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A Comparative Study on Undergraduate Students' Academic Motivation and Academic Self-Concept

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The purpose of this study was to investigate Turkish and American undergraduate students' academic motivation and academic self-concept scores regarding the years that they spent in university. The analysis was based on 566 (284 Turkish, 282 American) undergraduate students where, Academic Motivation Scale and Academic Self-Concept Scale were used as measuring instruments. The results showed that there was a statistical significant effect of nationality and number of years spent in university on undergraduate students' intrinsic motivation, extrinsic motivation, and self-concept scores. Turkish students had higher intrinsic scores whereas American students had higher extrinsic scores and more positive academic-self concept compared to Turkish partners. Regarding grade level, senior students from both cultures had higher intrinsic motivation and academic self-concept scores compared to other grade levels. In terms of extrinsic motivation, there is steady decline in American students' scores as grade level increases. On the other hand, Turkish undergraduates' extrinsic scores decrease in the second year but increase in the third and fourth year of university education. Results were discussed by taking into consideration the social and cultural differences between two nations.

Keywords: comparative study, academic motivation, academic self-concept.

El propósito de este trabajo fue investigar en postgraduados turcos y americanos la motivación y el autoconcepto académicos, en relación con los años invertidos en la universidad. Se registraron las puntuaciones de una muestra de 566 estudiantes postgraduados (284 turcos y 282 americanos) en una Escala de motivación académica y otra Escala de autoconcepto académico. Los resultados indicaron un efecto estadísticamente significativo entre la nacionalidad y el número de años invertidos en la universidad para las puntuaciones de motivación intrínseca, extrínseca y autoconcepto. Los estudiantes turcos puntuaban más alto en motivación intrínseca mientras que los americanos puntuaban más alto en extrínseca y mostraron un autoconcepto más positivo que los estudiantes turcos. En relación con el nivel de estudios, los estudiantes licenciados de ambas culturas puntuaban más alto en motivación intrínseca y en autoconcepto académico que los estudiantes diplomados. En cuanto a la motivación extrínseca, los estudiantes americanos mostraron un descenso en sus puntuaciones a medida que aumentaba el nivel de estudios. Por otro lado, las puntuaciones extrínsecas de los postgraduados turcos disminuía en la segunda mitad del año aunque incrementaba entre el tercer y cuarto año de estudios universitarios. Los resultados se discutieron teniendo en cuenta las diferencias socioculturales de ambas naciones.

Palabras clave: estudios comparativos, motivación académica, autoconcepto académico.

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Research studies on motivational variables have received increased attention within the fields of psychology and education over the past decade (Murphy & Alexander, 2000; Pintrich, 2000). Motivations where various theoretical approaches have been used to define it account for why individuals behave in a given manner in a specific situation. They are believed to exist as part of one's goal structures, and they direct whether or not one would engage in a given pursuit (Ames, 1992).

Academic motivation is one of the variables that have been the focus of many studies. As a result, there are several theories that explain academic motivation. For instance, Graham (1997) asserts that basic principles of attribution theory provide a framework for understanding the reasons people attribute their academic success and failures. Graham added that those reasons could be ability, effort, luck, help or hindrance from others. On the other hand, in order to investigate the roles of self-determined and controlled behavior in academic performance, self-determination theory was proposed (Deci & Ryan, 1985; Deci, Vallerand, Pelletier, & Ryan, 1991). According to the self-determination theory, behavior is either intrinsically or extrinsically motivated or amotivated. In this research study, two variables namely academic motivation based on self-determination theory and academic self-concept were investigated in two different cultures.

Self-determination theory (Deci & Ryan, 1985) is mainly based on three fundamental psychological innate needs; need for competence, relatedness, and self-determination (autonomy) where the same context allows all people a comparable level of satisfaction of those needs. Competence is related to understanding how to obtain various external and internal outcomes and being efficacious in given action. In other words, it is related to the need to experience satisfaction in improving one's ability. Relatedness involves having safe and satisfying connections with others, that is need to feel related to significant others. Lastly, autonomy refers to the self-regulation of one's own actions. In other words, it is related to the need to engage in self directed behavior (Deci & Ryan, 2000; Deci et al., 1991).

Deci (1992) maintains that self-determination theory assumes that human beings are not only growth oriented, proactive, and inherently desirous of autonomous, or self-determined, but they are also open to being controlled. Deci et al. (1991) emphasized that when a behavior is self-determined, the individual recognizes that the locus of causality is internal to him or herself, whereas when it is controlled, the recognized locus of causality is external to the self. Nevertheless, researchers indicated that when people are self-determined they show greater initiative and persistence (Deci & Ryan, 1987), have higher satisfaction and trust (Deci, Connell, & Ryan, 1989), perceive themselves to be in better control of decision making, and take more responsibility of the outcomes of the event (Deci & Ryan, 1985) than when they are controlled. In addition, Deci et al. (1991) proposes that self-determined motivation is related to various educational outcomes from early elementary school to college. In some of these studies, it was emphasized that students who had high self-determined forms of motivation for doing school related work were more likely to stay in school, achieve, show evidence of conceptual understanding, and to be well adjusted than those who had low self-determined motivation (Connell & Wellborn, 1991; Daoust, Vallerand, & Blais, 1988; Vallerand, 1991).

