The Relationship between Test Anxiety and Academic Performance

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Abstract

In this study, a correlational study between test anxiety, academic motivation, and academic self sufficiency was analyzed. It was hypothesized that there are negative correlations between test anxiety and academic motivation and between test anxiety and academic self sufficiency. A total of 150 participants took part in the study. Contrary to expectations, results revealed that test anxiety and academic motivation are not related. Besides, the correlation between test anxiety and academic self sufficiency is not significant. Results were discussed considering relevant literature.

Keywords: test anxiety, academic motivation and academic self-sufficiency

Introduction

The purpose of the study is to investigate the relationship between test anxiety and academic performance. In the present paper, first, we will introduce the relevant literature. Second, we will propose a hypothesis. Finally, we will give the details of the methodology of the purposed study. How and why is academic performance related to anxiety? In the current study the details of a correlational study which is design to investigate the relationship between academic performance and anxiety will be presented.

One of the most crucial topics in social psychology has been anxiety. Anxiety can be defined as "a subjective feeling of tension, apprehension, nervousness, and worry associated with arousal of the nervous system" (Spielberger, 1983). Zeidner (1998) defines anxiety as "the self of phenomenological physiological, and behavioral responses that accompany concern about possible negative consequences or failure on an exam or similar evaluate situation". (p.17)Anxiety is one of the psychophysiology difficulties. These can be environmental or psychological. Anxiety can include worrying, restlessness, fear much emotional response and negative thinking. Some people may seen calm. However, their brain never ceases thinking, which may lower the quality of life.

Test anxiety is a psychological condition in which people experience extreme distress, discomfort, and anxiety in testing situations (Akinsola&Nwajei, 2013; Zeidner, 1998). Academic motivation is related with achievement test scores, degree of academic performance and grades and represent a student's attitude, point of view and level of interest concerning academic subjects. (DiPerna & Elliott, 1999, p. 209). Self-sufficiency is defined as the belief in one's capabilities to carry out, organize and perform a task successfully. (Ersanlı, 2015; Kocabas, Ozfidan, & Burlabaw, 2018).

A worry or uneasiness may happen when a student takes a test. Sub-components of test anxiety have been defined in the literature. Test anxiety involves three main components; cognitive, emotionality, behavioral components (Zeidner,1998). The first component is the affective dimension. It refers to behavioral or physical reactions to testing situations, such as fear, nervousness, and physical discomfort (Honckok, 2001; Pintrich&Schunk, 1996; Williams, 1994). The second component is the cognitive concerns about performance, such as worry about the testing situation a negative performance expectations (Humbree, 1988, Marris, Davis and Huntchings, 1981; Depreeuw, 1984). The last component is the behavioral one which involves fidgeting feeling of restlessness, while the physical component is characterized by poor study skills, avoidance and procrastination of work and physical

discomfort (Onyeizugbo, 2010). Poor academic performance which can be a depiction of behavioral component of anxietycan be defined by diagnosis of learning disability or students who failed multiple academic subjects (Janet, Nathan &Karyl, 1987).

Students who fail some academic subjects may have anxiety of feeling discomfort, which may lead anxiety in the classroom. This anxiety lowers the performance of a student and therefore learning outcome. Zeidner (1988) expresses that test anxiety is associated with lover academic performance. 10 million America students suffered lower academic performance due to test anxiety (Hill &Wigfield, 1984). Test anxiety reduced academic performance at every educational level (Hembree, 1989). When the correlational of anxiety and academic performance are studied, it has been found that high school students with higher level of anxiety have lower academic performance (McCraty, 2007; Ilhan, Ozfidan, & Yilmaz, 2019). A great deal of anxiety can be correlated with low academic achievement (Luigi, Francesca, Maria, Eleonore, Valentina, & Benedetto, 2007). The feeling of anxiety can be mix with performance true worries and fear caused by anxiety.

