EXAM PREPARATION ANXIETY IN TURKEY: A LONGITUDINAL STUDY ON “2010 LEVEL DETERMINATION EXAM”

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EXAM PREPARATION ANXIETY IN TURKEY: A LONGITUDINAL STUDY ON "2010 LEVEL DETERMINATION EXAM"

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Thesis Abstract

Can Gezgör, “Exam Preparation Anxiety in Turkey: A Longitudinal Study on ‘2010 Level Determination Exam’ ”

In Turkey, eighth, seventh and sixth graders took Seviye Belirleme Sınavı (SBS), *“Level Determination Exam”* in order to continue their education in competent high schools. The preparation period of SBS is stressful and previous studies showed that during the preparation period anxiety levels of students decrease (Özerman, 2007; Rafferty, 1997).

The present study investigated the change in preparation anxiety levels of Turkish sixth, seventh and eighth graders and effects of “personal” (age, gender, preparation style, socio-economic status (SES) and trait anxiety), “appraisal” (level of importance attributed to the exam and achievement expectancy) and “adaptation outcome” (previous exam scores) variables on the change in levels of preparation anxiety. Mentioned variables are considered as key elements for transactional models of test anxiety (Zeidner, 1998).

One hundred and sixty eight, sixth to eighth grade Turkish students participated and results showed that SES of the participants affected the levels of importance attributed to the exam and achievement expectancy. Moreover, participants’ preparation anxiety decreased as the exam approached. Variables such as gender, SES, trait anxiety and previous exam scores had significant effects on the change in levels of preparation anxiety.

Tez Özeti

Can Gezgör, “Türkiye’de Sınava Hazırlanma Kaygısı: ‘2010 Seviye Belirleme Sınavı’ Üzerine Boylamsal Araştırma”

Türkiye’de altıncı, yedinci ve sekizinci sınıf öğrencileri istedikleri liseye girebilmek için eğitim yılı sonunda Seviye Belirleme Sınavı (SBS) adı verilen bir sınava girerler. Ancak SBS’ye hazırlanma stresli bir süreçtir ve daha önceki araştırmalar öğrencilerin sınava hazırlanma kaygılarının, hazırlanma süreci boyunca azaldığını göstermektedir (Özerman, 2007; Rafferty, 1997).

Bu çalışmanın amaçları Türkiye’deki altıncı, yedinci ve sekizinci sınıf öğrencilerinin sınava hazırlanma kaygılarındaki değişimi araştırmak ve “kişisel” (yaş, cinsiyet, hazırlanma şekli, sosyo-ekonomik düzey ve sürekli kaygı), “değerlendirme” (sınava verilen önem ve başarı beklentisi) ve “genelleştirme sonucu” (önceki sınav sonuçları) değişkenlerinin sınava hazırlanma kaygısı üzerindeki etkilerini incelemektir.

Araştırmaya altıncı, yedinci ve sekizinci sınıflardan toplam 168 öğrenci katılmıştır. Sonuçlara göre öğrencilerin sosyo-ekonomik durumlarının, sınava verdikleri önemi ve başarı beklentilerini etkilediği görülmüştür. Bunun yanı sıra, sınav yaklaştıkça sınava hazırlanma kaygısının düştüğü gözlemlenmiştir. Katılımcıların cinsiyetlerinin, sosyo-ekonomik düzeylerinin, sürekli kaygılarının ve önceki sınav sonuçlarının; sınava hazırlanma kaygılarındaki düşüşü açıkladığı bulunmuştur.

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CHAPTER 1

INTRODUCTION

Anxiety is one of the most important aspects of human behavior and it has been under investigation since Ancient Egypt (Okasha, 1999). Although the first study about anxiety is unknown, Okasha (1999) reported that in 2900 BC Egyptians were attending temples when they had sleeping disorders due to worry and fear. Spielberger and Vagg (1995) stated that anxiety is accepted as a key issue in Old Testament and Qu'ran. After theological explanations and treatments of anxiety, Darwin (1965, as cited in Spielberger & Vagg, 1995) investigated anxiety from a biological and evolutionary perspective and Freud (1936, cited in Spielberger & Vagg, 1995) studied anxiety in psychoanalytic perspective.

Today, anxiety is one of the biggest daily problems in human life (Lazarus and Folkman, 1984) and many aspects of anxiety have been examined thanks to developments in scientific research. For the ease of investigation, the topic is divided into many sub-topics: Trait anxiety, social anxiety, hospital anxiety, existential anxiety, test anxiety etc… In the present study, test anxiety and exam preparation anxiety will be studied with a Turkish adolescent sample. First, an overview of test anxiety studies will be provided and negative effects of test anxiety will be discussed with regard to theories. Then, exam procedures in Turkey will be explained while discussing the pioneer studies of test anxiety in Turkey.

What is Anxiety?

Definition of “anxiety”, according to Oxford English Dictionary (2005), is “an anxious state”; and “anxious” is defined as “experiencing worry and unease”. Anxiety is an emotional phenomenon with prominent effects on cognitive processes. It is an inevitable outcome of daily life stressors, frequently faced in achievement-oriented societies (Zeidner, 1998). The role of anxiety in human nature and psychopathology has been emphasized in most of the personality and psychopathology theories (i.e. behavioral theory, psychoanalytic theory, trait theory, and social-cognitive theory) (see McIlroy, Bunting, & Adamson, 2000). However, each theory defines and explains the role of anxiety with different focuses. For instance, Sarason, from the psychoanalytical point of view, indicated that feeling of anxiety is the result of a child’s feelings of anger, frustration and hostility toward parents’ not accepting and non-containing behaviors (Spielberger & Vagg, 1995). On the other hand, learning theory explains anxiety in terms of a stimulus-response relationship, whereas cognitive theory focuses on mental processes and automatic thoughts in anxiety eliciting situations (as cited in Meichenbaum, 1977).

Historical Developments in Test Anxiety Research

As stated before, Darwin did one of the very first scientific studies about anxiety. According to Darwin (1965, cited in Spielberger & Vagg, 1995), fear, which leads to anxiety, is an adaptive response and can be monitored in humans and animals. He listed heart palticipations, trembling, dryness of the mouth as the symptoms of fear.

Freud investigated various outcomes of fear and considered anxiety as one (1936, cited in Ziedner, 1998). The author stated that anxiety is a subjective experience and divided anxiety into two main parts. If a person’s emotional response

is commensurable to a dangerous situation, it is called “objective anxiety”. However if the individual cannot cope with the fear and reacts with an emotional response that is greater than the real danger, it is called “neurotic anxiety”.

Lazarus and Folkman (1984) reviewed articles about stress and stated that stress is considered as an outcome or as a stimulus. The theories which consider stress as a stimulus (i.e. natural disaster or illness) do not evaluate organism it self. However, Lazarus and Folkman (1984) claimed that a stimulus could be evaluated in many different ways by different organisms. For the theories that consider stress as response the situation is vice versa and these theories only focused on organism or personality. Thus, Lazarus and Folkman theorized that environmental effects and personality must be combined and cognitive evaluations of a individual on an environmental effect must be studied. To sum up, stress can be a stimulus or a response according to the relationship between individual and environment.

In line with Lazarus and Folkman (1984), transactional perspective, which has been found to have explanatory power in various studies (Özerman, 2007; Zeidner, 1998), pays attention to the relationship between personality and environment. According to this viewpoint, the individual’s own meanings attributed to events underlie in emotions and those meanings’ intensity is formed with the help of the environmental factors.

Throwing further light on the debate, Jex et al. (1992) provided statistics of academic studies referring to “stress” as cause or effect (as cited in Putwain, 2007). Fifty one articles were examined and 41% of the articles identified stress as a “cause”, 25% of the articles identified “stress” as both cause and effect, 22% of the articles identified “stress” as an effect and the remaining of the articles were defined as unclear.

Differences Between Anxiety and Stress

Stress is defined as “become tense or anxious; worry” in Oxford English Dictionary (2005). As illustrated in this glossary definition, stress and anxiety are sometimes used as synonyms to express an unwanted situation that causes worry. I.G. Sarason theorizes that “stress is intrinsic to the interpretation of a specific situation, whereas anxiety is a reaction to a perceived threat and incapacity to cope with the situational challenge in a satisfactory way” (1978, cited in Zeidner, 1998, p. 17). In addition to this, Zeidner (1998) theorizes that anxiety is an emotion that is felt in a dangerous and uncertain situation, which threats the ego.

Putwain (2007) stated that “anxiety”, as a term, sometimes interferes with “stress”. He states that stress is a broad term and anxiety has more sub-topics. He underlies that the topic of the study should be evaluated clearly and according to the topic, the author must decide whether the terms “stress” or “anxiety” will be used throughout the study. He exemplifies that “test anxiety” could be used instead of “test stress”. Test anxiety could be accepted as a “response” because it is known that student evaluates the situation and personality of the student is vitally important for test anxiety studies. However he insists that interaction between environment and personality should not be ignored.

As aforementioned, test anxiety and exam preparation anxiety of Turkish students are the main focuses of the present study. Since it is considered as an outcome of the interaction between organism and environment, the concept of test preparation is taken as an essential sub-component of test anxiety (Özerman, 2007; Rafferty et al., 1997).

History of Test Anxiety Theories

"When I think of exam, I remember my mom"

Kerem, 8th grade student

In 1950s, B. Sarason stated that "We live in a testconscious, test-giving culture in which the lives of people are in part determined by their test performance" (Sarason, 1959, p.26). In modern societies, test results determine children's future education, thus their life. Examinations and tests, which are extremely important for children, are named as "high stakes". In this line, recent studies revealed that testing is used more frequently and test anxiety has become universal problem (Kirkland & Hollandsworth, 1980; Zeidner, 1998).

Studies Between 1920 and 1930

First studies about test anxiety have signaled the birth of a new field in psychology. Folin et al. (1914) designed the very first study on test anxiety. Participants in the research were medical students and it was found that one of the five medical students showed biological and physiological reactions after a stressful exam. It was a medical investigation and individual differences were ignored.

It was Luria (1932) who stated that individual differences should be investigated in test anxiety studies. The author categorized students who were confused and messy as "unstable". On the other hand, Luria labeled those students who could keep calm and organized during the examination as "stable". Moreover, Luria reported that "unstable" students could not cope with the stress during the examination.

Psychoanalytic scholars in Germany studied test anxiety in 1930s and Neumann (1933, as cited in Zeidner, 1998) published the first book about test

anxiety. According to those theorists, traumatic childhood experiences were highly related with test anxiety. However, as Spielberger and Vagg (1995) underscored, Neumanss's book was not translated in English and did not take enough attention.

The first studies provided researchers enough background about test anxiety and before World War II, Brown (1938) studied the individual differences in test anxious people. The results of the studies have provided us with the first test anxiety scale. It is worthwhile to note that Brown and his colleagues have designed case studies and investigated two suicide events that were attributed to high levels of test anxiety.

1950s and 1960s: Start of Systematic Investigations

After the first investigations and efforts to explain test anxiety via biological and individual differences, systematic investigations about test anxiety started in 1950s. McKeachie (1951) claimed that test anxiety could have both motivator and inhibitory effects (cited in Spielberger & Vagg, 1995). If anxiety cannot be controlled during the exam, it could obstruct the student to find the right answer.

According to S. Sarason and Mandler (1952), students with higher levels of test anxiety hardly overcome qualitative assessments and evaluative situations. However if satisfactory feedback is provided by the instructor students' test anxiety decrease. As Özdemir (2007) reported that the theory of Sarason and Mandler has cognitive and emotional components. In order to measure test anxiety of adults and children Sarason and Mandler (1952, as cited in Zeidner, 1998) developed the first widely used test anxiety questionnaire named "The Test Anxiety Questionnaire". The scale was used to identify individual differences and participants were asked to

name the symptoms that they have felt during examinations. Furthermore, Mandler and Sarason designed the first longitudinal test anxiety study (1952).