When applying self-determination theory to academic motivation, intrinsic and extrinsic motivations are two primary types of motivated academic behavior (Cokley, 2003). Deci and Ryan (1991) distinguished intrinsic motivation (doing something for the sheer pleasure that it brings or because of interest) from extrinsic motivation (the actions or behaviors a person engages in that are coerced or seduced by external forces). Intrinsic motivation is related to the behaviors driven by the pleasure and satisfaction one receives from engaging in activities (Vallerand et al., 1992). Ryan and Deci (2000) defined intrinsic motivation as "the inherent tendency to seek out novelty and challenges, to extend and exercise one's capacities, to explore, and to learn" (p. 70). Students' enjoyment when they learn new things is an example of intrinsic motivation. Students may do their homework because they find it interesting and satisfying to learn about certain subjects. Ryan and Deci posit that people are intrinsically motivated only for the activities that hold intrinsic interest for them and the activities that have the appeal of novelty, challenge, or aesthetic value. On the other hand, extrinsic motivation refers to "the performance of an activity in order to attain some separable outcome" (Ryan & Deci, 2000, p.71). Extrinsically motivated behaviors are more controlled behaviors compared to intrinsically motivated behaviors. Unlike intrinsic motivation, extrinsic motivation is not related to intense interest to participate in particular activities. For example, people act in a certain way because their behaviors are valued by significant others to whom they are attached (Ryan & Deci, 2000). In this case, behavior is prompted by external contingency such as reward, punishment, and deadlines where the performed behavior is not internalized. For instance, a student who does an assignment for the teacher's praise or to avoid parental confrontation is externally regulated (Deci et al., 1991).

Deci et al. (1991) categorizes extrinsic motivation into four types; namely, external regulation, introjected regulation, identified regulation, and integrated regulation. When these four types are placed along an autonomy continuum, external regulation is the least self-determined and integrated regulation is the most self-determined. External regulation refers to the behaviors regulated by rewards and constraints. Students who study hard and know that their parents will reward them for doing well is an example for external regulation (Deci et al., 1991). On the other hand, introjection is related to implementing

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a regulation, but not fully accepting it as one's own. For instance, a student who gets to class on time to avoid feeling guilty is regulated by introjects (Deci et al., 1991). The third type of extrinsic motivation is identified regulation. This occurs when individuals value their behavior and believe that it is important. Vansteenkiste, Lens, and Deci (2006) claim that when people perceive the personal relevance of an activity for themselves, they are likely to identify its importance and will engage in the activity voluntarily or willingly. For instance, a student who studied statistics because he accepted the importance of statistics for his self-selected goal is behavior through identification. Lastly, integrated regulation is the most developmentally advanced form of extrinsic motivation. It has some relation to intrinsic motivation because both are forms of autonomous self-regulation in which the person behaves willingly in a given situation. However, the learner who is only externally regulated could not be considered to be autonomous compared to intrinsic motivation (Deci et al., 1991).

The last type of motivation is amotivation which is defined as the state of lacking intention to act. When people are amotivated, people either do not act at all or act without intent. Amotivation behaviors are the least autonomous because there is no expectation of reward or change of events. Vallerand et al. (1992) mentioned that amotivation is the lowest level of the autonomy continuum where amotivated individuals are neither intrinsically nor extrinsically motivated. In this category, the individual believes that actions are a result of something that is not under their control.

Deci and Ryan (1985) stated that when people are intrinsically motivated they engage in activities that interest them with full sense of volition without the necessity of material rewards or constraints. Extrinsically motivated behaviors, on the other hand, are instrumental in nature. They are performed not out of interest, but because they are believed to be instrumental to some separable consequences. Intrinsic goals such as community contribution, health, personal growth, and affiliation provide direct satisfaction of basic psychological needs and they are positively related to psychological well-being and positive adjustment (Ryan & Deci 2000). On the other hand, extrinsic goals, such as fame, financial success, and physical appearance are concerned with external manifestations of worth rather than the basic need satisfaction (Van Boven & Gilovich, 2003). In other words, autonomous people with intrinsic motivation experience choice in the initiation, maintenance, and regulation of their behaviors. On the other hand, people with extrinsic motivation perform activities with a sense of pressure or demand by external contingencies. In other words, extrinsically oriented people primarily focus on getting social approval and external rewards and they often neglect their personal interests (Deci & Ryan, 2000). Research studies show that intrinsic motivation is linked to positive academic performance (Deci et al., 1991), more enjoyment of academic work (Vallerand et al., 1989), higher academic achievement (Soenens & Vansteenkiste, 2005) higher perceived academic competence (Fortier, Vallerand, & Guay, 1995), and higher quality learning (Grolnick & Ryan, 1987). However, more extrinsic motivation leads to greater anxiety and poorer ability to cope with difficulties (Deci & Ryan, 2000).

Academic Self-Concept

Academic self-concept is another important component of academic motivation research studies (Cokley, 2003) and is the other concern of this research study. One of the essential aims of education has been the enhancement of positive self-concept which is believed to be a mediating variable of desired outcomes (Shavelson & Bolus, 1982; Shavelson, Hubner, & Stanton, 1976). Academic self-concept refers to attitudes and feelings that students have about their intellectual or academic skills, especially when comparing them with other students (Cokley, 2000b; Lent, Brown, Gore, 1997). It consists of a mixture of cognitive judgments or self-beliefs in addition to affective judgments or self-feelings about one's academic skills (Lent et al., 1997).

Marsh (1989) stated that there was a consistent pattern of self-concept declining from a young age through at least adolescence, leveling out, and then increasing at least through early adulthood. Marsh and Craven (1997) mentioned that although young children have higher self-concept, they develop more realistic judgments of their relative weaknesses and strengths as they grow up and those experiences are fit into their self-concept. Similarly, Guay, Marsh, and Boivin (2003) contend that as children became older, measurement of academic self-concept became more reliable and stable since children's awareness toward the world increases as they become older. In addition, with the increase of age, self-concepts of young children become more predictable and are more closely aligned with external indicators (Wigfield et al., 1997). For instance, school environment is one of the factors that stress the importance of evaluation and competition as students grow older (Wigfield & Eccles, 2002). Furthermore, academic self-concept was found to be positively associated with global self-esteem and the individuals who decided to participate in higher education for cognitive interest regarded as having the most positive academic self-concept (Michie, Glachan, & Bray, 2001).