A positive relationship between academic achievement and low anxiety was found by El-Anzi (2005). Theoretical model of study anxiety upon academic performance was displayed below.
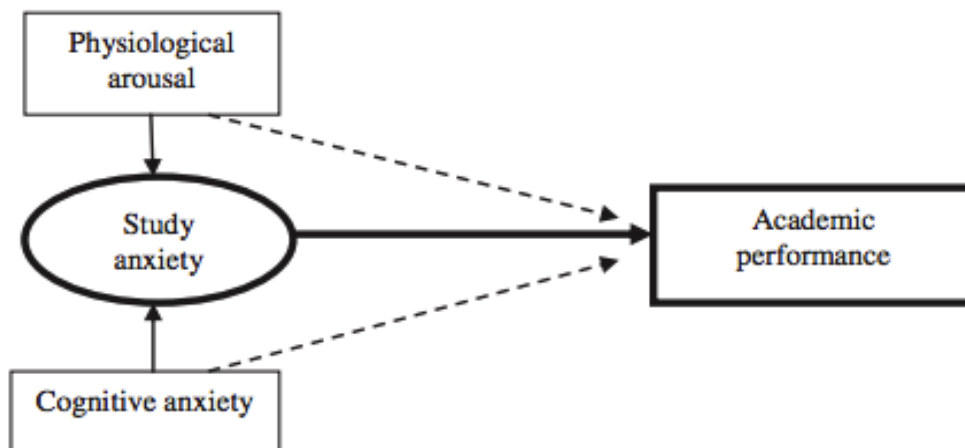

Figure 1: Theoretical model of study anxiety upon academic performance

High test anxiety can be regarded as one of the indicator of low performance of students at university level (Gaudry&Spielberger, 1971). Another study by Nicholson (2009) analyzed the effects of test anxiety on student achievement, and found out that these to are related to each other. Following from the previous research, thus, we purpose that test anxiety

and academic performance are correlated. Therefore, we hypothesized that as test anxiety increases, academic performance decreases.

Method

Participants

Participants in this study were students of 8 different universities and the majority of students were from Atılım University. The sample of the study was consisted of 114 female (68%) and 36 male (32%) totally 150 students. The average age of sample was 21.59 (SD= 2,600). The youngest participants were 17 years old and the oldest participants were 39 years old. In terms academic success, 23 (15.3 %) of the participants defined themselves as low, 104 (69.3%) of the participants defined themselves as medium, and 15 (23.3 %) of the participants defined themselves as high (See Table 1).

Table 1 Demographic characteristics of participants

Variables		Frequency(N)	Percentage (%)
Gender	Female	114	76,0
	Male	36	24,0
Name of school	Atılım University	139	92.7
	Other Universities	10	7.3
Class	1	36	24,0
	2	72	48,0
	3	19	12,7
	4	18	12,0
Area of study	Psychology	53	35,3
	Management	18	12,0
	Mechatronics Engineering	11	7,3
	Others	68	45,4
Income	Low	1	,7
	Medium	47	31,3
	High	89	59,3
	Very high	12	8,0
Attitude of teachers	Irrelevant	24	16,0
	Democrat	66	44,0
	Authoritarian	39	26,0
	Protector	21	14,0
Academic Success	Low	23	15,3
	Medium	104	69,3
	High	15	23,3

Reason of study	My own choice	68	45,3
	Family and environment pressure	8	5,3
	My score is kept here	64	42,7
	Other reasons	10	6,7
Harmony of school	Not all inappropriate	1	,7
	Inappropriate	8	5,3
	Either appropriate or inappropriate	29	19,3
	Appropriate	70	46,7
	Very Appropriate	42	28,0

Materials Materials

Demographic Characteristics

Participants requested to fill out demographic characteristic questions including name of school, gender, age, class, department, income and academic success level, reason of study area and harmony of school. (See appendix A).

Academic Motivation Scale

We used 20-item scale developed by Bozanoğlu (2004) to measure the level of individual differences in academic motivation. The scale was 5-point Likert Scale ('1= Absolutely Not Suitable' to '5= Absolutely Suitable'). The minimum score that can be taken from the scale is 20, the maximum score is 100. The scale includes one reverse item (item 4).Higher scores on the scale will define higher academic motivation. Cronbach-Alpha value of scale was .86. (See appendix B).