Developments in Test Anxiety From 1970 to Present

During 1960s and 1970s, test anxiety concept gained a lot of attention and four important contributions came following these years. Spielberger (1976, as cited in Zeidner, 1980) claimed that test anxiety should not be considered as just a physiological arousal during stressful examinations. The author proposed that viewing this concept as a just a bodily change does not take into account the individual differences (i.e. personality traits) and emotional states. In order to overcome this problem, Spielberger (1975) theorized that the emotional state of the individual during examination, that is "state anxiety", is determined by the relationship between examination context (stressor) and subjective interpretation of the situation (i.e. threat) (as cited in Zeidner, 1998). An individual's past state anxiety reactions determine the "trait anxiety" of the individual. Moreover, trait anxiety is considered to be the key point of test anxiety by Spielberger (1975, cited in Spielberger and Vagg, 1995). Spielberger and Vagg (1995) reported that "trait anxiety refers to relatively stable individual differences in anxiety proneness, that is, to differences in the disposition to perceive a wide range of situations involving evaluative stress as dangerous or threatening and to respond to such situation with more or less intense elevations in state anxiety" (p. 6). According to Spielberger and Vagg (1995) students with high-test anxiety have higher levels of trait anxiety.

Focusing the relationship between test anxiety and academic performance, Alpert and Haber (1960) identified different types of anxieties (as cited in Hembree, 1988, p. 48). Alpert and Haber differentiated the "facilitating" and "debilitating"

anxiety states concerning their effects on the academic performance. The authors stated that “the former has a facilitative quality towards academic performance whereas the latter has an enfeebling quality” (1960, as cited in Hembree, 1988, p. 48).

Liebert and Morris indicated the worry and emotionality components of anxiety, such that worry is more related to the cognitive component whereas emotionality involves the physiological responses (Morris, Davis, & Hutchings, 1981). Regarding to this approach, Morris and colleagues (1981) conducted a research-determining cluster of responses under worry and emotionality components. They found that worry component of anxiety involves complex cognitive processes (i.e. attributions to one’s performance, thinking about capability of self and dreaming about possible failure, negative expectations) and the emotionality component is basically a “reflexive type of response” extracting by conditioning history or independent from conditioning history (Morris et al., 1981, p. 552).

The cognitive way of look of test anxiety is strengthened through Wine’s conceptualization of “cognitive-attentional” or “interference” model (1971, as cited in Zeidner, 1998, p. 10). During testing situations, attention of a test anxious individual is separated into task-related and task-irrelevant thoughts. The task-relevant thoughts are related to the test material whereas task-irrelevant thoughts involve worry, negative attributions to self-efficacy, and negative expectations from oneself, physiological symptoms and bodily complaints (Zeidner, 1998).

I.G. Sarason stated that high-test anxious students responded in a more self-critical way after the exams and task-irrelevant worry responses interfered with their performance (1975, as cited in Zeidner, 1998).

As Zeidner (1998) concluded that after these four important contributions attention on test anxiety topic increased. Researchers have added new components to concept of test anxiety. For instance Benjamin et al. (1981) working habits, organization and working skills of the students evoke their metacognition. The reason of a failure in a test is due to the student's disorganization and poor study-skills. Covington (1992, cited in Zeidner, 1998) stressed that the intellectual competency should be considered as a component too.

Four Models of Test Anxiety

Zeidner (1998) stated that models, which tired to explain test anxiety since the first systematic investigations in 1950s, can be studied under four main topics: Drive models, deficit models, contemporary cognitive-motivational models and transactional models.

Drive model is the oldest model and according to the model emotional reactivity is accepted as the main reason of test anxiety (Mandler & Sarason, 1952). Deficit models theorize that test anxiety is related with attentional deficit (Interference Model of Wine) and/or academic deficit (Kirkland & Hollandsworth, 1980). Contemporary cognitive-motivational models, underlined the importance of the "continuous process" of human behaviors to reach the desired goals and concepts such as student's self worth and intellectual competency between students were considered crucial elements in test anxiety studies (Carver and Scheier, 1991; Covington, 1992, cited in Zeidner, 1998). Transactional models, which hold the key components of mentioned models and analyze the dynamic interaction between those components, gained a lot of attention from researchers (Lowe et al, 2008; Özerman, 2007; Spielberger & Vagg, 1995; Zeidner, 1998). Zeidner (1998) states that drive

models, deficit models and contemporary cognitive-motivational models had limitations on concentrating different aspects of test anxiety at the same time. However, transactional models examine both individual differences and evaluative situations in a broad context.

Key Elements of Test Anxiety

As mentioned before, models and theories differ according to their approach to the test anxiety concept therefore mediators of test anxiety differs from theory to theory. For instance if Liebert and Morris is asked about the definition of test anxiety, their definition will include worry and emotionality components as key mediators for test anxiety.

Stober and Pekrun (2004) state that models, which combine the key components of the pioneer theories and use cumulative study results, should be considered. Transactional models combine and evaluate the dynamic reactions between evaluative situations, subjective factors and objective factors.

As Zeidner (2008) and Spielberger and Vagg (1995) reported transactional models combine most of the components, which were supported to be key elements in test anxiety concept by many studies. Spielberger and Vagg (1995) report that the key elements for transactional models are important to understand the test anxiety process. Zeidner (1998, p20) states that “the key elements in this process include the evaluative context, individual differences in vulnerability (trait anxiety), threat perceptions, appraisals, and reappraisals, state anxiety, coping patterns, and adaptive outcomes”.

If an individual’s performance is evaluated with respect to a standard score or performance, this situation is called evaluated situation. The performance of the

individual could end with a success or failure and it could affect the rest of the person's life. For test anxiety theories, "test" or "exam" is accepted as an evaluative situation. Transactional models suggest that the anxiety that is felt by the individual depends on contextual factors (evaluative situation). The difficulty, duration, atmosphere and physical setting of the test are characteristics of the evaluative situation.

Personal variables, such as trait anxiety, self-efficacy, information processing capacity, study skills, need for achievement, interact with evaluative situation. Trait anxiety, which is explained by Spielberger (1975, cited in Spielberger and Vagg, 1995), plays a vital role in determination of the response to an evaluative situation. Studies supported that high-test-anxious individuals evaluate exams as more dangerous and minatory and therefore during the exams high-test-anxious individuals experience more worry cognitions and physiological arousal (Lowe, Zeidner, 1998). This situation causes an increased level of state anxiety in these individuals (Zeidner, 1998). Trait anxiety, which is determined by strength and frequency of state anxiety, is also found to be high in high-test-anxious individuals (Comeau, Stewart, Loba, 2001; Spielberger, 1995).

Perception of test situation is another important aspect for transactional models. Zeidner (1998) states that percept a test is evaluated as a "threat" before the test. "Threat experiences encompass a variety of mental processes, which include perception, thought, memory and judgments (threat schemata, failure memories)" (Zeidner, 1998, p23). This shows that there is a dynamic interaction between memories, trait anxiety and perception of test situation as a threat or harm.

State anxiety mediator is a multidimensional topic. Worry and emotionality concepts of Liebert and Morris (1967, cited in Morris, Davis, & Hutchings, 1981) are

regarded as dimensions of state anxiety. Unpleasant feelings and increased activity of autonomic nervous system are appraised under emotionality dimension. Thinking about capability of self and dreaming about possible failure, negative expectations and cognitions about self are clustered under worry dimension.

Coping is another key element for the transactional models. Zeidner (1998) states that coping could be explained as a response to the negative events. If a test taker interprets the test situation as stressful than he/she will engage defensive mechanisms. The individual can select to cope with the evaluative stressor (problem focused coping) or his/her emotions (emotion focused coping).

According to the transactions between aforementioned elements, adaptation outcomes develop. Thoughts about the test are settled after the transactions between the mediators and these thoughts will affect the trait anxiety as "failure or success memories". Test taker's performance is affected according to the evaluation of the test situation. Studies, "generally" reported that high levels of test anxiety leads to low test scores and this affects their sense of self-efficacy (McDonald, 2001, Putwain, 2007, Spielberger and Vagg, 1995, Zeidner, 1998). However Cox (1964, cited in McDonald, 2001) and Hodapp (1989) found that the association between high-test anxiety and low grades are inconsistent. McDonald claims that there are significant number of studies, which are not published due to their results that showed weak correlation between high-test anxiety and low grades.

Hembree (1988) stated that age is an important mediator in the test anxiety studies and it fits into the transactional model too. As age increases, the experience of taking exams increases too and according to the strength and frequency of experienced state test anxiety in those exams, trait test anxiety is determined.

McDonald (2004) reports that there is a positive correlation between age and the significant interaction between test anxiety and performance.

Socio-economic status (SES) is also a studied mediator for test anxiety (Bodas & Ollendick, 2005; McDonald, 2001; Zeidner, 1998). Students with lower socio-economic backgrounds have higher test anxiety (Hodge et al.,1997, cited in McDonald, 2004). Crocker and Algina (1998, as cited in Zeidner, 1998) stated that although taking SES into account is important, studies, such as Zeidner & Safir (1989) did with Israeli children, showed that SES is not a strong mediator.

Studies showed that males score lower test anxiety than females (Putwain, 2007; Oner, & Albayrak, 1987, Lowe et al, 2007). The gender effect is supported by many studies across the world (Bodas& Ollendick, 2005). Rezazadeh and Tavakoli (2009) stress that significant test anxiety difference between female and male students could be explained by coping problems. In addition to this it is found that female students have higher worry than emotionality and this cause a low avoidance in coping.

As the interest in test anxiety increase, the need to cover all of the sub-topics or aspects increases too. Zeidner (1998) stated that new theories and studies should cover more key components of test anxiety and work corporately with the other studies in the field. Stober and Pekrun (2004) states that to cover more aspects of test anxiety, studies designed on pre-exam phase, exam phase and post exam phase. In the next section of the study, exam preparation anxiety, a new sub-topic on pre-exam phase will be explained.

Exam Preparation Anxiety

Exam preparation, a sub-topic of test anxiety, started to gain importance in recent studies and it is very important to study the preparation period in which anxiety levels change (Rafferty, Smith, & Pthacek, 1997). Adolescents' moods and anxiety levels found to be unsteady by Frydenberg (1991) and in high stake situations it could change more rapidly. As Putwain (2007) stated, delivering an anxiety inventory before an high stake exam and commenting on anxiety levels of students according to one inventory can not develop the test anxiety studies. Number of studies that investigate exam preparation anxiety is fewer than test anxiety studies (Zeidner, 1998).

As an alternative and pioneering method, Raffety (1997) requested his participants to fill in a diary for 7 days before an upcoming exam. The author found that anxiety reduces as the exam approaches. Consistent with this, Özerman (2007) found that as the high school exam approaches, Turkish eight grade students' anxiety reduces significantly. Moreover, Özerman (2007) found that as a concept preparation anxiety differs from test anxiety and most of the concepts of test anxiety are valid for the exam preparation anxiety as the models of exam preparation anxiety and test anxiety have similarities

Test Anxiety in Different Cultures

Cross-cultural studies play a vital role in anxiety research and in our comprehension of test anxiety in various cultures. Bodas and Ollendick (2005) argued that it is important to pay attention to the standardized test anxiety scale scores throughout the

world. Test anxiety scores (TAI scores) of Chinese, Czechoslovakian, German, Hungarian, Italian, Indian, Iranian, Jordanian, Korean, Dutch, Turkish and American high school students were investigated via various studies (Bodas & Ollendick, 2005). Examining test anxiety of Korean high school students, Schwarzer and Kim (1984) found that Korean students were rated as highest regarding level of anxiety among all countries. The tendency to generalize the relationship between authoritarian parenting styles and high scores of anxiety from Korean sample has failed as a result of studies focusing on Japanese and Turkish cultures (Bodas & Ollendick, 2005). These studies showed that Japanese and Turkish adolescents had relatively lower anxiety scores in Test Anxiety Inventory, although Japanese and Turkish cultures are considered as collectivistic and parenting styles have been evaluated as authoritarian. Furthermore, TAI scores of Turkish students were similar to or lower than Italian, German, American and Hungarian students.

On the other hand, Le Compte and Öner (1976) found that Turkish students had higher anxiety scores compared to American, Indian and Spanish students (as cited in Oner and Albayrak, 1987). In addition to these findings, Aysan, Thompson and Hamarat (2001) found that Turkish students with high-test anxiety had poor perceptions of their health.