Literature Review on Motivational Variables

Cokley (2000b) examined academic self-concept of college students belonging to an ethnic minority group in the US, African Americans. Cokley stated that although not significant, African American students who were attending historically black colleges and universities

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had higher self-concept compared to their counter parts attending to the predominantly white universities. In addition, student-faculty interaction accounts as the best predictor of self-concept for the students from predominant black environment. Areepattamannil and Freeman (2008), on the other hand, investigated the academic achievement, academic self-concept, and academic motivation of immigrant adolescents in the Greater Toronto area secondary schools. Results revealed that immigrant adolescents performed as well as their non immigrant counterparts in English and overall school performance. The immigrant adolescents had higher levels of math and school self-concept, intrinsic and extrinsic motivation than their nonimmigrant counterparts.

In another cross-national study, Shen (2005) compared eighth grade US students with five Asian countries namely Singapore, Japan, Hong Kong, China, and South Korea based on school related and out of school life variables using cross national data from TIMSS 1999. Shen (2005) concluded that in comparison to Asian counterparts, US parents have lower expectations and are less involved in their children's schoolwork and academic growth. In another study, Komarraju, Karau, and Ramayah (2007) examined the academic motivation of undergraduate students from two distinct cultures; Malaysia and the United States in relation to specific social and cultural factors that are likely to differ in two countries. An academic motivation inventory was used in the study with the following subscales: Thinking, persisting, achieving, grade orientation, economic orientation, facilitating anxiety, debilitating anxiety, desire for self-improvement, demanding, influencing, competing, approval, affiliating, withdrawing, dislike school, and feeling discouraged about school. The results revealed that Malaysian students scored significantly higher than US students on thinking, competing, desire for self-improvement, facilitating and debilitating anxiety as well as disliking and feeling discouraged about school subscales. On the other hand, US students scored higher than Malaysian students on the demanding motive. It was stated that differences in student selection processes to the universities, family influences, and cultural differences could be the reasons for these differences.

Literature review showed that the majority of cross cultural studies related to motivational variables focus on the comparison of Western populations belonging to individualistic culture with Eastern countries belonging to collectivist culture. Kitayama, Markus, and Kurokawa, (2000) assert that US people have a culturally shared belief that independence is autonomous of the self from others like asserting and protecting one's own rights and distinguishing one's self from context. In other words, it is accepted that autonomy is a Western cultural idea (Markus & Kitayama, 2003). In autonomous societies, people free to express their own personal preferences and opinions. In addition, these individuals because they are not subjected to social pressure to perform well are believed to pursue their own interest (Dekker & Fischer, 2008). On the other hand, individual choice is less important to children from more collectivist cultures (Iyenger & Lepper, 1999). It was stated that non-Western cultures do not value independence of self and they are interdependent within a group. For example, they tend to like empathizing with others and acting on others needs. Various cross cultural researchers (Chirkov & Ryan, 2001; Markus & Kitayama, 1991) emphasized that experience of autonomy is less encouraged by instructors and parents in Eastern cultures. Similar to the ideas above, Hofstede (1980) states that in individualistic cultures, families raise their children as more independent, self-reliant, and self-oriented in comparison to the collectivist culture.

Enhancing the learning and academic achievement of students especially in higher education plays an essential role in the developmental process of society. It is possible that student motivation plays a key role in these circumstances. Thus, it is crucial to develop a better understanding of the determinants and aspects of academic motivation. It is believed that different social context could be one of those factors that affect motivation and academic self-concept. We know that students enter university with different experiential backgrounds and academic achievements, but we know little about their self-determined dispositions at university entrance and throughout their university experiences. In the literature above, we could deduce that although there are various research studies on academic motivation and academic self-concept, less focus has been placed on students from different nations (Cokley, 2000b; Komarraju et al., 2007). Examining cultural differences in academic motivation primarily focuses on ethnic or racial differences within the US population (Chao, 1996; Cokley, 2000b) or within limited samples of other nations such as Japan, China, Korea, and Malaysia (Hess, Chih-Mei, & McDevitt, 1987; Kao, 1995; Kitayama, Markus, and Kurokawa, 2000; Komarraju et al., 2007). In short, we could say that cross national studies mainly focus on the comparison of the US samples with the Asian countries. Thus, other European or Eastern cultures have not been well represented in the literature. For instance, academic motivation and self-concept has not received a significant amount of attention in the study of Turkish culture. Therefore, research studies related to the comparison of academic motivation and self-concept of Turkish culture with other nations remains scarce.

In addition, as mentioned in the literature, most of the existing studies related to academic motivation and self-concept have examined elementary, middle, or high school students rather than university students. Thus, among the limited number of countries and grade level examined to this date, the present research study could be regarded as highly informative.

In this comparative study, intrinsic, extrinsic motivation, and academic self-concept of university students from two

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different contexts were compared and contrasted. That is, the extent to which higher education develops or constrains autonomy in university student's learning in two different contexts and cultural dimension of national differences that may emerge via social, cultural and other factors were examined. As Dekker and Fischer (2008) stated, cultural context needs to be given more consideration in academic motivation research studies. Here, we assumed that the two nations, USA and Turkey might vary in terms of socio-cultural orientations since the first type of data is selected from a typical Western country belonging to individualistic culture, and the second one is a relatively non-Western country with a collectivistic culture orientation. More specifically, the aim of the study is to answer the following research questions:

1. Is there any significant mean difference across intrinsic motivation, extrinsic motivation, and self-concept scores of Turkish and US undergraduate students?
2. Is there any significant mean difference across intrinsic motivation, extrinsic motivation, and self-concept scores with respect to years spent in university?
3. Is there any significant mean interaction between two different nations and years spent in university across intrinsic motivation, extrinsic motivation, and self-concept scores?