Academic Self- Sufficiency

We measured the level of academic self-sufficiency by using the 33-item scale developed by Steve Owen (1988) and adapted to Turkish by Kemer (2006). The scale was a 5-point Likert Scale ('1= Very Little Confidence' to 5= Too Much Confidence'). The scale includes one reverse item (item 1). Cronbach-Alpha value of scale was .89. Higher scores on the scale will define higher academic self-sufficiency. (See appendix C).

Test Anxiety Inventory

The inventory was developed by Spielberger and a group of doctoral students from 1974 to 1979. It was first published in 1980. Öner and Kaymak (1986) adapted the scale to

Turkish. We measured the level of test anxiety that is specific to a particular situation by using the 20-item scale. The scale was a 4-point Likert Scale ('1= Never' to '5= Always'). Cronbach-Alpha value of scale was .92. Higher scores on the scale will indicate higher level of test anxiety. (See appendix D).

Procedure

This research was conducted using a correlational method to determine the relationship between university students' test anxiety and their performance. Five different researchers collected the data after ethical approval. We asked students whether they could participate in our survey within the scope of our Research Methods course. We applied our surveys to those who agreed to participate in my research and thank them. Participants, who agreed to participate, completed "Test Anxiety", "Academic Motivation", and "Academic Self-Sufficiency" scales. The data was collected at two different times. While the scales are filled, we applied the counterbalancing method. Initially, ninety participants filled the scales in a certain order. In the second time, we changed the order of the scales and applied the scales in this way. We have reached 150 participants. We are just signed them and we did not get any credentials from them.

Procedure

We will collect data in the cafeterias of the Atilim University. We will approach potential participants who are students present in the cafeterias. We will ask them whether they are willing to voluntarily participate in a study for Research Methods course. If a student agrees to participate, we will administer the questionnaires on the spot. When they return the filled-out questionnaires, we will thank the participants. We will not ask any identity information from them.

Results

Descriptive statistics

First we computed the means and the standard deviations for the variables of the study. Average score for academic motivation was 3, 49 (*SD*=.54), average score for academic self-sufficiency was 3, 54 (*SD*=.53) and average score for test anxiety was 2, 57 (*SD*=.60).

Hypothesis Tests

In order to test the hypothesis of the study, we computed the Pearson correlation coefficient between academic motivation, academic self-sufficiency, and test anxiety. Analysis showed that academic motivation and academic self-sufficiency are positively

correlated, r_{148}=.62, two-tailed but between test anxiety and academic motivation and self-sufficiency were not correlated. So our hypothesis was not confirmed.

Table 2 Correlations of Academic Motivation, Academic Self-Sufficient and Test Anxiety

Correlations			
	AM	SS	TA
AM	1		
SS	.62**	1	
TA	-,038	,032	1

**p < .05

Note: AM= Academic Motivation; SS= Self-Sufficient; TA= Test Anxiety

Conclusion and Discussion

The result presents for demographic of participants, also results and discussion. The finding does not show significant correlation of test anxiety and low academic performance. In addition, findings show a positive significant correlation of academic self-sufficiency and academic performance. This might be explained with the outcome expectations influencing motivation and predicting behavior. This term was first used by Bandura (1986). This view puts forward that students who have high levels of self-sufficiency are more eager to perform in tasks when they value the anticipated outcome. However, self-sufficiency beliefs and expected outcomes may not always be consistent (Pajares,1996; Jackson, 2002; Ziglari, & Ozfidan, 2016). Its implications in our study might be that students with higher levels of self-sufficiency may believe that they can get high scores in exam or may perform well in classroom tasks. Previous studies demonstrated that students with higher level of anxiety tend to obtain lower marks in their semester examinations. Anxiety while studying is a major predictor of academic performance (McCaty, 2017 and McCraty, et all., 2000) and various studies have demonstrated that it has a detrimental effect. Students have many situations which it is appropriate and reasonable to counter with some anxiety. Therefore, study anxiety should be investigated for students from different departments. The result shows a not significant correlation between test anxiety and academic performance. High level anxiety of students is not related to academic performance. A total 150 students were invited to test anxiety level that was aimed to examine the relationship of test anxiety and academic performance. The participant's age ranged from 17 to 39 and they were from diverse

socioeconomic backgrounds as indicated by self-report. Ended that there's a negative correlation between test anxiety and academic performance. Cheraghian (2008) found out no meaningful relationship between test anxiety and academic performance. Besides, Cassady Johnson (2002) stated that it is not clear whether academic performance causes test anxiety or it is caused by a low academic proficiency.