To sum up, many authors (Bodas & Ollendick, 2005; Zeidner, 1998) stated that while comparing nations' test anxiety scores or evaluating a nation's anxiety scores, within culture and across-culture perspectives should be taken into account. In other words, all features of the high stake exam in the country should be known. In addition to this, to explain the dramatic changes of test anxiety scores in years in one country, test situation and importance of the test should be investigated in details (Bodas & Ollendick, 2005).

Tests in Turkey and High School Entrance Tests

To appreciate the impact of tests on students in Turkish context, there is the need to provide a general frame of tests in education system. The most crucial examinations students take in Turkey are Seviye Belirleme Sınavı (SBS) (i.e. high school entrance exams for sixth, seventh, and eight grade students) and OSS, that is the university entrance exam. In Turkey, most of the published studies about test anxiety are about university entrance exam (Özerman, 2007). High school entrance exams in Turkey are recent and can be regarded as high stake exams. Number of high schools and private schools that provides foreign language education cannot meet the demands and this causes the usage of high stakes tests in Turkey. In Turkey, five years of schooling was mandatory until 1998 and fifth graders were taking high school exams in order to be placed in competitive schools such as Anatolian High Schools, Science High School and Private High Schools or Vocational High School. In 1998, 8 years of schooling became mandatory and eighth graders started to take high school exams. In 2008, the exam regulations changed again. Ministry of Education stated (2008) that an exam, which lasts for 120 minutes, causes pressure and anxiety on students and decreases the chances of students to be placed in high schools. In order to overcome this problem, high school entrance exams were divided into three years. Students take tests at the end of sixth, seventh and eight grades and the tests are named as *Seviye Belirleme Sınavı* (SBS), (Level Determination Exam).

Procedure of SBS

Twenty five percent of the total score of sixth grade exam, 35% of the total score of seventh grade exam and 40% of the total score of eighth grade exam is calculated

and added in order to find the placement score of the student. In 2008, for eighth graders, high school entrance exams have been arranged for the last time while sixth and seventh grade students took the first SBS. In 2009, sixth, seventh, and eighth graders took SBS. However eighth graders' placement score was calculated by the total score of seventh grade SBS and eight grade SBS. This method was implemented because eighth graders have not taken sixth grade SBS.

In 2010, for the first time eighth graders' placement scores is calculated according to their sixth, seventh and eighth grade scores. The tests in SBS consist of Turkish Literature, Maths, Science, Social Science and Foreign Language parts. All of the questions are multiple questions and sixth graders are expected to answer 80 questions in 90 minutes, whereas seventh graders are expected to answer 90 questions in 100 minutes and eighth graders are expected to answer 100 questions in 120 minutes. The exam procedure for year 2010 is summarized in Table 1. Minimum score of SBS is 100 and highest score is 500.

Table 1: Exam Procedure for Year 2010

Grade	Number of Questions	The percentage of grade scores for calculating placement score	Duration of exam (minutes)
6	80	25%	90
7	90	35%	100
8	100	40%	120

Students take the exam once in June and no excuses are accepted if the student has missed the exam. More than one million students in each grade take the exam and only 25% of the students can be placed in Anatolian High Schools, Private High

Schools, Science High School and Vocational High Schools. The students who can't be placed in those schools could continue their education journey in State High Schools, which are less prestigious than those listed schools.

In order to be successful in SBS, beside their formal schools, students attend private institutions to learn test taking strategies and take trial SBS. Some of the students start to attend these institutions at 4th or 5th grades.

Preparation for each grade's SBS is about 9 months. Private institutions are opened in August and schools are opened in September. Generally private institutions prepare trial exams for once a month.

The Present Study

Concerning the probable debilitating nature of test anxiety, more studies focusing on both individual and environmental features are needed in order to help students as well as teachers and counselors in high stake exams. In Turkey, more than three million students take SBS and the exam is an anticipated stressor for students. Therefore, the present study aimed to investigate the exam preparation anxiety of sixth, seventh, eighth graders in SBS. In other words, the present study is one of the first studies designed for the new exam procedure.

Test anxiety levels of students have been investigated by many previous studies but special investigation of anxiety that is felt during preparation of exam is need (Zeidner, 1998). Özerman (2007) studied on the exam preparation anxiety concept and found that exam preparation anxiety of eighth graders in Turkey decrease, as the exam gets closer. In the lights of the previous studies, the study aims to investigate the change in exam preparation anxiety, in order to contribute the validation of the exam preparation anxiety concept. Thus, exam preparation anxiety is selected as the key variable of the present study and the design of the study is longitudinal. New exam procedure, which has been in use since 2008, enables to compare the exam preparation anxiety levels of sixth, seventh and eighth graders.

Other variables are divided into three groups. First group consists personal variables of the participants. These variables are gender, age, socioeconomic status, educational opportunities of children (attended school's success in SBS, attending a preparation institutes) and trait anxiety. Grades of the participants reflect their age in the present study. In Turkey sixth graders are twelve years old, seventh graders are thirteen years old and eighth graders are fourteen years old. Students can attend private schools or state schools in Turkey. Reports showed that private schools are at

the top of the most successful schools in SBS lists. Thus, participants' attended schools are selected as a variable. In preparation institutes, students have the opportunity to take trial exams and learn test-taking strategies. Because of this, preparation styles of the participants (attending private institute or private lessons) have been considered as a variable. In addition to this, educational level of the participants' parents' is selected as an important variable that reflects socioeconomic status of the student.

According to the transactional models, response to an exam is influenced by the evaluation of the exam situation by the person. These variables are named as "perceptions of the test situation" or "appraisal variables". In the present study, second group of variables, level of importance attributed to the exam by students and students' achievement expectancy, fit with the appraisal variables.

Third group consists of the performance of seventh and eighth graders in SBS 2008 and SBS 2009. The previous SBS scores of the students fit with the "adaptation outcomes" of the transactional models. According to the transactional models, the result of an exam has an effect on the test anxiety levels of the individual, thus previous exam performances of seventh and eighth graders have been considered as a variable.

The present study aims to examine the mentioned variables during preparation period for SBS 2010. The research questions of the study can be grouped in three topics.

First group of questions are:

A. What were the participants' levels of: Trait anxiety, level of importance attributed to the exam, achievement expectancy?

B. Did participants' gender, grade and attended schools have significant effect on

trait anxiety, level of importance attributed to the exam, achievement expectancy?

Second group is about the main variable of the study:

A. What were the levels of exam preparation anxiety in March, April and May? Is there any change in exam preparation anxiety level during the preparation period?

B. If there is a change, how strong do personality variables and appraisal variables predict the change in levels of exam preparation anxiety?

In light with the previous studies it is hypothesized that exam preparation anxiety levels of the participants will decrease from March to May.

In third group, the main debate is about seventh and eighth graders. The second group of questions will be repeated for seventh and eighth graders separately but this time previous exam scores of seventh and eighth graders will be taken into account. Previous exam scores of seventh and eighth graders (adaptation outcome variable) are expected to have an effect on the change in exam preparation anxiety levels of the participants.

CHAPTER 2

METHOD

Participants

There were 241 participants in the study. Fifty-five of them did not attend all the phases of the study and they were left out. Eighteen of the participants were left out due to the belief that informants did not fill the questionnaires truthfully and/or left all the items in the questionnaires unfilled. Thus, 168 participants (72 females, 96 males) were left in the study. All participants were from Istanbul, Turkey. Participants were attending sixth, seventh or eight grades in three different schools. The distribution of participants from three schools according to their gender and grade is given in Table 2.

Table 2: Distribution of Participants

	School 1		School 2		School 3	
	Female	Male	Female	Male	Female	Male
6^{th} grader	7	17	11	16	11	6
7^{th} grader	7	14	14	12	8	6
8^{th} grader	2	10	5	8	7	7
Total	16	41	30	36	26	19

Three elementary schools were selected from Anatolian side of Istanbul. First school (School 1) is a private school while second school (School 2) and third school (School 3) are state schools.

Instruments

Demographic Form

Questions in the form were about participants' gender, age, parents' education, former SBS scores and SES. In Appendix A, demographic form is present.

Trait Anxiety Scale

In 1970 Spielberger et al. developed a scale in order to assess trait and state anxieties named State Trait Anxiety Inventory (STAI). STAI consists of two subscales: State Anxiety and Trait Anxiety. Öner and Le Compte carried out the validity and reliability studies for the Turkish population (1983, cited in Oner & Albayrak, 1987). In this study, Trait Anxiety subscale was used. There were 20 statements in the scale. Participants answered how they generally felt regarding the statements. Scale was in 4-point Likert scale and it ranged from almost never (1) to almost always (4). Participants' scores ranged between 20 to 80 points. High levels of trait anxiety were indicated by high scores. Items number 1, 6, 7, 10, 13, 16 and 19 were reverse (negative) items. The total of the negative items were subtracted from the total of positive items. The sum of positive and negative items was added up 35 (a constant) to find trait anxiety score. Turkish norms of the Trait Anxiety have been determined by Oner and Le Compte (1983). Mean of trait anxiety scores of 222 female student was 39.81 with 10.82 standard deviation. Numbers of male students that have attended to the study were 424 and their mean score was 39.77 with a standard deviation of 9.67. In Appendix B, a copy of Trait Anxiety Scale is presented.

Importance of Exam Scale

Özdemir (2002) developed an eleven-item instrument in order to assess the perceived importance of the university entrance exams in Turkey. Scale was consisted of two subscales: Importance for self and for significant others. Participants were asked to rate the eleven items on a 7-point Likert scale (1=absolutely wrong, 2=very wrong, 3=wrong, 4=not sure, 5=correct, 6=very correct, 7=absolutely correct). Possible range of the scale is 11-77. High score in the scale means higher importance referred to the exam. Özerman (2007) ran a pilot study to check the internal consistency of the instrument for eight grade students and to observe the factor structure. Özerman (2007) found that the internal consistency for eighth graders was high (Cronbach alpha coefficient was 0.88) however items of the scale were grouped in one factor. In this study, as Özerman (2007) stated the scale was accepted as a one factor scale. The scale is presented in Appendix C.

Achievement Expectancy Scale

Participants' achievement expectations were assessed by the scale developed by Ozdemir (2002). Participants were asked to rate the possibility of being successful in the exam on a 5-item Likert scale. (1= %0, 2=%25, 3=%50, 4=%75, 5=%100). Original scale included items about perception of self and others. In this study, as Özerman (2007) did, self-perception of student was used. In the self-perception part participants were asked to consider the possibility of being successful in the exam according to their own perception, their mothers' perception, their fathers' perception and their teachers' perception. The average of their ratings calculated. The Achievement Expectancy Scale is presented in Appendix D.

Preparation Anxiety Scale

An instrument to assess the anxiety experienced during the preparation period could not be found, so Özerman (2007) adapted Test Anxiety Inventory (TAI) to Preparation Anxiety Inventory.

TAI (Test Anxiety Inventory) was developed by Spielberger (1980) and Oner and Albayrak Kaymak have adapted the scale in Turkish in 1987. TAI included 20 items (in 4-point Likert scale and it was ranging from never (1) to always (4)) that are directly related with examination period. First item of TAI is a negative item and scores of the participants varied between 20 and 80. There was a positive correlation between the increase in the score and increase in test anxiety.

Özerman (2007) readapted the item in order to reflect the exam preparation period. An example of a changed item is given in Table 3. Adapted scale was found to be reliable (The Cronbach Alpha coefficient was found as 0.93) and construct validity between TAI and Preparation Anxiety Scale was satisfactory (Pearson correlation coefficient was calculated as 0.66 ($p < .001$). Standard deviation of the scale was 13.3 in Özerman's study (2007). A copy of Preparation Anxiety Scale is given in Appendix E.

Table 3: An example of an item of the Preparation Anxiety Scale (Ozdemir 2007, 45).

Test Anxiety Inventory	Preparation Anxiety Scale
Item 17. During tests I find myself thinking about the consequences of failing.	Item 17. During the preparation for the high school entrance exam I find myself thinking about the consequences of failing.