Method

Participants

The data were collected from 566 Turkish and US undergraduate students. The descriptive statistics of the participants are described below.

Two hundred eighty four Turkish undergraduate students from a large public university in Ankara, Turkey participated in the study. The data were collected from the students enrolled in undergraduate psychology and sociology courses. The descriptive statistics of the participants with respect to faculty and university grade level is given in Table 1. There were 94 (33.3%) students from Education, 12 (4.3%) from Business and Administration, 8 (2.8%) from Art and Science, 145 (50.9%) from Engineering, and 25 (8.7%) from other departments participated in the study. The sample consisted of 133 (47%) female and 151 (53%) male students. All the students had the same ethnic background.

Table
Descriptive statistics on Turkish sample

	First year	Second year	Third year	Fourth year	Total
Education	15	8	28	43	94
Bus. & Admin.	6	4	1	1	12
Art/Science	1	3	3	1	8
Engineering	70	22	10	43	145
Others	3	12	9	1	25
Total	96	49	51	89	284

Table 2
Descriptive statistics on the US sample

	First year	Second year	Third year	Fourth year	Total
Education	63	69	33	8	173
Bus. & Admin	1	5	2	5	13
Art/Science	7	19	20	18	64
Others	3	14	8	7	32
Total	75	107	63	38	282

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The US sample consisted of 282 students enrolled in undergraduate psychology and sociology courses at a large South Eastern university. The descriptive statistics of the students with respect to department and university grade level is given in Table 2. In total, there were 173 (61.4%) students from Education, 13 (4.6%) from Business and Administration, 64 (22.6%) from Art and Science and 32 (11.3%) from other departments participated in the study. The sample consisted of 216 (76.7%) female and 66 (23.3%) male students. The ethnicity of the sample included 11 (3.9%) African Americans, 8 (2.8%) Asian, 254 (89.8%) Caucasian, 3 (1.1%) Hispanic and 6 (2.5%) students identified as "other".

Context

Data was collected from US and Turkish undergraduate students where admission to the universities in two countries is different. Entrance to the university is highly competitive in Turkey, as in many Asian countries like China, Japan, and Singapore where most of the Asian countries have nationwide qualification examinations that are very hard to pass (Rao, Moley, & Sachs, 2000). Similar to those countries, in Turkey, universities accept their students via a nationwide university entrance exam including questions in various areas; mathematics, science, social sciences, and Turkish language. In addition, to obtain high scores and gain admission to the universities require much effort, time and energy. Students spend excessive amounts of time and usually attend after-school private tutorial institutions in order to prepare for the university entrance examination which is held once annually. Thus, to get higher scores and be accepted by the universities especially from the best universities is an indication that those students have strong commitment to academic success. However, in US, high school graduates are admitted to the universities and colleges based their SAT scores where university admission is generally easier to access when compared to Turkey. That is, there are hundreds of available universities that students can apply. In other words, although there is qualification examinations needed for the admission to the universities, the range of scores for the acceptance is fairly broad at many universities and students could retake exams multiple times.

Instruments

In order to measure intrinsic, extrinsic, and self-concept scores of university students the Academic Motivation Scale (AMS; R. J. Vallerand, L. G. Pelletier, M. R. Blais, N. M. Briere, C. Senecal, & E. F. Vallieres, 1992) and the Academic Self-Concept Scale (ASCS; Reynolds, 1988) were used.

The Academic Motivation Scale is a 28-item scale that was developed to assess students' self-regulatory styles in their academic activities. The AMS measures intrinsic motivation, extrinsic motivation as well as amotivation. The original version of the AMS consists of seven subscales, each consisting of four items. Three of the subscales reflect intrinsic motivation to Know (IMTK), intrinsic motivation to accomplish (IMTA), and intrinsic motivation to experience stimulation (IMTES); three reflect extrinsic motivation; external regulation (EMER), extrinsic motivation introjected regulation (EMIN), and extrinsic motivation identified regulation (EMID), and the seventh subscale is amotivation (AM). The AMS is a Likert type scale (1 = *does not correspond at all*, to 7 = *corresponds exactly*) where participants were asked to respond to the question "Why do you go to university?" Sample items and related subscales are given in Table 3.

Internal consistency for the seven subscales of AMS was assessed for both the English version and for the translated Turkish version. For the English speaking sample Cronbach's alphas were calculated as .86 for the intrinsic motivation, as .89 for the extrinsic motivation and .81 for the amotivation subscale. The reliability coefficient for 28 items was calculated as .89. For the Turkish speaking sample, Cronbach's alphas were calculated as .90, .81, and .82 for the intrinsic, extrinsic and amotivation respectively and .89 for the whole scale. In this study, only intrinsic and extrinsic motivation subscales were used in the analysis in order to compare data from both nations.

The Academic Self-Concept scale consisted of 40 items and used a 4-point Likert-type scale where higher scores indicate high, strong, or positive academic self-concept. In Reynolds' (1988) validation study, the scale yields a seven-factor structure accounting for 56.2 % of the total variance. Reynolds tentatively named the seven factors as grade and effort dimension (8 items), study habits/organizational self-perceptions (6 items), peer evaluation of academic ability (8

Table 3

Sample Items and related subscales from the AMS

Example of items from the Academic Motivation Scale	Subscales
Because I experience pleasure and satisfaction while learning new things.	IMTK
In order to obtain a more prestigious job later on.	EMER
Honestly, I don't know; I really feel that I am wasting my time in school.	AM

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items), self-confidence in academics (3 items), satisfaction with school (4 items), self-doubt regarding ability (8 items), and self-evaluation with external standards dimension (3 items). Cokley (2000a) stated, researchers prefer to use the whole scale in order to measure the academic self-concept construct because of the tentative description of the factors. In this study, all sub scales were used in order to assess the academic self-concept of undergraduate students. As the internal consistency, the reliability coefficient for the English speaking sample was calculated as .91 and .92 for the Turkish sample.