The literature suggests that high-levels of self-sufficiency would contribute to students' academic success. A further study might look into whether students who have higher-levels of self-sufficiency are more successful academically when compared with those who have lower-levels of self-sufficiency.

References

Balogun, A. G., Balogun, S. K., & Onyencho, C. V. (2017). Test Anxiety and Academic Performance among Undergraduates: The Moderating Role of Achievement Motivation. *The Spanish Journal of Psychology, 20*(14), 1-8. doi: 10.1017/sjp.2017.5

Cassady, J. C., & Jahnson, R. E. (2002). Cognitive test anxiety and academic performance. *Contemporary Educational Psychology, 27,* 270-295. doi: 10.1006/ceps.2001.1094

Chapell, M. S., Blanding, Z. B., Takashi, M., Silverstein, M. E., Newman, B., Gubi, A., & McCann, N. (2005). Test anxiety and academic performance in undergraduate and graduate students. *Journal of Educational Psycahology, 97*(2), 268-274. doi: 10.1037/2022- 0663.97.2.268

DiPerna J. C., & Elliott S. N. (1999). Development and validation of the academic competence evaluation scales. *Journal of Psychoeducational Assestment, 17*, 207-225. Retrieved from http://journals.sagepub.com/doi/10.1177/073428299901700302

DordiNejad, F. G., Hakimi , H., Ashouri, M., Dehghani, M., Zeinali, Z., Daghighi, M. S., & Bahrami, N. (2011). On the relationship between test anxiety and academic performance. *Procedia Social and Behavioral Sciences, 15,* 3774-3778. doi: 10.1016/j.sbspro.2012.04.372

Ersanlı, C. Y. (2015). The relationship between academic self-efficacy and language learning motivation: A study of 8th graders. *Procedia Social and Behavioral Sciences, 199,* 472-478. Retrieved from www.sciencedirect.com

Farooqi, Y. N., Ghani, R., & Spielberger, C. D. (2012). Gender differences in test anxiety and academic performance of medical students. *International Journal of Psychological and Behavioral Sciences, 2*(2), 38-43. doi: 10.5923/j.ijpbs.20120202.06

Ilhan, F., Ozfidan, B., & Yilmaz, S. (2019). Home Visit Effectiveness on Students' Classroom Behavior and Academic Achievement. *Journal of Social Studies Education Research*, *10*(1), 61-80.

Kocabas, S., Ozfidan, B., & Burlbaw, L. M. (2018). The Development of a Scale to Measure Teacher's Self-Efficacy and Confidence in Teaching Compulsory K-12 Theology Courses. *Journal of Education and Learning*, *7*(4), 92-102.

Konan, N., Demir, H. & Karakuş, M. (2105). A Study of Turkish Adaptation of Executive Servant Leadership Scale into Turkish. *Electronic International Journal of Education, Arts, and Science,* 1 (1), 135-155.

Rana, R. A., & Mahmood, N. (2010). The relationship between test anxiety and academic achievement. *Bulletin of Education and Research, 32*(2), 63-77. Retrieved from www.sciencedirect.com

Töremen, F., Demir, H. & Korkut, A. (2015). Karizmatik Liderlik İletişim Ölçeğinin Türk Kültürüne Uyarlama Çalışması. *Anatolian Journal of Educational Leadership and Instruction*, Cilt:3, Sayı : 2, 27-40.

Vitasari, P., Wahab, M. N. A., Othman, A., Herawan, T., & Sinnadurai, S. K. (2010). The relationship between study anxiety and academic perferomance among engineering students. *Procedia Social and Behavioral Sciences, 8,* 490-497. doi: 10.1016/j.sbspro.2010.12.067

Ziglari, L., & Ozfidan, B. (2016). Self-and Other-Repairs in Child-Adult Interaction: A Case Study of a Pair of Persian-Speaking Twins. *INTERNATIONAL JOURNAL OF ENGLISH LINGUISTICS*, *6*(4), 52-59.