Procedure

During the study, schools were visited three times and data collection was started in the first visit on March. At the first visit Demographic Form, Trait Anxiety Scale, Importance Scale, Achievement Expectation Scale and Preparation Anxiety Scale were given in March to the participants. During the visits in April and May only Preparation Anxiety Scales were given. March, April and May are selected according to the curriculum of the private preparation institutes. On March the institutes start to deliver trial examinations that include question from all topics of the syllabus. Participants who do not attend to private institutes take trial examinations in their schools after March too.

SBS for eight, seventh and sixth graders were on 5 June 2010, 6 June 2010 and 12 June 2010 respectively. In Turkey 1.077.749 sixth graders, 1.058.743 seventh graders and more than one million eighth graders took SBS.

CHAPTER 3

RESULTS

The research questions were clustered in three groups. As an overview of the research questions of the study, first research topic was to investigate participants' levels of trait anxiety, level of importance attributed to the exam and achievement expectancy and to explore effects of gender, grade and attended school on these variables. Second research question investigated the level of exam preparation anxiety and examine whether the level of exam preparation anxiety changed during preparation period and whether personal and appraisal variables predicted the change exam preparation anxiety. Third question investigated whether seventh and eighth graders' performance in SBS 2008 and 2009 ("adaptation outcome" variable) predicted exam preparation anxiety.

In this part, before the results of three main research questions are presented, distributions of the scores of Trait Anxiety Inventory, importance of exam, achievement expectancy and exam preparation anxiety levels are summarized in Table 4. Then, distribution of SBS 2008 and SBS 2009 scores of School 1, School 2 and School 3 are presented. Finally, distributions of participants' preparation style and parents' educational levels are portrayed.

Table 4: Descriptive Statistics of Scales (N = 168)

Variable	Possible Range	Mean	Standard Deviation
Trait Anxiety Score	20-80	41.94	8.319
Importance Of Exam Score	11-77	69.49	9.349
Achievement Expectancy	1-5	3.07	.886
Preparation Anxiety (March)	20-80	41.13	13.53
Preparation Anxiety (April)	20-80	40.22	13.96
Preparation Anxiety (May)	20-80	38.08	14.57

School 1 had the highest average SBS score in 2009 SBS and 2008 SBS among the three schools. School 2 had higher average SBS score in 2008 SBS and 2009 SBS than School 3. In table 5, mean 2008 SBS and 2009 SBS scores of the schools are presented.

Table 5: Mean 2008 SBS and 2009 SBS scores of the schools

SBS	Score of School 1		Score of School 2		Score of School 3	
(Years)	7^{th} grade	8^{th} grade	7^{th} grade	8^{th} grade	7^{th} grade	8^{th} grade
2008	na	457.5	na	419.77	na	271.36
2009	447.52	486.42	398.96	404.62	313.57	279.79

Results showed that participants from School 3 had the lowest levels of attendance at private institutes and private lessons among the three schools. Distributions of frequency of participants attending private preparation institutes, private lessons or none of them are presented in Table 6.

Table 6: Preparation style of participants (N = 168)

	School 1 (%)	School 2 (%)	School 3 (%)
Preparation Institute and Private Lesson	94.7	87.9	13.3
None of them	5.3	12,1	86.7

Parents in School 1 had higher education levels than parents in School 2 and School 3. All of the parents in School 1 had graduated from high school or above while non of the mothers in School 3 had graduated from university. Education levels of parents according to the schools are given in Table 7.

Table 7: Education Level of Parents

	School 1		School 2		School 3	
	Mother (%)	Father (%)	Mother (%)	Father (%)	Mother (%)	Father (%)
No formal education	0	0	0	0	15.6	11.1
Elementary	0	0	6.1	0	60	44.4
Middle	0	0	6.1	7.6	15.6	31.1
High	15.8	5.4	40.9	40.9	8.9	6.7
University and Above	84.2	94.6	47.7	51.5	0	6.7

For the analyses, education levels of mother and father have collapsed into three

categories. Groups of no formal education, graduates from elementary school and middle school have been clustered in low-level education. High school graduates have been defined as middle-level and university graduates have been defined as high-level education.

First Research Topic

What were the participants' levels of: Trait anxiety, level of importance attributed to the exam, achievement expectancy? Did participants' gender, grade and attended schools have significant effect on trait anxiety, level of importance attributed to the exam, achievement expectancy?

Variables are investigated separately under sub-topics. Under every sub-topic distributions of the variables according to grade, gender and school variables are presented. In addition to this, analyses done, in order to examine gender, grade and attended school differences for the variable, are given in related variables' sub-topic.

Results of Trait Anxiety

Three-way ANOVA was conducted to explore the impact of gender, grade and attended school on trait anxiety, which is measured by Trait Anxiety Inventory (TAI). Interaction between gender, grade and attended school was not significant. In addition, no significant interactions were found between grade-gender, grade-attended school, gender-attended school.

In the study it was found that 72 female participants' mean score was 43.51 with a standard deviation of 8.2 where as 96 male participants' mean score was 40.76 with a standard deviation of 8.25. No significant effect of gender was found on trait anxiety scores.

Schools of the students also considered as key element in the present study. It

was found that mean of trait anxiety scores of School 1 (N=57) is 40.04 with a standard deviation of 8.1. Mean of the scores of participants in School 2 (N=66) and School 3 (N=45) are found as 42.24 with a standard deviation of 8.87 and 43.91 with a standard deviation of 7.33 respectively. Again no main effect of attended school was found for trait anxiety scores.

There were 68 sixth grader participants in the study and their trait anxiety score mean was 41.68 with a standard deviation of 8.71. A total number of 61 seventh graders' mean score was 41.85 with 8.99 standard deviation. Eighth graders' mean score was 42.54 with a standard deviation of 7.643. No main effect of grade was found.

Achievement Expectancy

Participants have rated their success expectancy in a scale ranged between 1 and 5. Three-way ANOVA analysis was conducted to explore the impact of gender, grade and attended school on achievement expectancy. No significant effect of interaction between grade, gender and attended school was found. In addition no significant interactions were found between grade-gender, grade-attended school, gender-attended school.

Achievement expectancy of female participants' mean was 2.9 with a standard deviation of .891. Mean of male participants' achievement expectancy was 3.2. No effect of gender was found.

Mean achievement expectancy of School 1 was 3.51 with a standard deviation .71. Mean of School 2 was 2.95 with a standard deviation of .91 and mean of School 3 was 2.69 with a standard deviation of .82. ANOVA results showed that interaction between achievement expectancy and participants' attended school was

significant, F (2,165)= 13.46, $p < .01$; partial eta squared = .13. Post-hoc comparisons using the Tukey HSD indicated that mean score for School 1 was significantly higher from School 2 and School 3. No significant differences were found between School 2 and School 3.

Sixth graders' mean achievement expectancy score was 3.13 with a standard deviation .845. Seventh graders' mean score was 2.97 with a standard deviation of .836 and eighth graders' mean score was 3.13 with a standard deviation of 1.03. No significant effect of grade was found.

Level Importance Attributed to the Exam

A three-way between-groups analysis of variance was conducted to investigate the scores of Importance of the Exam Scale. The interaction between gender, grade and school was not statistically significant. No significant interactions were found between grade-gender, grade-attended schools, gender-attended schools.

Scores of Importance of the Exam Scale ranged between 11 and 77. Female participants' mean score was 66.2 with 8.39 standard deviation. Male participants' mean score was 63.2 with 9.86 standard deviation. No main effect of gender was found.

Mean score of School 1 was 61.44 with a standard deviation of 10.73, School 2 was 64.33 with 8.41 standard deviation and School 3 was 68.6 with 7.17 standard deviation. ANOVA results showed attended school as a main effect, F (2,150)=4.787, $p < .01$. Post-hoc comparisons using the Tukey HSD indicated that mean score for School 3 was significantly different School 1. In other words, participants in School 3 have higher levels of importance attributed to exam than School 1. No significant differences were found between "School 2 and School 3"

and “School 1 and School 2”.

Sixth graders’ mean score was 65.29 with a standard deviation of 7.21, seventh graders’ mean score was 62.8 with a standard deviation of 11.44 and eighth graders’ mean score was 65.74 with a standard deviation of 8.86. No significant main effect of grade was found.

Second Research Topic

What were the levels of exam preparation anxiety in March, April and May? Is there any change in exam preparation anxiety level during the preparation period? If there is a change, how strongly do personality variables and appraisal variables predict it?

Preparation Anxiety

Preparation anxiety is assumed as the key element in the student and other variables have been used to explain the changes of exam preparation anxiety. Test Preparation Anxiety Inventory was used to measure exam preparation anxiety. In a previous study (Özerman, 2007) participants’ exam preparation anxiety levels in March and May were investigated. In the present study, April was also included. To sum up, participants were given the inventory for three times, in March, April and May.

Mean scores and standard deviations of preparation anxiety scores for male and female participants are given in Table 8. Participants’ scores according to their schools are presented in Table 9 and Participants’ scores according to their grades are presented in Table 10.

Table 8: Gender Differences Between Preparation Anxiety Scores

Preparation Anxiety Scores	Gender			
	Female		Male	
	M	SD	M	SD
March	42.14	13.43	40.36	13.62
April	43.35	14.32	37.88	13.294
May	41.93	15.32	35.19	13.34

Table 9: Attended School Differences Between Preparation Anxiety Scores

Preparation Anxiety Scores	School					
	1		2		3	
	M	SD	M	SD	M	SD
March	37.23	13.35	43.47	13.54	42.52	12.911
April	35.81	13.84	42.08	14.2	43.09	12.64
May	33.88	14.50	39.77	14.78	40.91	13.42

Table 10: Grade Differences Between Preparation Anxiety Scores

Preparation Anxiety Scores	Grade					
	6^{th}		7^{th}		8^{th}	
	M	SD	M	SD	M	SD
March	41.68	13.31	41.95	14.30	38.87	12.75
April	41.5	13.927	40.8	14.70	37.08	12.67
May	38.87	14.27	38.75	15.25	35.64	14.1

A one-way repeated measures ANOVA was conducted to compare scores on Test Preparation Anxiety Inventory at March, April and May. In other words second research question, whether there was a change in exam preparation anxiety in time, was answered. The means and standard deviations were presented in the previous section (see Table 5). There was a significant effect for time, Wilks' Lambda = .778, F (2,166) = 23.74, $p < .001$, multivariate partial eta squared = .22. Post-hoc comparisons using the Bonferroni test indicated that exam preparation anxiety scores in March was not significantly different from April, $p = .149$. However, mean scores of "March and May" and "April and May" were significantly different from each other, $p < .001$. To sum up, in May, the level of exam preparation anxiety was significantly lower than March and April.

Before answering the research question about whether personal and appraisal variables predicts the change in exam preparation anxiety, correlation coefficients of Test Preparation Anxiety scores (March, April and May), Trait Anxiety Inventory scores, Importance Scale scores and Achievement Expectancy Scale scores are summarized in Table 11.

Table 11: Correlation Results of Preparation Anxiety Scores (March, April and May), Trait Anxiety Inventory Scores, Importance Scale Scores and Achievement Expectancy Scale Scores.

	1	2	3	4	5	6
1.Prep. Anxiety Score (March)	1	.91**	.87**	.61**	.29**	-.38**
2.Prep. Anxiety Score (April)		1	.96**	.65**	.31**	-.36**
3.Prep. Anxiety Score (May)			1	.64**	.30**	-.36**
4.Trait Anxiety Score				1	.21**	-.35**
5.Score of Importance Scale					1	-.003
6.Score of Achievement Exp.						1

** $p < .01$

Exam preparation anxiety of participants was associated with all of the variables. First of all, there was a significant and positive relationship between the exam preparation anxiety scores in March and April (r = .91, p < .01), April and May (r = .96, p < .01), and March and May (r = .87, p < .01). As it was expected the correlation between levels of exam preparation anxiety in March, April and May were significant.