After receiving permission from the test developers, the Academic Motivation Scale and Academic Self-Concept scales were translated and adapted for Turkish undergraduate students by the researcher. For content validity concerns, the original and translated questionnaires were given to two professors from the education faculty. The questionnaires were revised until 90% agreement was reached between the professors. Additionally, a Turkish language teacher checked the grammar before the Turkish versions of the questionnaires were piloted and implemented.

Procedure

Professors teaching undergraduate psychology and sociology courses from both universities were contacted in person in order to inform them about the study. Their permission was requested to allow their students to participate in the research study. After taking permission from the professors, the researcher administered the questionnaires to the students from both countries in their regular class hour. It took 20-25 minutes to conduct the surveys in each setting. During the 2004-2005 spring's semester, the researcher collected the data from the US sample, and the data from the Turkish students were collected in the fall's semester of 2006-2007. The questionnaire package consisted of Academic Motivation Scale, Academic Self- Concept Scale and demographic data form. Additionally, a cover letter and informed consent form were attached to the questionnaires. Before the analyses were conducted, the informed consent forms were removed from the questionnaires to ensure the anonymity of the participants.

Results

Multivariate Analysis of Variance (MANOVA) was used to check the hypothesis. Preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity. In order to assess the univariate normality of the distribution of scores, Kolmogorov-Smirnov statistic was performed. Non-significant results in intrinsic motivation, extrinsic motivation, and academic self-concept scores with respect to national difference and grade level indicated that normality assumption was not violated. In order to test multivariate normality, Mahalanobis distance across three dependent variables was calculated. Since the maximum value for evaluating Mahalanobis distance for dependent variables (15.3) were smaller than the critical value which was 16.27 (Tabachnick & Fidell, 1996) it could be concluded that there were no multivariate outliers in the data file.

In order to check the linearity assumption, scatter plots were generated for two nations and years spent in the university. Results revealed no evidence for non-linearity; therefore, our assumption of linearity was satisfied. Additionally, non-significant Box's Test of Equality of Covariance Matrices (p = .48) indicated that there was no violation in the homogeneity of covariance matrix assumption.

Lastly, MANOVA works best when the dependent variables are only moderately correlated (Pallant, 2001). Preliminary analysis showed that intrinsic motivation was moderately correlated with extrinsic motivation (r = .46, p = .001) and academic self-concept (r = .40, p = .001) respectively. In addition, extrinsic motivation was moderately correlated with academic self-concept (r = .22, p = .0) where all of the relationships were evidence for multicollinearity assumption. After satisfying all the assumptions for performing MANOVA, the results based on descriptive and inferential statistics are presented in the next section.

The descriptive statistics related to the nationality and number of years spent in university regarding the intrinsic motivation, extrinsic motivation and self-concept scores are given in Table 4. Means, standard deviations, and sample size (N) are displayed for each dependent variable.

Two-Way Multivariate Analysis of Variance (MANOVA) was conducted to determine the effect of nationality and years spent in university on undergraduate students' intrinsic motivation, extrinsic motivation and self-concept scores. The results showed that there was a statistical significant effect of nationality (Wilks' Lambda $(\Lambda) = .88$, F (3, 556) = 24.79, p = .0) and number of years spent in university $(\Lambda) = .94$, F (9, 1353) = 4.12, p = .0) on undergraduate students' intrinsic motivation, extrinsic motivation, and self-concept scores.

Two-Way Univariate Analysis of Variances (ANOVA) was conducted as a follow-up to reveal the effect of each independent variable on each dependent variable separately. The results showed that there was no significant effect of nationality (p = .47), years spent in university (p = .1), as well as nationality and years spent in university interaction (p = .33) on undergraduate students' intrinsic motivation scores. In addition, results revealed small effect sizes where; eta square (^{2}) showed that .1% of variance in intrinsic motivation was explained by nationality, 1% by the years spent in university, and .6% by the interaction. In Figure 1,

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Table 4
Descriptive statistics for Turkish and US students with respect to intrinsic motivation, extrinsic motivation, and self-concept scores

			Mean			Std. Dev.		
	Year	N	Turkish	US	Total	Turkish	US	Total
Intrinsic Motivation	1	170	4.15	4.34	4.23	1.09	1.09	1.09
	2	156	4.20	4.22	4.21	1.33	1.05	1.15
	3	113	4.36	4.12	4.23	1.28	1.06	1.17
	4	127	4.67	4.41	4.59	1.23	1.18	1.22
Extrinsic Motivation	1	170	4.76	5.37	5.02	.99	.84	.97
	2	156	4.59	5.34	5.10	1.19	.99	1.11
	3	113	4.73	5.11	4.94	1.09	.96	1.03
	4	127	4.86	4.90	4.87	1.03	1.23	1.08
Self-Concept	1	170	2.67	2.89	2.76	.36	.34	.37
	2	156	2.49	2.87	2.75	.37	.30	.37
	3	113	2.70	2.77	2.74	.37	.31	.33
	4	127	2.91	2.92	2.91	.36	.43	.38

the relationship among nationality, number of years spent in university, and intrinsic motivation is given.