APPENDIX A- KİŞİSEL BİLGİLENDİRME FORMU

APPENDIX B- AKADEMİK GÜDÜLEME ÖLÇEĞİ

Aşağıda öğrencilerin öğrenme ve okulla ilgili olarak kendilerini tanımlarken kullandıkları bazı cümleler verilmiştir. Her bir cümleyi dikkatlice okuyup, o cümlenin size ne kadar uygun olduğunu belirleyiniz. Daha sonra cümlenin sol tarafında verilen seçeneklerden size uygun olanın üzerini (X) şeklinde işaretleyiniz. Doğru ya da yanlış cevap yoktur. Herhangi bir cümle üzerinde fazla zaman kaybetmeksizin genel olarak size en uygun olanını seçiniz.

Kesinlikl	Uygun Değil	Kararsızım	Uygun	Kesinlikle	
(1)	(2)	(3)	(4)	(5)	**1.** Öğrendiğim şeyleri okulun dışında da kullanabilmek için fırsatlar ararım
(1)	(2)	(3)	(4)	(5)	**2.** Öğrendiğim her şey, daha fazlasını öğrenme merakı doğurur.
(1)	(2)	(3)	(4)	(5)	**3.** Derse başlar başlamaz, dikkatimi derse veririm.
(1)	(2)	(3)	(4)	(5)	**4.** Okulda öğretilen şeyler benim ilgimi çekmiyor.
(1)	(2)	(3)	(4)	(5)	**5.** Geriye dönüp baktığımda ne kadar çok şey öğrendiğimi görünce sevinirim.
(1)	(2)	(3)	(4)	(5)	**6.** Dersler ve öğrenme konusunda sınıfımdaki diğer

		)			öğrencilerden daha istekli olduğumu düşünürüm
(1)	(2)	(3)	(4)	(5)	**7.** Seçme şansım olduğunda genellikle beni uğraştıracak ödevleri seçerim.
(1)	(2)	(3)	(4)	(5)	**8.** Beni düşünmeye zorlayan konuları daha çok severim.
(1)	(2)	(3)	(4)	(5)	**9.** Kendime koyduğum hedefler çok çalışma ve uzun zaman isteyen Hedeflerdir.
(1)	(2)	(3)	(4)	(5)	**10.** Biraz zor olan konularda çalışmak daha çok hoşuma gider
(1)	(2)	(3)	(4)	(5)	**11.** Bazen kendimi derse öyle kaptırırım ki, teneffüs zilinin neden bu kadar erken çaldığına şaşırırım.
(1)	(2)	(3)	(4)	(5)	**12.** Yeni ve farklı konular çalışmak hep hoşuma gitmiştir
(1)	(2)	(3)	(4)	(5)	**13.** Sırf daha fazla öğrenmek için öğretmenin istediğinden daha kapsamlı ödevler hazırlarım.
(1)	(2)	(3)	(4)	(5)	**14.** Yeni bir şey öğrenmek beni heyecanlandırır.
(1)	(2)	(3)	(4)	(5)	**15.** Öğrendiklerimle başkalarına yardım etmek hoşuma gider.
(1)	(2)	(3)	(4)	(5)	**16.** Zor bir konuyla karşılaştığımda, bunu anlamak için uğraşmak bana keyif verir.
(1)	(2)	(3)	(4)	(5)	**17.** Karşılığında not verilmeyecek olsa da bir şeyi öğrenmek için çokça çalıştığım olur.
(1)	(2)	(3)	(4)	(5)	**18.** Bir şey öğrenirken saatlerin nasıl geçtiğini fark etmediğim çok zaman olmuştur.
(1)	(2)	(3)	(4)	(5)	**19.** Eğer ders kitabımda herhangi bir konuyla ilgili yeterli bilgiyi bulamamışsam hemen başka kitaplara da bakarım.

(1)	(2)	(3)	(4)	(5)	**20.** Çoğu zaman sınavlarda zevkli bir bulmaca çözüyormuş gibi hissederim.