Correlation between trait anxiety and exam preparation anxiety in March was significant and positive (r = .61, p < .01). In addition to this there was a significant and positive association between trait anxiety and exam preparation anxiety in April (r = .65, p < .01) and trait anxiety and exam preparation anxiety in May (r = .64, p < .01). That is to say, participants with high levels of trait anxiety have higher levels of exam preparation anxiety. There were significant and positive interactions between levels importance attributed to the exam and exam preparation anxiety in March (r = .29, p < .01), in April (r = .31, p < .01) and in May (r = .3, p < .01). This shows that participants' exam preparation anxiety increase when they attribute higher levels of importance to the exam. Interaction between achievement expectancy and exam preparation anxiety was negative and significant. The results showed that participants who have higher achievement expectancy had lower exam preparation anxiety in March (r = -38, p < .01), in April (r = -.36, p < .01) and in May (r = -.36, p < .01). A significant and positive interaction between trait anxiety and level of importance attributed to the exam was found (r = .21, p < 0.1). This result showed that, participants with higher trait anxiety had higher level of importance attributed to the exam. Correlation between achievement expectancy and trait anxiety was significant and negative (r = -.35, p < .01). This means that, participants with higher trait anxiety had lower achievement expectancy in the exam. There was no

interaction between the level of total importance attributed to the exam and achievement expectancy.

To test whether personal and appraisal variables predict the change in test exam preparation anxiety, hierarchical regression was used. The dependent variable of the model was exam preparation anxiety in May. Independent variables were exam preparation anxiety in March, gender, grade, attended school, education of mother, education of father, preparation style of the student for SBS 2010, trait anxiety level (score of Trait Anxiety Inventory), achievement expectancy (score of Achievement Expectancy Inventory) and level of importance attributed to the exam (score of Importance Scale). Because there were three categories under attended school variable, dummies of School 1 and School 2 were created for the analysis.

As it was mentioned, one-way repeated measures ANOVA results showed that there was no significant difference between exam preparation anxiety levels in March and April. In addition to this, Table 11 showed that power of correlation between exam preparation anxiety levels in March and May was less than "May and April" and "March and April". This showed that there was more change between March and May. Thus, in the regression analysis, exam preparation anxiety in March and May was chosen as variables as Özerman did in her study (2007).

Overall model was significant, F (11,155) = 56.23, $p < .001$ (See Table 13). Test preparation anxiety score in March was entered at Step 1, explaining the 75% of the variance in test preparation anxiety score in May, F (1, 165) = 495.85, $p < .001$.

In the Step 2 gender, grade, dummy of School 1, dummy of School 2, education of mother, education of father, preparation style of the student for SBS 2010 and trait anxiety entered. These eight variables were accepted as personality variables. Personality variables contributed an additional 5% variance in test exam

preparation anxiety, R^2 change = .05, F change (8, 157) = 4.81, $p < .01$. Gender of the participants had a significant effect on the change in exam preparation anxiety (β = -.14, $p < .01$). Trait Anxiety had also a significant effect on the change in exam exam preparation anxiety (β = .13, $p < .01$). As aforementioned, there was a positive correlation between trait anxiety and exam preparation anxiety. Education level of mother had a significant effect on the change in preparation anxiety levels (β = -.16, $p < .05$). No effects of grade, attended school, education of father and participants' preparation style for SBS 2010 was found.

Appraisal variables, achievement expectancy and level of importance attributed to the exam, entered in Step 3. Their contribution to the model was only .1% percent and it was not significant, R^2 change = .001, F change (2, 155) = .06, p = .95.

Table 11: Summary of Hierarchical Regression Analysis Testing the Main and Interactive Effects of Preparation Anxiety in March and Personal and Appraisal Variables on Preparation Anxiety in May

Dependent Variable: Exam Preparation Anxiety,

Overall F (11,155) = 56.23, $p < .001$

Step Predictors	R^2	ΔR^2	ΔF	B	SEB	β
Step 1	.75	.749	495.8			
			49.			
Prep. Anxiety (March)				.93	.042	.87**
Step 2	.799	.05	69.			
Gender				-4.23	1.10	-.14**
Grade				-.59	.69	-.032
School 1 (dummy)				1.5	2.994	.049
School 2 (dummy)				.157	2.53	.005
Education of Mother				-1.812	.861	-.159*
Education of Father				.413	.827	.036
Preparation Style				-1.17	.926	-.07
Trait Anxiety				.22	.082	.13**
Step 3	.8	.001	56.23			
Achievement Exp.				.19	.72	.01
Importance Att. to Exam				.008	.06	.005

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

The effect of gender on the change in exam preparation anxiety could be investigated

through the mean preparation anxiety scores of female and male participants (see Table 13).

Table 13: Gender Differences Between Preparation Anxiety Scores in March and May

Gender	Preparation Anxiety Score March	Preparation Anxiety Score May
Female (N = 72)	42.13 (SD = 13.44)	41.93 (SD = 15.32)
Male (N = 96)	40.37 (SD = 12.62)	35.19 (SD = 13.34)

As it can be seen in Table 13, male participants' preparation anxiety change levels are higher than female participants.

Hierarchical regression results showed that there was a significant main effect of education level of mother on the change in exam preparation anxiety. As it can be seen in Table 14, higher educated mothers' children had higher levels of decrease in exam preparation anxiety.

Table 14 Distribution of Mean Scores of Preparation Anxiety in March and May According to Education Levels of Mothers

Education Level of Mother	Preparation Anxiety Score March	Preparation Anxiety Score May
Low (N = 49)	42.78 (SD = 13.18)	41.71 (SD = 13.39)
Middle (N = 40)	39.25 (SD = 12.46)	36.58 (SD = 14.49)
High (N = 79)	41.05 (SD = 14.82)	36.58 (SD = 15.09)

Third Research Topic

Third research topic investigated whether seventh and eighth graders' performance in SBS 2008 and 2009 ("adaptation outcome" variable) and personal and appraisal variables predicted test preparation anxiety. As it has been noted seventh graders have taken SBS 2009 and eighth graders have taken SBS 2008 and SBS 2009.

Performance of Seventh and Eighth Graders in 2008 SBS and 2009 SBS

Mean scores of the participants in 2008 SBS and 2009 SBS were given in Table 4. First eighth graders' 2008 SBS and 2009 SBS scores were investigated to find if there was a main effect of gender and school. Multivariate analysis of variance was performed to investigate gender and school differences in 2008 SBS and 2009 SBS results for eighth graders. Preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers , homogeneity of variance-covariance matrices and multicollinearity, with no serious violations noted. There was no significant main effect of gender. However there was a statistically significant difference between schools on the combined dependent variables (2008 SBS and 2009 SBS), $F(4,64) = 26.99$, $p<.001$; Wilks' Lambda = .14; partial eta squared = .63. When the results for the dependent variables were considered separately, both SBS 2009 and SBS 2008 reached statistical significance with using a Bonferroni adjusted alpha level of .025. Effect of school was significant on SBS 2009, F (2,33) = 79.53, $p < .001$, partial eta squared = .828. An inspection of the mean scores indicated that School 1 reported higher scores in SBS 2008 (M = 457.5, SD = 29.75), than School 2 (M = 419.77, SD = 46.08) and School 3 (M = 271.36 , SD = 33.56). Again effect of school was significant on SBS 2009, F (2,33) = 74.56, $p <$ .001. School 1 had higher mean score of SBS 2009 (M = 461.67, SD = 27.39), than

School 2 (*M* = 404.62, *SD* = 43.45) and School 3 (*M* = 279.79, *SD* = 31.59).

A two-way between-groups analysis of variance was conducted to explore the impact of gender and school on scores of 2009 SBS for seventh graders. The interaction between gender and school was not statistically significant, *F* (2,55) = .507, *p* = .61. There was no significant main effect of gender was found. However a main effect of school was found, *F* (2,55) = 48.49, p < .001; partial eta squared = .64. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for School 1 (*M* = 447.52, *SD* = 26.88) was significantly different form School 2 (*M* = 398.96, *SD* = 42.24) and School 3 (*M* = 313.57, *SD* = 39.63). In addition, mean score of School 2 was statistically significant from School 3.

Eighth Graders

Before the results of hierarchical regression, relationships between exam preparation anxiety levels (March, April and May), trait anxiety, level of importance attributed to the exam, achievement expectancy and scores of SBS 2008 and 2009 are summarized in Table 15.

Table 15: Correlation Results of Preparation Anxiety Levels (March, April and May), Trait Anxiety, Level of Importance Attributed to the Exam, Achievement Expectancy and Scores of SBS 2008 and 2009 for Eighth graders. (N = 39)

	1	2	3	4	5	6	7	8
1.Prep. Anxiety Score (March)	1	.864**	.777**	.333*	.292*	-.373*	-.346*	-.324*
2.Prep. Anxiety Score (April)		1	.939**	.415**	.301*	-.388*	-.353*	-.328*
3.Prep. Anxiety Score (May)			1	.363*	.339*	-.395*	-.325*	-.336*
4.Trait Anxiety Score				1	.03	-.253	-.089	-.032
5.Score of Importance Scale					1	.119	-.259	-.257
6.Score of Achievement Exp.						1	.549**	.523**
7.Score of SBS 2008							1	.951**
8.Score of SBS 2009								1

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

Exam preparation anxiety levels of eighth graders in March and April ($r = .864$, $p < .001$), May and March ($r = .777$, $p < .001$) and April and May ($r = .939$, $p < .001$) were significantly and positively correlated. Significant and positive relationship between trait anxiety and exam preparation anxiety levels in March ($r = .33$, $p < .05$), April ($r = .415$, $p < .01$) and May ($r = .363$, $p < .05$) were found. This result showed that eighth graders with high levels of exam preparation anxiety had higher levels of trait anxiety. Exam preparation anxiety levels of eighth graders have significant and positive relationship with their levels of importance attributed to the exam, preparation anxiety in March ($r = 292$, $p < .05$), in April ($r = 301$, $p < .05$) and in May ($r = 339$, $p < .05$). Moreover, significant and positive relationship between achievement expectancy and preparation anxiety levels in March ($r = -.373$, $p < .05$), April ($r = -.388$, $p < .05$) and May ($r = -.395$, $p < .05$) were found. This showed that, eighth graders with high levels of preparation anxiety have lower levels of

achievement expectancy in SBS 2010. Scores of SBS 2008 had significant and negative correlations with level of preparation anxiety in March (r = -.346, p = <.05) in April (r = -.353, p < .05) and in May (r = -.325, p < .05). Correlation between score of SBS 2009 was also significant and negative with level of preparation anxiety in March (r = -.324, p < .05), in April (r = -.328, p < .05) and in May (r = -336, p < .05). Trait anxiety of eighth graders had no significant relationship between level of importance attributed to the exam, achievement expectancy and scores of SBS 2008 and 2009. Level of importance attributed to the exam had no significant interaction with achievement expectancy and scores of SBS 2008 and SBS 2009. There was a significant and positive relationship between achievement expectancy and scores of SBS 2008 (r = .549, p < .001) and SBS 2009 (r = .523, p < .001). That is to say, successful participants in SBS 2008 and SBS 2009 had higher levels of achievement expectancy in SBS 2010. Lastly, as expected, there was a significant and positive correlation between scores of SBS 2008 and SBS 2009 (r = .951, p < .001).

To test whether adaptation outcome, personal and appraisal variables predict the change in test preparation anxiety, hierarchical regression was used. The dependent variable of the model was test preparation anxiety in May. Independent variables were test preparation anxiety in March, gender, attended school, education of mother, education of father, preparation style of the student for SBS 2010, trait anxiety level (score of Trait Anxiety Inventory), achievement expectancy (score of Achievement Expectancy Inventory), level of importance attributed to the exam (score of Importance Scale), score of SBS 2008 and SBS 2009.

As presented in Table 16, the overall regression model was significant, F (12, 26) = 9.68, p < .01. Exam preparation anxiety score in March were entered at Step 1,

explaining the 60% of the variance in exam preparation anxiety score in May, F (1, 37) = 56.43, $p < .001$. Then, in the second step, personality variables; gender, dummy of School 1, dummy of School 2, education of mother, education of father, preparation style of the student for SBS 2010 and trait anxiety entered. Personality variables contributed an additional 13% variance in the change in test preparation anxiety, R^2 change = .13, F change (7, 30) = 2.051, $p < .05$. Gender of the student had a significant effect on the change in exam preparation anxiety (β = -.215, $p <$ .05). Other variables had no significant effect on explaining the variance of the change in preparation anxiety. Appraisal variables; achievement expectancy and level of importance attributed to the change in exam preparation anxiety, entered in Step 3. Their contribution to the model was only 1% percent and it was not significant, R^2 change = .01, F change (2, 28) = .24, $p = .79$. Achievement expectancy and level of importance attributed to the exam did not make any significant unique contribution to the total variance. Finally in the fourth step, scores of SBS 2008 and SBS 2009 entered. These two variables contributed an additional 8% variance in exam preparation anxiety, R^2 change = .08, F change (2, 26) = 5.72, $p < .01$. Score of SBS 2008 had significant main effect (β = -.734, $p < .05$) and score of SBS 2009 had significant effect (β = -.449, $p < .01$) on explaining the variance.