From the figure, it can be seen that US undergraduate students had higher intrinsic motivation scores compared to their Turkish partners in their first year of university education. On the other hand, Turkish and US students' intrinsic scores were almost the same in their second year and Turkish undergraduates had higher scores in their last two years of university education when compared to their US counterparts. In other words, despite lack of statistical significance, we might note that while US undergraduates had higher intrinsic scores in the first two years, Turkish students had higher scores in their third and fourth year of university education.

Regarding the extrinsic motivation scores, the results revealed that there was a significant effect of nationality (p = .00) on undergraduate students' scores with US students having higher extrinsic motivation than their Turkish partners. However, there was no significant effect of years spent in university (p =.49) and interaction (p =.05) on undergraduate students' extrinsic motivation scores. Results also revealed small effect sizes where; eta square (η^2) showed that 4% of variance in extrinsic motivation was explained by nationality, .4% by the years spent in university, and 1% by the interaction. In Figure 2, the relationship among nationality, number of years spent in university, and extrinsic motivation is given.

From the figure, it can be seen that US undergraduate students had higher scores compared to their Turkish partners in terms of extrinsic motivation in their first three years of university education. More specifically, based on the descriptive statistics it could be deduced that as grade level increases there is steady decline in US students' mean extrinsic motivation scores. On the other hand, Turkish

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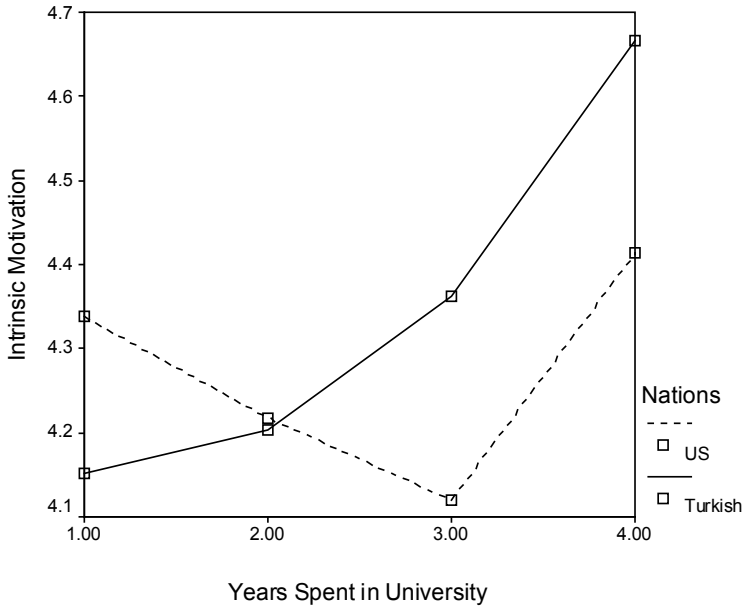


Figure 1. The relationship among nations, years spent in university, and intrinsic motivation.

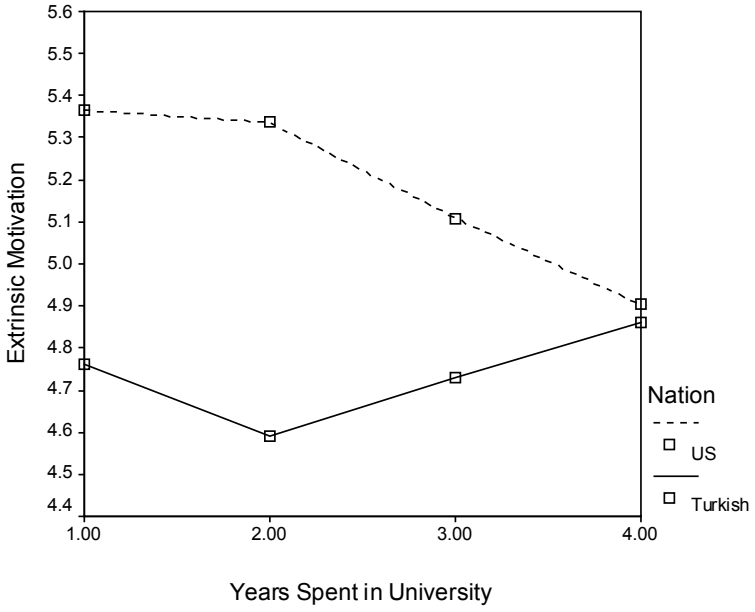


Figure 2. The relationship among nations, years spent in university, and extrinsic motivation.

undergraduates' extrinsic scores decrease in the second year but there is a steady increase in the third and fourth year of university education. Given that the interaction approaches significance, Bonferroni Post Hoc test was performed in order to see whether there is a significant difference between the two nationalities within each grade level. Results revealed that there is a significant difference between Turkish and US freshmen (p = .0), sophomore (p = .0), and junior students (p = .03) where no significance was detected between seniors (p = .62). To state differently, the gap between US and Turkish undergraduate students' extrinsic scores decreases as the grade level increases and

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senior US and, as a result, Turkish undergraduates almost have the same extrinsic motivation scores. In other words, US students have higher extrinsic motivation scores at the start, but essentially the two groups almost have the same level of extrinsic motivation at the end.

In terms of self-concept scores, the results revealed that there was a significant effect of nationality (p = .00) where US students had higher self-concept scores than their Turkish partners. In addition, results revealed the significant effect of number of years spent in university (p = .00), as well as nationality and number of years spent in university interaction (p = .00) on undergraduates' academic self-concept scores. Bonferroni Post Hoc test was performed in order to reveal the significance between the grade levels. Results revealed that there was a significant mean difference between senior and junior undergraduate students (p = .00), between senior and sophomores (p = .001), and between senior and freshman undergraduates (p = .001) respectively, where senior students had the highest self-concept scores and juniors has the lowest. Although freshman students scored higher than sophomore and junior students in terms of self-concept scores these differences were not significant. In Table 5, mean differences and significance levels between grade levels is given.

