's Test which showed that all values were higher than .05. Thus it was concluded that the homogeneity of variances assumptions were met.

Follow-up univariate tests of gender differences indicated that girls scored significantly higher than boys only on dimension LVGO, $F(1,264)=14.019$, $p<.001$, partial $\epsilon^2=.050$. In addition, follow-up univariate ANOVAs for grade level differences indicated significant groups differences with regard to LVGO [$F(2,263)=9.617$, $p<.001$, partial $\epsilon^2=.068$] and PVGO, [$F(2,263)=3.234$, $p=.041$, partial $\epsilon^2=.024$]. Finally, a series of post-hoc analyses (Scheffe's post-hoc test) revealed that each pairwise comparison for 9th, 10th and 11th graders' means scores across LVGO and PVGO subscales were statistically significant ($p<.05$). Furthermore, mean scores of students decreased from 9th graders to 11th graders, and the 11th graders achieved the lowest mean scores on these subscales (see Table 1). Therefore, it could be concluded that the trend of the effect was linear.

Discussion

This study examined relationships of achievement goal orientations and their gender, grade level and parental level of education. The results showed that there were no significant differences across parental levels of education in high school students' goal orientations. Albeit indirect, one would expect that parental level of education might be associated with children's goal orientations. Some authors have noted that socialization agents such as teachers and parents have significant impact on students' goal orientation perceptions (i.e., Ciani, Middleton, Summers & Sheldon, 2010; Murayama & Elliot, 2009; Urdan, 2004). Working with a sample of first year secondary school students, De Bruyn and colleagues (2003) also found moderate association between parenting and goal orientation. These authors caution that instead of focusing on parents' role in development of socio-cognitive characteristics such as goal orientation, most of the research examining parenting and children's schooling has focused on the relationship between parenting and school success. Fewer studies have examined parenting variables and intrinsic and external motivation of students (i.e., Dornbusch & Wood, 1989; Grolnick, Ryan & Deci, 1991). Findings of these studies usually reveal that parenting attitudes supportive of autonomy tend to foster intrinsic motivation while more controlling and authoritarian

parenting styles promote external motivation in children. Considering that parental level of education might correlate with their parenting styles, finding no significant differences in students' goal orientation according to their parents' levels of education could be considered as a surprising finding. However, there could be variables (i. e., such as socioeconomic statuses) that might mediate between parents' levels of education and their parenting styles. Therefore, these variables should be further explored by future studies.

Results showed that scores on learning-avoidance goal orientation differed significantly by gender. Specifically, female students scored significantly higher on performance-avoidance goal orientation. As noted earlier, performance avoidance has to do with striving toward avoiding negative outcomes of one's academic efforts. A host of studies have reported higher levels of test anxiety and anxiety related to academic performance in female students in Turkey (Bacanlı & Sürücü, 2006; Erözkan, 2004). Viewing the finding in light of anxiety one would consider it as an expected result. However, anxiety could only be one aspect of students' motivational orientations. Furthermore, given that research findings regarding goal orientation and gender have been mixed (i.e., Abrahamsen et al., 2007; Midgley & Urdan, 1995; Patrick, Ryan, & Pintrich, 1999), extensive work is needed to make any precise conclusion regarding these variables. Particularly future work can focus on female and male students' perceived intrapsychic and interpersonal pressures regarding their academic work and their achievement goal orientations.

Scores on learning-avoidance and performance avoidance goal orientation differed significantly by grade levels. Each pairwise comparison for 9th, 10th and 11th graders' revealed significant mean scores across LVGO and PVGO subscales. Students' mean scores decreased from 9th graders to 11th graders and 11th graders reported the lowest mean scores on these subscales. As mentioned earlier, research findings regarding students' grade levels and their goal orientations often report significant decline between elementary and middle school however students' achievement goals seem to be moderately stable over time (Middleton, Kaplan & Midgley, 2004; Skaalvik, 1997). This finding could partially be attributed to transition from middle school to high school. In other words, students newly entering high school might be more alarmed and thus more motivated to succeed or at least not fail in their new level of schooling, thus after passing the 9th grade a decline in their scores on scales of goal orientation might be an expected trend. Particularly, considering that starting from the 10th grade, majority of students' priority shifts from school courses to the highly competitive nationwide university entrance examinations, a decline in their scores may not be surprising. On the other hand, one could argue that given the fact that 9th graders select their specialty areas (i.e., science, math/language, foreign language, social studies etc.) they would indeed be more motivated to succeed in courses of their self-elected domains. Therefore, further work is needed in order to arrive at any firm conclusion regarding changes in students' goal orientations through high school years and the nature of these changes.

Limitations & Recommendations

The results of this study must be viewed with caution given the limitations of the study. To begin with, it utilized a relatively small, convenient sample of students from only one school, thus the findings cannot be generalized to all high school students in Turkey. The study relied only on self-report measures given only to students as opposed multiple ways of data collection and multiple sources of information.

Despite the limitations of the study, several recommendations can be made for educators and school counselors based on the results of this study. Particularly given that educational system in Turkey is extremely exam-oriented (entrance to most of the high schools and all the universities is through extremely competitive exams), parents' and teachers attitudes toward students and their academic performance should be of particular focus for school counselors so as to not only promote student well-being, motivation and achievement but also to adequately provide preventive mental health services. In

addition, school counselors need to be mindful of students' goal orientations as well as gender issues and differences in academic performance and motivation. Another important issue in need of particular consideration by educators as well as counselors is students' experiences through transitions (i.e., from middle school to high school or high school to university) and changes in students' achievement goal orientation and academic behavior through school years. This can be done in light of longitudinal studies with nationally representative samples. In short, this study attempted to contribute to literature on achievement goal orientation. Further extensive work is needed in order to arrive at conclusive results regarding various aspects of high scholars' goal orientations.

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