Table 16 Summary of Hierarchical Regression Analysis Testing the Main and Interactive Effects of Change in Preparation Anxiety in March, Personal, Appraisal and Adaptation Outcome Variables on Preparation Anxiety in May for Eighth Graders Dependent Variable: Exam Preparation Anxiety May,

Overall F (12, 26) = 9.68, $p < .01$

Step	Predictors	R^2	ΔR^2	ΔF	B	SEB	β
Step 1		.604	.60	56.429			
	Preparation Anxiety (March)				.859	.114	.777**
Step 2		.732	.13	2.051			
	Gender				-6.246	.3	-.215*
	School 1 (dummy)				5.349	16.767	-.177
	School 2 (dummy)				-3.357	14.668	-.114
	Education of Mother				-4.153	4.378	-.195
	Education of Father				.937	2.245	.088
	Preparation Style				-5.885	4.459	-.199
	Trait Anxiety				.242	.198	.131
Step 3		.737	.01	.239			
	Achievement Exp.				-.213	1.723	-.016
	Importance Att. to Exam				-.107	.18	-.067
Step 4		.817	.08	5.721			
	Score of SBS 2008				-.115	.052	-.734**
	Score of SBS 2009				-.191	.057	-.449**

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

In order to clarify the mean effect of gender on the change in exam preparation anxiety, mean scores of females and males were investigated (See Table 17). Females' exam preparation anxiety increased from March to May while exam preparation anxiety of male participants has decreased from March to May.

Table 17: Distribution of Mean Scores of Preparation Anxiety Scores in March and May According to Gender (Eighth Graders)

Gender	Preparation Anxiety Score March	Preparation Anxiety Score May
Female (N = 14)	38.43 (SD = 12.69)	40.29 (SD = 15.84)
Male (N = 25)	39.12 (SD = 13.04)	33.04 (SD = 12.61)

Seventh Graders

Before the results of hierarchical regression, relationships between preparation anxiety levels (March, April and May), trait anxiety, level of importance attributed to the exam, achievement expectancy and score of SBS 2009 were summarized in Table 18.

Table 18: Correlation Results of Preparation Anxiety Levels (March, April and May), Trait Anxiety, Level of Importance Attributed to the Exam, Achievement Expectancy and Score of SBS 2009 for Seventh Graders. (N = 61)

	1	2	3	4	5	6	7
1.Prep. Anxiety Score (March)	1	.935**	.896**	.747**	.431**	-.456**	-.357**
2.Prep. Anxiety Score (April)		1	.959**	.779**	.442**	-.447**	-.397**
3.Prep. Anxiety Score (May)			1	.758**	.428**	-.395**	-.321*
4.Trait Anxiety Score				1	.288*	-.435**	-.286*
5.Score of Importance Scale					1	-.241	-375**
6.Score of Achievement Exp.						1	.563**
7.Score of SBS 2009							1

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

Preparation anxiety levels of participants associated with all of the variables. First of all, there was a significant and positive relationship between the preparation anxiety scores in March and April ($r = .93$, $p < .01$), April and May ($r = .959$, $p < .01$), and March and May ($r = .896$, $p < .01$). Interaction between trait anxiety and preparation anxiety in March was significant and positive ($r = .747$, $p < .01$). In addition to this there was a significant and positive association between trait anxiety and preparation anxiety in April ($r = .779$, $p < .01$) and trait anxiety and preparation anxiety in May ($r = .758$, $p < .01$). That is to say, seventh graders with high levels of trait anxiety have higher levels of preparation anxiety. Results showed levels of importance attributed to the exam had a significant and positive relationship with preparation anxiety levels in March ($r = .431$, $p < .01$), in April ($r = .442$, $p < .001$) and in May ($r = .428$, $p < .01$). Seventh graders, who had higher achievement expectancy in SBS 2010, had lower levels of preparation anxiety in March ($r = -.456$, $p < .001$), in April ($r = -.447$, $p < .001$) and in May ($r= -.395$, $p < .01$). There was a significant and negative relationship between seventh graders' scores of SBS 2009 and preparation

anxiety in May (r = -.357, p < .01), in April (r = -.397, p < .01) and in May (r = -.321, p < .05). The results showed that successful students in SBS 2009 had lower levels of preparation anxiety.

Seventh graders with higher trait anxiety had attributed more importance to the exam (r = .288, p < .05). In addition to this anxiety had a significant and negative relationship with achievement expectancy (r = -.435, p < .01). That is to say seventh graders with higher levels of trait anxiety had lower achievement expectancies. There was a significant and negative correlation between trait anxiety and score of SBS 2009 (r = -.286, p < .05). No significant interaction between level of importance attributed to the exam and achievement expectancy was found. Significant and negative correlation between importance attributed to the exam and score of SBS 2009 was found (r = -.375, p < .001). Seventh graders with higher scores of SBS 2009 had higher achievement expectancy in SBS 2010 (r = .563, p < .001).

As it was done with eighth graders, to test whether adaptation outcome, personal and appraisal variables predict the change in test preparation anxiety, hierarchical regression was used. The dependent variable of the model was test preparation anxiety in May. Independent variables were test preparation anxiety in March, gender, attended school, education of mother, education of father, preparation style of the student for SBS 2010, trait anxiety level (score of Trait Anxiety Inventory), achievement expectancy (score of Achievement Expectancy Inventory), level of importance attributed to the exam (score of Importance Scale), and score of SBS 2009.

As presented in Table 19, the overall regression model was significant explaining 86% of the variance, F (11, 48) = 26.56, p < .01. Test preparation anxiety score in March were entered at Step 1, explaining the 80% of the variance in test

preparation anxiety score in May, F (1, 58) = 235.405, $p < .001$. Then, in the second step, personality variables; gender, dummy of School 1, dummy of School 2, education of mother, education of father, preparation style of the student for SBS 2010 and trait anxiety entered. Personality variables contributed an additional 5% variance in the change in test preparation anxiety, R^2 change = .05, F change (7, 51) = 2.37, $p < .05$. In the model, dummy variables of School 1 ($\beta = .355$, $p < .05$) and School 2 ($\beta = .258$, $p < .05$) was found. The main effects of dummy of School 1 and dummy of School 2 showed that School 1 was different from School 2 and School 3; and School 2 was different from School 1 and School 3 respectively. In other words, significant main effect of attended school variable for seventh graders was found. No significant main contributions of gender, education of mother, education of father, preparation style and trait anxiety found. Appraisal variables; achievement expectancy and level of importance attributed to the exam, entered in Step 3. Their contribution to the model was not significant, R^2 change = .002, F change (2, 49) = .365, $p = .69$. Achievement expectancy and level of importance attributed to the exam did not make any significant unique contribution to the total variance. Finally in the fourth step, score of SBS 2009 entered. The variable did not contributed an additional variance significantly in test preparation anxiety, R^2 change = .006, F change (1, 48) = 1.99, $p = .165$. Score of SBS 2008 had no significant main effect.

Table 20: Summary of Hierarchical Regression Analysis Testing the Main and Interactive Effects of Preparation Anxiety in March, Personal, Appraisal and Adaptation Outcome Variables on Preparation Anxiety in May for seventh graders

Dependent Variable: Exam Preparation Anxiety (May)

Overall F (11, 48) = 26.56, $p < .01$

Step	Predictors	R^2	ΔR^2	ΔF	B	SEB	β
Step 1		.802	.802	235.405			
	Preparation Anxiety (March)				.956	.062	.896**
Step 2		.851	.049	2.37			
	Gender				-2.755	1.75	-.091
	School 1 (dummy)				11.315	4.58	.355*
	School 2 (dummy)				7.66	3.86	.258*
	Education of Mother				-2.79	1.42	-.23
	Education of Father				.41	1.32	.033
	Preparation Style				.953	1.66	.048
	Trait Anxiety				.148	.154	.087
Step 3		.853	.002	.365			
	Achievement Exp.				.402	1.372	.022
	Importance Att. to Exam				.07	.098	.053
Step 4		.859	.006	1.992			
	Score of SBS 2009				-.04	.028	-.16

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

Further investigations were done in order to clarify the main effect of attended school on the change in exam preparation anxiety (See Table 20). Mean scores of exam preparation anxiety in March and May according to the attended school

showed that seventh graders in School 3 had the highest levels of decrease from March to May. Exam preparation anxiety levels of seventh graders in School 1 and School 2 had decreased from March to May.

Table 20 Distribution of Mean Scores of Preparation Anxiety Scores in March and May According to Attended Schools (Seventh Graders)

Attended School	Preparation Anxiety Score March	Preparation Anxiety Score May
School 1	39.00 (SD = 15.15)	37.1 (SD = 17.15)
School 2	42.58 (SD = 11.87)	39.38 (SD = 13.11)
School 3	45.21 (SD = 17.13)	40.07 (SD = 16.84)

CHAPTER 4

DISCUSSION

In this section, a brief summary of results concerning the research questions is presented. Then, the results are discussed in the light of previous studies and models. Finally, limitations of the present study are evaluated and with brief suggestions about the further studies, the chapter is concluded.

Summary of Results Related to the Research Questions and the Evaluation of the Findings

Demographic Results

Demographic results of the participants showed that, three schools have different characteristics. SES of School 1 was higher than School 2 and School 3. In addition to that, educational opportunities (attending preparation institutes and lessons) of the participants in School 1 are higher than participants in School 2 and School 3. Participants in School 3 had the lowest SES and their educational opportunities are limited.

School 1 is a private school and the campus of the school is located in city center in Istanbul. School 2 is a state school located in the same district with School 1. School 3 is a state school and it is located in the slum area. Within the lights of the results, it can be noted that parents of School 1 have the highest education level. All of them graduated, at least, from high school and 84.2% of mothers and %94.6 of fathers graduated from university. In School 2, majority of parents graduated from high school and university but there were parents who did not continue their

education after elementary or middle school. Parents of School 3 had the lowest levels of education. Majority of the parents graduated from elementary and middle school.

Preparation styles of the participants have also changed according to their schools. Almost all of the participants, 94.7%, in School 1 had attended private institutes and private lessons where as 87.9% of participants in School 2 and 13.3% of participants in School 3 had attended private institutes and lessons. Three schools have differed from each other according to the results of SBS 2008 and SBS 2009 for eighth graders and SBS 2009 for seventh graders. School 1 had the highest mean score for seventh and eighth graders followed by School 2 & School 3 respectively. The mentioned differences showed that participants in School 1 had the highest SES among all three. It can be concluded that, in the present study the schools that participants' attended reflected different SES and educational opportunities.

First Group of Research Questions

In the light of the first research question, levels of trait anxiety, importance attributed to the exam and achievement expectancy of the participants were evaluated and effects of gender, grade and attended school on these variables were examined.

When the mean score of participants' trait anxiety were compared with Turkish norms for Trait Anxiety Inventory, trait anxiety levels of the participants in the present study were similar with the norm group. In the present study mean score of trait anxiety of the females was higher than the males but there was not a significant difference. Previous studies found that females had higher trait anxiety levels than males (Özerman, 2007, Spielberger, 1995). For instance, Özerman (2007) found significant differences in trait anxiety levels between female and male Turkish

eighth grade participants. It can be speculated that due to the low numbers of participants, the difference between females and males were insignificant. Besides, trait anxiety of participants did not differ according to their grade (age) and attended schools either. The findings are parallel with the developmental psychology field. Trait anxiety is a stable condition of the individual and it is shaped within ages (Zeidner, 1998). Previous studies found that the effects of age and SES on trait anxiety increase after adolescence (McDonald, 2001; Twenge, 2000).