Additionally, results revealed medium and small effect sizes where; eta square (η^2) showed that 5% of variance in self-concept was explained by the nation, 5% by the number of years spent in university, and 4% by the interaction. In Figure 2, the relationship among nations, number of years spent in university and academic self-concept scores is given.

From the graph, it can be seen that US undergraduate students had higher scores compared to Turkish partners at each grade level. With respect to self-concept scores, senior undergraduate students in both nations had the highest scores, and the mean difference between US and Turkish undergraduates was less in when grade level was compared to other grade levels. Thus, in order to revealed the significance between the two nationalities within each grade Post-Hoc test was performed. Results revealed that there is a significant difference between Turkish and US freshmen (p = .0) and sophomore (p = .0) students where no significance was detected between junior (p = .24) and seniors (p = .62). To state differently, although there is a large gap between Turkish and US freshman students' self-concept scores and this gap is wider in sophomores, the difference is diminished in juniors and even vanishes in senior year.

Conclusion and Discussion

In this research study, Turkish and US undergraduate students' intrinsic motivation, extrinsic motivation, and academic self-concept scores regarding the years that they spent in university were investigated. Results revealed the significant effect of both national difference and years spent in university on students' intrinsic motivation, extrinsic motivation, and self- concept scores. In terms of extrinsic motivation, US undergraduates scored higher than Turkish partners in all grade levels. In addition, in terms of self-concept scores, results revealed that US students had more positive self-concept than Turkish counterparts. However, in terms of intrinsic motivation Turkish undergraduates had higher scores in their last two years of university education in comparison to their US counterparts. These differences between the two nationalities are discussed in terms of university selection processes, financial circumstances, parenting responsibilities, social support structures, peer and personal relationships, and prior educational experiences in both cultures.

As mentioned above, entrance to the universities in Turkey is highly competitive and parents place a strong emphasis on their children's university success. In other words, similar to most Asian societies, Turkish families tend to spend a lot of money and express interest in order to support their children university education where social status of families is well appreciated if their children could

Table 5
Mean difference and significance levels between grade levels with respect to self-concept

Grade level	Grade level	Mean Difference	Sig.
1	2	1.082E-02	1.0
	3	2.485E-02	1.0
	4	-.1542*	.001
2	3	1.403E-02	1.0
	4	-.1650*	.001
3	4	-.1791*	.000

* significance level at .01

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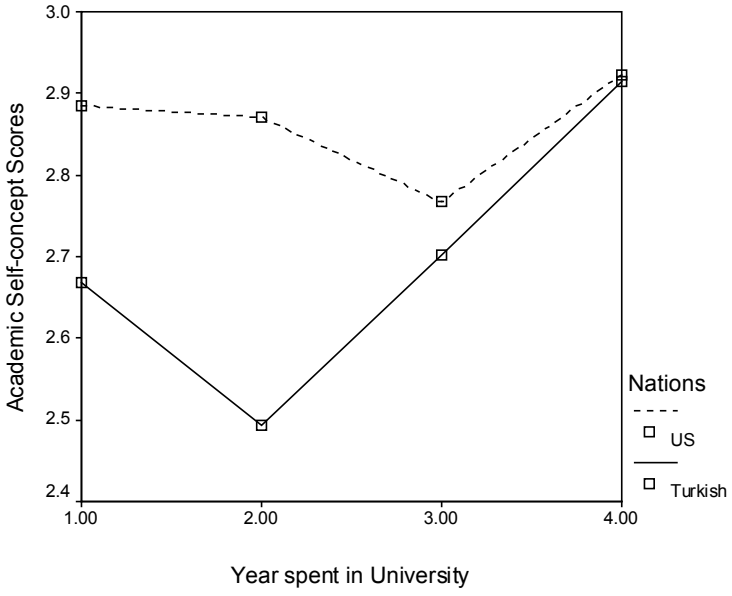


Figure 3. The relationship among nations, years spent in university, and academic self-concept.

enter one of the prestigious universities. To have been accepted by those universities is perceived as an indication of catching good job opportunities after graduation which yields economical power, increase in social acceptance, and welfare. Additionally, entrance to prestigious universities is perceived as a good model for the younger siblings in the family. Thus, this could be the reason why Turkish undergraduates begin higher education with high extrinsic motivation and low intrinsic motivation scores. That is, as Fazey and Fazey (2001) stressed younger students may perceive themselves to be externally motivated by the expectation of others, such as parents and teachers and thus their pleasure, self-improvement and interest could be replaced by external factors. In other words, belonging to the collectivist culture where individual choice is less important (Iyenger & Lepper, 1999) could be an important factor in increasing extrinsic motivation of Turkish freshman undergraduates.

Social environments could facilitate or hinder intrinsic motivation by supporting or discomforting people's innate psychological needs where there is a strong link between intrinsic motivation and satisfaction of the needs for autonomy and competence (Ryan & Deci, 2000). Parallel to this view above, although the difference is not significant, as grade level increases there is steady increase in Turkish undergraduates' intrinsic motivation scores. The trend in increase in Turkish undergraduates intrinsic motivation in line with the years spent in university could be attributed to the behaviors driven by pleasure and satisfaction one receives from engaging in activities (Vallerand et al., 1992). Deci and Ryan (1985) perceived studying in higher education as being self-initiated, and therefore intrinsic. Thus, being more involved in university activities and the university community, having cognitive flexibility (Benware & Deci, 1984), personal growth, and positive adjustment (Ryan & Deci, 2000) and perceiving themselves to be in control of decision making (Deci & Ryan, 1985) could be important factors in enhancing the intrinsic motivation of Turkish undergraduate students during their involvement in university education.

Contrary to Turkish partners, results revealed that US students begin university education with higher intrinsic motivation scores but their scores decrease in their second and third year of university education. As mentioned above, university admission is more widely accessible in the United States when compared to Turkey. To go to the university after high school is usually a more individualistic decision and families apply less social pressure to attend higher education in the United States where most of the families may not provide financial support to their children to continue college education (Henderson, Mark, & Kim, 1999). Thus, compared to the Turkish partners, entrance to the university could be perceived as self interest than behavior valued by others for US students. In other words, being part of an individualistic culture (Kitayama, Markus, & Kurokawa, 2000) US freshman students' major intrinsic motivation seems to be that of wanting to learn about new and interesting things. Thus, it could be concluded that US undergraduates participate in higher education for the enjoyment of learning itself compared to the Turkish undergraduate students. However, adaptation to the new university life and courses might effect US students'

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intrinsic motivation negatively in their second and third year of university education leading to a decrease in their intrinsic motivation scores.

In terms of extrinsic motivation, results revealed that US students had higher scores compared to their Turkish partners regardless of university grade level. More specifically, although there was decline in the second year of university education, Turkish undergraduates are extrinsically motivated when they begin and when they graduate from the university. As mentioned above, external regulations are of utmost importance in Turkish students' behaviors during their entrance process to university. Thus, Turkish students' higher extrinsic scores in the first year of university education could be attributed to external factors. In addition, although self-improvement, personal growth, pleasure, and interest could replace external factors during the second year, there is an increase in junior and senior Turkish students' extrinsic motivation scores. In other words, extrinsic goals such as job, career, financial opportunities, or societal expectations might gain importance for Turkish students when their date of graduation approaches. Considering the economical challenges of Turkey, graduating from university does not guarantee a well-paid and prestigious job. It is another challenging arena for the Turkish graduates to apply and get a job after their graduation. Thus, extrinsic goals such as finding a well paid job and other financial opportunities might be important regulators in Turkish junior and senior undergraduates as approach their graduation dates. On the other hand, there was a steady decrease in US students' extrinsic motivation scores as grade level increases. In other words, US students were extrinsically motivated when they begin higher education but their motivation decreases when they move to the higher grades. These results were consistent with Bye, Pushkar, and Conway's (2007) findings that younger undergraduates might be experiencing situational interest and report higher level of extrinsic motivation for learning. However, seniors might be in position to have established enduring individual interest and thus experience lower level of extrinsic motivation. In addition, compared to their Turkish partners, not having a challenging agenda for finding a job after graduation could be an important factor for the decrease in US students' extrinsic motivation as they get closer to graduation. However, it should be noted that although there is decrease in US students' extrinsic motivation scores as their grade level increase, US students have higher extrinsic motivation scores compare to Turkish partners at all grade levels.

The other purpose of this research study was to investigate Turkish and US undergraduate students' academic self-concept scores regarding university grade level. Similar to extrinsic motivation, results revealed that Turkish undergraduates had more positive academic self-concept in their first, third and last year of university education compared to their second year of university education. For the US students, senior students had more positive self-concepts compared to other grade levels. In other words, regarding the grade levels students from both cultures started university with a positive self-concept scores but these scores decline in the following years. However, in their last year of university education students from both countries appeared to hold positive self concept again compared to previous years. It could be deduced that after high school, students who were willing to gain qualifications and improve their job prospects entered the university. Thus, it is probable that those freshman students' feelings about their intellectual and academic skills were high (Cokley, 2000b; Lent et al., 1997) which could have positively affected their academic self-concept scores. However, new social environment and demanding university courses could have negatively influenced self-concept scores that lead to a decrease in sophomore students' scores. However, to be so close to graduation and ready to start one's career could be important factors for developing more positive self-concept of senior undergraduate students in both nations. From another point of view, senior students' self-confidence in academic ability, self-evaluation of external standards, satisfaction with college (Reynolds, 1988), approval, affiliation, and grades orientation might be factors influencing self-concept positively.

Given the different background of students, these differences could be attributed to social and interpersonal concerns. Through this research study it is hoped to give some valuable insights into the differences in Turkish and US undergraduate students' intrinsic, extrinsic motivations and self-concept scores regarding their university grade level. Results may encourage attention onto how differences in the social context may affect motivation and self-concept scores of undergraduate students. However, based on the findings, there were several limitations that need to be addressed by future researchers. As stated above, the sample was restricted to one university from each nation. In addition, although those universities were somewhat similar in academic quality, there are differences in admission to the universities. Thus, the study could be replicated with broader examples for generalization. In addition, cross national studies could be performed with other European and Eastern countries in order to well represent those nations in the literature. Additionally, it should be noted that the design used in the study was cross-sectional. Thus, to understand the changes in motivational variables and academic self-concept scores over years, and to eliminate cohort effects, a longitudinal research could be performed. Furthermore, the present study just relied on basic motivational variables and did not include other related variables like attitudes toward higher education, achievement, family related variables that could affect the results. Thus, further research studies could be performed by increasing the number of central variables to see the relationships among variables and the differences between nations. Lastly, as given in the method part the

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distribution of the number of female and male students in not evenly split in US culture. Thus, gender could be an important factor that generates differences between the two groups of students in terms of central variables of the study. Thus, further research studies could be perform in order to analyze the gender differences regarding intrinsic, extrinsic motivation and self-concept scores of students from different cultures. Exploring the complexity of factors which contribute to individuals' experiences of higher education in relation to the psychological well-being involving students' motivations would give valuable insights to educators and psychologists.

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