Results showed that participants attributed high levels of importance to the SBS 2010. On a scale with a maximum score of 77, mean score of the participants was 69.49 with a standard deviation of 9.35. Results were parallel with Özerman's study (2007), in which Turkish eighth graders' level of importance attributed to the exam were found very high. Results of the analyses showed that gender and grade did not have a significant effect on level of importance attributed to the exam. However, it was found that participants' attended school had a main effect on level of importance attributed to the exam which means that there is a negative relationship between the SES of the participants and their levels of importance attributed to the exam. Unsuccessful students in SBS have the opportunity to continue their education in state high schools or private high schools. Students with low SES do not have the opportunity to meet the financial criterions of the private schools. In other words, for the students with low SES, SBS could be interpreted as the last chance to have higher education.

Moreover, it is important to investigate the insignificant effect of grade on the level of importance attributed to the exam. As it was mentioned SBS was a three level examination system and the placement score is calculated after the addition of 25% of sixth grade score, 35% of seventh grade score and 40% of eighth grade score.

That is to say, contribution of eighth grade SBS is higher than seventh and sixth grade SBS. However, regardless of the situation, levels of importance attributed to the exam did not differ according to the grade of the participants.

Özerman (2007) found that mean scores of achievement expectancy of Turkish eighth graders were 3.65 with a standard deviation of .086. In the present study mean scores of achievement expectancy were 3.07 with a standard deviation of .886. As it can be seen the results of achievement expectancy of the present study were parallel Özerman' study (2007). Achievement expectancy of the participants did not differ according to their gender and grade. Nevertheless, participants' attended schools have a main effect on achievement expectancy. Participants in School 1 had higher levels of achievement expectancy than participants in School 2 and School 3. The results showed that there were differences in levels of SES and educational opportunities between schools. Participants in School 1 had higher levels educational opportunities and this situation affects their achievement expectancy.

Second Group of Research Questions

Second group of research questions examined whether there was a change in levels of exam preparation anxiety. Moreover, effects of personal and appraisal variables on the change in exam preparation anxiety were examined. The mentioned variables are considered as the key elements for test anxiety studies according to the transactional models (Zeidner, 1998).

Previous studies investigated the levels of test anxiety during the confrontation phase of an important exam (Aysan et al., 2001; Benjamin et al., 1981; Benson, 1998). However, recent studies showed that, preparation period of a high stake exam is also important (Stober, 2004; Özerman, 2007; Rafferty, 1997). Thus in

the present study, levels of exam preparation anxiety during March, April and May were investigated under second group of research questions.

Özerman (2007) found that Turkish eighth graders' mean of preparation exam score in March was 44.05 with a standard deviation of 13.37 and in May it was 41.94 (12.18). In the present study participants' mean exam preparation score in March 41.13 (SD = 13.53), in April it was 40.22 (SD = 13.96) and in May it was 38.08 (SD = 14.57). The results of means scores of exam preparation anxiety were parallel with Özerman's study (2007). Maximum points that could be obtained from the Exam Preparation Scale were 80 and Özerman (2007) evaluated that a mean score of 44.05 with a standard deviation of 13.37 as medium level anxiety. Thus, exam preparation anxiety of participants in the present study could also evaluate as medium level.

Results supported the hypothesis and a significant change in exam preparation anxiety during the preparation period was found. Levels of exam preparation anxiety decreased from March to May. Also there was a significant decrease from April to May. However, no significant difference between March and April was found. The decrease of exam preparation anxiety from March to May is in line with previous studies (Özerman, 20007; Rafferty, 1997). Stober (2004) stated that uncertainty about the exam performance is one of the most important aspects in pre-exam period. During the preparation period participants' took trial exams and this can cause a decrease in the uncertainty (Özerman, 2007). As aforementioned, all the participants took trial exams in schools or in preparation institutes. As it can be seen from the insignificant change between March and April, the amount of feedbacks is an important factor. As the SBS gets closer, all the subjects in the curriculum are completed and the number of trial exams increases. That is to say, as the exam gets closer the students have the opportunity to evaluate their overall conditions more

easily.

Second aim of the second group of research questions was to investigate the variables that affect the change in the levels of exam preparation anxiety. Correlation coefficients of trait anxiety, level of importance attributed to the exam, achievement expectancy and exam preparation anxiety variables were examined before investigating the effects of personal and appraisal variables on explaining the change in exam preparation anxiety levels. Significant correlations between exam preparation anxiety levels (in March, April and May) and trait anxiety, levels of importance attributed to the exam and achievement expectancy replicated the results of Özerman's study (2007). The significant correlations in the present study could be interpreted as the support for the presence of exam preparation anxiety concept.

Examination of the effect of variables showed that among the personal variables; gender, education levels of mother and trait anxiety variables had main effects on the decrease of exam preparation anxiety levels between March and May. No main effects of appraisal variables were found.

In the present study, the decrease of exam preparation anxiety of females was lower than males. The result was parallel with the previous studies. Cross-cultural studies showed that females had higher test anxiety levels than males (Bodas & Ollendick, 1995; Spielbger, 1995, Zeidner, 1998). Ozdemir (2007) found that preparation anxiety scores of females were higher than males. The minor change in females could be explained by gender differences in the coping strategies (Bodas & Ollendick, 1995).

Results showed that as the educational level of mother increases, the decrease in levels of exam preparation anxiety, increases. Previous studies support the findings (Krohne & Hock, 1991). I. G Sarason (1972, as cited in Zeidner, 1998)

found that interaction between mother and child has an important effect on test anxiety. SES of parents was negatively correlated with test anxiety (Zeidner, 1998). That is to say, parents with high SES are more effective on the decrease in their children's exam preparation anxiety. Ural and Erktin (2002) found that, in Turkey the effect of mothers in the preparation period for adolescents are more than fathers. This was found when only mothers responded to the questionnaire that was given to both fathers and mothers. Ural and Erktin's study (2007) supports the insignificant effect on father's educational levels on the change in exam preparation anxiety.

Trait anxiety is accepted as a key variable for test anxiety studies (Rezazadeh & Tavakoli, 2009; Spielberger, 1995). As the correlation results showed, participants with higher levels of trait anxiety had higher levels of exam preparation anxiety and the results replicated Özerman's study (2007).

Moreover the present study showed that trait anxiety is also effective in explaining the change in levels of exam preparation anxiety. Participants with higher levels of trait anxiety had lower levels of decrease in exam preparation anxiety. As aforementioned, trait anxiety is related with the elevation of the situation. Results may be interpreted that, participants with high trait anxiety evaluate the oncoming exam as a more threatening situation than participants with low trait anxiety. Hence, the decrease in the level of exam preparation anxiety is low. As far as is known, no study investigated the effect of trait anxiety on the change in levels of exam preparation anxiety. However, it can be speculated that future studies on exam preparation anxiety will find the same affect of trait anxiety.

Participants' preparation style for SBS 2010 did not have a significant effect on explaining the change in levels of exam preparation anxiety. There were 118 participants attending private institutes and/or private lessons and 50 participants not

attending the institutes and lessons. It may be speculated that, due to the small numbers of participants, who are not attending institutes and/or lessons, the effect of preparation style of the participants was not examined effectively.

Appraisal variables have an important impact on both test anxiety and preparation anxiety (Özerman, 2007; Speilberger, 1995; Zeidner, 1998). In the present study, level of importance attributed to the exam was positively correlated with preparation anxiety levels in March, May and April. In addition, correlation coefficients showed that participants with high levels of achievement expectancy had higher levels of preparation anxiety. Mentioned results were parallel with the transactional models and previous studies (Putwain, 2007; Soffer, 2008; Zeidner, 1998) As far as it is known, no studies have evaluated the effect of achievement expectation on the change in levels of exam preparation anxiety. With considering this situation, in the present study it was found that appraisal variables did not have a main effect to explain the change in levels of exam preparation anxiety.

Third Group of Research Questions

In the third group research questions, previous SBS scores of seventh and eighth graders have been considered as adaptation outcome variables. As mentioned, eighth graders took SBS 2008 and SBS 2009 while seventh graders took SBS 2009. The effects of personal, appraisal and adaptation outcome variables on the change in preparation anxiety levels were investigated separately for seventh graders and eighth graders. A significant effect of previous SBS scores was hypothesized.

For eighth graders, main effect of gender and scores of SBS 2008 and SBS 2009 were found. There were 39 participants in eighth graders and small number of participants might have effect the results. Correlation coefficients of the results

showed that exam preparation anxiety scores in March, April and May were correlated with trait anxiety, level of importance attribute to the exam and achievement expectancy variables. There was no difference for the correlations between exam preparation anxiety levels and mentioned variables between the results of the eighth graders and whole participants. Moreover, exam preparation anxiety levels in March, April and May were significantly and negatively correlated with scores of SBS 2008 and SBS 2009. The results supported the view that failure experiences might have a negative effect on test anxiety (Zeidner, 1998).

Gender had a main effect on explaining the decrease in exam preparation anxiety for eighth graders. As it was hypothesized, the decrease in the level of preparation exam anxiety was lower for the participants that have low SBS 2008 and SBS 2009 scores. As far as it is known, the effect of adaptation outcome variables on the change in levels of exam preparation anxiety was not investigated by the previous studies. Hence, studies that examined the effect of adaptation outcomes on test anxiety and test exam preparation anxiety were utilized. Previous studies have found that failure in examinations have negative effects on evaluations of the oncoming examinations (Wise et al., 1986). Özerman (2007) has found that students with higher exam preparation anxiety had lower scores in high school entrance examinations. Within the lights of the results of present study it may be speculated that, participants who had high scores in previous exams used their success as reinforcement while the high stake exam approaches.

For seventh graders, coefficient confidents of variables replicated the previous analysis done with whole participants and only with eighth graders. The results of correlation coefficients showed that even with small number of groups, exam preparation anxiety had significant correlations with seventh graders' attended

school made a significant contribution in explaining the decrease in exam preparation anxiety levels. This showed that students with higher SES and educational opportunities of students had more decrease in exam preparation anxiety. In the analyses done with the whole participants and with only eighth graders, the main effect of attended school was not found. However, no main effect of SBS 2009 was found for seventh graders. To sum up, the hypothesis for third research question was supported for only eighth graders. Although negative correlation between score of SBS 2009 and exam preparation anxiety levels in March, April and May found, change in exam preparation anxiety between March and May was not explained by previous performance of the seventh graders. This may be due to the low effect of sixth grade SBS to the placement point for Anatolian High Schools.

Conclusion

Present study made a contribution on the validation of the exam preparation anxiety concept. The results supported the concept of exam preparation anxiety. All of the participants felt anxiety during the preparation period although participants' exam preparation anxiety was not evaluated as extreme. Sixth, seventh and eighth graders attributed very high levels of importance to the exam. That is to say, changes in the regulations of SBS done by the Ministry of Education in 2007, were not adequate.

Results replicated the study of Özerman (2007), who made the first known study on exam preparation anxiety of Turkish eight grade students. Preparation Anxiety Scale was tested again in the present study and results supported the validation of the scale. Decrease in levels of exam preparation anxiety supported the previous studies. Moreover variables that effect change in levels of exam preparation anxiety were investigated. Gender, educational levels of mothers, trait anxiety were

found to be effective on explaining the difference of change in exam preparation levels for sixth, seventh and eight graders. Previous SBS scores and student's attended school, which was found to reflect the SES in the present study, contributed to explain the change in levels of exam preparation anxiety for eighth and seventh graders.

Change in Examination System

Ministery of Education (2010) held a press conference on 28 June 2010 and stated that regulations for high school entrance examinations have changed. Starting from 2010, sixth and seventh graders will not take SBS. Anymorethe sixth graders who took SBS in 2010 will continue to take SBS for seventh graders in 2011 and SBS for eighth graders in 2012. In other words, SBS for sixth and seventh graders will be abrogated gradually.

Nimet Çubukçu, Minister of Education, stated that, after the protests from the parents and critiques from the academic communities, Ministry of Education, decided to change the regulations of the SBS. In the press conference it was stated that, students who took SBS had high levels of anxiety during the preparation period. Çubukçu stated that, SBS had some positive contributions to the educational system but old regulations caused psychological disturbances on children and students attributed lots of meanings in the concept of SBS, which cause psychological problems. Lack of contribution to the child development was another reason of the change. Moreover, Çubukçu stated that parents enrolled their children to the private institutes and this caused a lack of leisure time for children and financial problems for the families. Çubukçu also stressed that students study for the exam in preparation institutes as the exam approaches and this cause decrease in attendance at

schools. Finally Çubukçu has accepted that educational opportunities of state high schools are lower than Anatolian high schools and Vocational High Schools and this caused an unfair situation for children and parents.

The explanations of Nimet Çubukçu supported some of the results of the present study. As it was mentioned regardless of the grade, all of the participants attributed high levels of importance to the exam and had exam preparation anxiety. Moreover it was found that high levels of trait anxiety caused lower level of decrease in exam preparation anxiety, which can be interpreted as a negative effect for students.

Limitations and Future Directions

Present study had a longitudinal design and large number of participants, fifty five, did not attend the whole sessions of the study. The situation caused a decrease in the number of participants. Especially the number of participants in eighth graders was low.

As the exam was getting closer, the participation to the study decreased because participants attending the private institutes and private lessons did not attend regularly to the schools.

The number of participants who attended private preparation institutes or lessons was twice higher from the participants who did not attend any private institute or lesson. Also, majority of the participants who did not attend private lessons had low levels of SES. In order to generalize the results, number of participants not attending the private institutes or lesson should be increased. Participants in the present study were from Istanbul. In order to generalize the results data can be gathered form other cities of Turkey.

According to the literature review on test anxiety, mostly discussed variables that affect test anxiety were chosen for the present study. However, coping variables were not investigated and the scores of SBS 2010 of the participants could not obtained from schools due to the board takeovers. Hence, more variables can be examined in the further studies.

As stated before, results of the present study supported the validation of exam preparation anxiety, however it is important to find at which point of the period anxiety level of the students peaks. In order to find that, as Özerman (2007) stated, data collection could start in September, at the beginning of academic year and could continue to the day just before the exam. This method would also support the differentiation of test anxiety and exam preparation anxiety.

APPENDICES

APPENDIX A: DEMOGRAPHIC INFORMATION FORM

DEMOGRAFİK FORM**:**

Tarih: .....

1. Adı Soyadı : …….

2. Doğum tarihi:……

3. Cinsiyeti: Kız ( ) Erkek ( )

4. Okul / Sınıf: ..... 5. Kaç kardeşsiniz? ……..

6. Annenizin eğitimini bitirdiği okul düzeyi (Örn: İlkokul 4; Orta3; Lise2 ; Üniversite mezunu):

……..

7. Babanızın eğitimini bitirdiği okul düzeyi (Örn: İlkokul 4; Orta3; Lise2 ; Üniversite mezunu):

…….....

8. Anneniz çalışıyor mu? Evet…….. Hayır…….

9. Babanız çalışıyor mu? Evet……. Hayır……

10. Şu an yaşadığınız evde sizden başka kaç kişi yaşıyor? ……

11. SBS (Seviye Belirleme Sınavı)'ye girecek misiniz? Evet ( ) Hayır ( )

Cevabınız evet ise:

12. SBS'ye hazırlanmak için ne yapıyorsunuz?

a) Sadece dersaneye gidiyorum. Evet ( )

Hayır ( )

b) Hem dersaneye gidiyor hem özel ders alıyorum . Evet ( )

Hayır ( )

c) Kendim çalışıyorum. Evet (…..)

Hayıt (….)

d) Diğer:

……

SBS 2008'deki puanınız:

SBS 2009'daki puanınız:

APPENDIX B: TRAIT ANXIETY SCALE

SUREKLI KAYGI ENVANTERI

Aşağıda kişilerin kendilerine ait duyguları anlatmakta kullandıkları bir takım ifadeler verilmiştir. Her ifadeyi okuyun, sonra da genel olarak nasıl hissettiğinizi, ifadelerin sağ tarafındaki parantezlerden uygun olanını işaretlemek suretiyle belirtin. Doğru ya da yanlış cevap yoktur. Herhangi bir ifadenin üzerinde fazla zaman sarf etmeksizin genel olarak nasıl hissettiğinizi gösteren cevabı işaretleyin. İsminiz farklı günlerde size verdiğimiz testlerin karışmaması için sorulmuştur. Cevaplarınız gizli tutulacaktır.

Adı : ..... Soyadı: ..... Tarih : .....

	Hiçbir zaman	Bazen	Çoğu zaman	Hemen her zaman
1. Genellikle keyfim yerindedir.	1	2	3	4
2. Genellikle çabuk yorulurum.	1	2	3	4
3. Genellikle kolay ağlarım.	1	2	3	4
4. Başkaları kadar mutlu olmak isterim.	1	2	3	4
5. Çabuk karar veremediğim için fırsatları kaçırırım.	1	2	3	4
6. Kendimi dinlenmiş hissederim.	1	2	3	4
7. Genellikle sakin, kendime hakim ve soğuk kanlıyım.	1	2	3	4
8. Güçlüklerin yenemeyeceğim kadar biriktiğini hissederim.	1	2	3	4
9. Önemsiz şeyler hakkında endişelenirim.	1	2	3	4
10. Genellikle mutluyum.	1	2	3	4
11. Herşeyi ciddiye alır ve etkilenirim.	1	2	3	4
12. Genellikle kendime güvenim yoktur.	1	2	3	4
13. Genellikle kendimi emniyette hissederim.	1	2	3	4
14. Sıkıntılı ve güç durumlarla karşılaşmaktan kaçınırım.	1	2	3	4
15. Genellikle kendimi hüzünlü hissederim.	1	2	3	4
16. Genellikle hayatımdan memnunum.	1	2	3	4
17. Olur olmaz düşünceler beni rahatsız eder.	1	2	3	4
18. Hayal kırıklıklarını öylesine ciddiye alırım ki hiç unutamam.	1	2	3	4
19. Aklı başında ve kararlı bir insanım.	1	2	3	4
20. Son zamanlarda kafama takılan konular beni rahatsız eder.	1	2	3	4

APPENDIX C: IMPORTANCE OF EXAM SCALE

SINAV ÖNEM ÖLÇEĞİ

Aşağıda SBS 2010 ile ilişkili olarak verilen ifadelerin, duygu ve düşüncelerinizi dikkate alarak sizing için ne derece doğru olduğunu belirtiniz.

	Kesinlikle yanlış	Çok yanlış	Yanlış	Kararsızım	Doğru	Çok doğru	Kesinlikle doğru
1. Bu sınavı kazanmak benim için çok önemlidir.	1	2	3	4	5	6	7
2. Sınavı kazanamazsam çok üzülürüm.	1	2	3	4	5	6	7
3. Sınavı kazanamama ihtimalimi düşünemiyorum.	1	2	3	4	5	6	7
4.Sınavı kazanmak geleceğimi kurtaracak.	1	2	3	4	5	6	7
5.Saygın bir meslek sahibi olmam bu sınava bağlı.	1	2	3	4	5	6	7
6.Sınavı kazanmazsam ailemden utanırım.	1	2	3	4	5	6	7
7. Sınavı kazanırsam beni sevenleri de mutlu edeceğim.	1	2	3	4	5	6	7
8. Etrafımdaki herkes sınavı kazanmamı bekliyor.	1	2	3	4	5	6	7
9. Sınavı kazanırsam çok mutlu olacağım.	1	2	3	4	5	6	7
10. Sınavı kazanırsam kendimi daha iyi hissedeceğim.	1	2	3	4	5	6	7
11. Sınavı kazanamazsam kendimden utanırım.	1	2	3	4	5	6	7

APPENDIX D: ACHIEVEMENT EXPECTANCY SCALE

BAŞARI BEKLENTİSİ ÖLÇEĞİ**:** SBS (Seviye Belirleme Sınavı)'ye girecek olduğunuzu düşünerek aşağıdaki sizin ve size yakın kişilerin sınavı kazanma ihtimalinize ilişkin görüşlerini(zi) değerlendirin. Lütfen aşağıdaki yüzdelerden birini işaretleyin.

Size gore, sizin sınavı kazanma Ihtimaliniz nedir?	%0	%25	%50	%75	%100
Annenize gore, sizin sınavı kazanma ihtimaliniz nedir?	%0	%25	%50	%75	%100
Babanıza gore, sizin sınavı kazanma ihtimaliniz nedir?	%0	%25	%50	%75	%100
Okul/Dershane öğretmenlerinize gore, sizin sınavı kazanma ihtimaliniz nedir?	%0	%25	%50	%75	%100

APPENDIX E: PREPARATION ANXIETY SCALE

SINAVA HAZIRLIK ENVANTERİ

Tarih

Yönerge: Aşağıda SBS'ye hazırlanan öğrencilerin kendilerini tanımlamak için kullandıkları bir dizi ifade sıralanmıştır. Bunların herbirini okuyun ve nasıl hissettiğinizi anlatan ifadenin sağındaki boşluklardan uygun olanın içini karalayın. Burada doğru ya da yanlış yanıt yoktur. İfadelerin hiçbiri üzerinde fazla zaman harcamayın, ancak SBS sınavına hazırlanırken son bir ay içinde nasıl hissettiğinizi gösteren yanıtı işaretleyin.

	Hiçbir Zaman	Bazen	Sık sık	Her zaman
1. SBS'ye hazırlanırken kendimi güvenli ve rahat hissediyorum……..	(1)	(2)	(3)	(4)
2.SBS'de alacağım puanı düşünmek sınava hazırlanırken beni olumsuz etkiliyor……	(1)	(2)	(3)	(4)
3. Deneme sınavlarında donup kalıyorum…….	(1)	(2)	(3)	(4)
4.SBS'ye hazırlanırken bir okulu kazanıp kazanamayacağımı düşünmekten kendimi alamıyorum……	(1)	(2)	(3)	(4)
5. Deneme sınavları sırasında ne kadar çok uğraşırsam kafam o kadar çok karışıyor……..	(1)	(2)	(3)	(4)
6. SBS'ye hazırlanırken kendimi huzursuz ve rahatsız hissediyorum……	(1)	(2)	(3)	(4)
7. Dershanedeki deneme sınavları sırasında kendimi çok sinirli hissediyorum…….	(1)	(2)	(3)	(4)
8. Başarısız olma düşünceleri yüzünden dikkatimi çalışmaya veremiyorum……	(1)	(2)	(3)	(4)
9. SBS için iyi hazırlandığımı bilsem bile kendimi oldukça sinirli hissediyorum	(1)	(2)	(3)	(4)
10. SBS'ye hazırlanırken sinirlerim öylesine geriliyor ki midem bulanıyor….	(1)	(2)	(3)	(4)

11. Deneme sınavlarının sonucunu almadan hemen once çok huzursuz oluyorum…….	(1)	(2)	(3)	(4)
12. Deneme sınavlarında kendimi adeta başarısızlığa itiyorum……..…	(1)	(2)	(3)	(4)
13. SBS'ye hazırlanma süresince kendimi çok gergin hissediyorum……	(1)	(2)	(3)	(4)
14. SBS'ye hazırlanırken paniğe kapılıyorum…….…….	(1)	(2)	(3)	(4)
15. SBS'ye hazırlanmamın beni bu kadar rahatsız etmemesini isterdin…...	(1)	(2)	(3)	(4)
16. Deneme sınavlarına girmeden once çok endişeleniyorum (kuruyorum)……	(1)	(2)	(3)	(4)
17. SBS'ye hazırlanırken başarısız olmanın sonuçlarını düşünmekten kendimi alamıyorum……	(1)	(2)	(3)	(4)
18. Deneme sınavlarında kalbimin çok hızlı attığını hissediyorum……	(1)	(2)	(3)	(4)
19. Deneme sınavı sona erdikten sonra endişelenmemeye çalışıyorum, fakat yapamıyorum……..	(1)	(2)	(3)	(4)
20. SBS'ye hazıranırken öyle sinirli oluyorum ki aslında bildiğim şeyleri bile unutuyorum…….	(1)	(2)	(3)	(4)

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