Adolescent Stress During the Preparation Period of a High-stakes Test: The High School Entrance Exam in Türkiye

Thesis Submitted to the
Institute for Graduate Studies in the Social Sciences
in partial fulfillment of the requirements for the degree of

Master of Arts
in
Educational Sciences

by
Didem Özerman

Boğaziçi University
2007

THESIS ABSTRACT

"Adolescent Stress During the Preparation Period of a High-stakes Test: The High School Entrance Exam in Türkiye"

by
Didem Özerman

Tests with serious consequences are known to cause test anxiety, and thus are widely investigated. The high school entrance exam is taken by around 600.000 Turkish eighth graders once every year and only one fifth of the applicants can be placed in the schools they compete for. For this reason the high school entrance exam generates a stressful environment. In most studies, test anxiety is operationalized as a person confronts an evaluative situation like an exam. Nevertheless, important tests have long preparation periods that may be as stressful as the tests themselves. The preparation process for the high school entrance test in Türkiye takes at least nine months, a period full of uncertainty for the students.
This study investigates the anxiety felt during the process of preparation for the high school entrance exam by focusing on students' anxiety levels, coping strategies and related variables during their preparation through a transactional perspective. Three research questions were launched. First, gender differences were examined. Second, the change during the preparation process was investigated. Third, a theoretical transactional model was tested.

The sample of the research is composed of 351 eight graders. The students attending a test preparation institute were assessed during their training for the high school entrance exam. Data were collected on personal variables, measures of appraisal, anxiety, coping, and outcome, which are the components of a test anxiety model (Zeidner, 1998). For personal variables "trait anxiety" and "perceived efficiency of the study skills" were taken. Appraisal was operationalized as "perceived importance given to the exam" and "achievement expectancy". The anxiety specific to the preparation period was coined as "preparation anxiety". Coping was conceptualised and measured as "coping with pre-exam anxiety and uncertainty". The outcome was the score on the actual high school entrance test.

The results indicated that preparation anxiety was a different construct from test anxiety. Gender differences were observed in trait anxiety, achievement expectancy, preparation anxiety, and on two strategies of coping. Males and females showed a similar performance on the test although they seemed to experience the preparation process differently. For the second research question, it was found that the preparation anxiety diminished as the exam date drew near. Finally, the empirical findings fit the theoretical model of test anxiety, including the personal, appraisal, anxiety, coping and outcome variables. Eight of the nine variables entered in the model with the proposed order were accepted, only avoidance coping was left out and achievement expectancy had a direct relationship with performance which did not exist in the theoretical model. The coping strategies, as in the theoretical model were shown to be a mediator between anxiety and outcome.

Key words: Test anxiety, preparation, high school entrance exam.

TEZ ÖZETİ

Didem Özerman, “ Seçme ve Yerleştirme Sınavlarına Hazırlık Sürecinde Ergenlerin Yaşadığı Kaygı: Orta Öğretim Kurumlari Sınavı Örneği.”

Sonuçları önemli sınavlar, sınav kaygısına sebep olmaktadır ve bu yüzden de sıklıkla araştırma konusu olmaktadırlar. Yaklaşık 600.000 sekizinci sınıf öğrencisinin girdiği Orta Öğretim Kurumları Sınavı (OKS, eski adı LGS idi) da, başvuranların sadece beşte birinin istediği okullara yerleştirilebilmeleri yüzünden kaygı dolu bir ortam yaratmaktadır. Çok sayıda araştırmada sınav kaygısı, sınava giriş esnasında duyulan kaygı ile bir tutulmuştur. Oysa seçme ve yerleştirme sınavları gibi önemli sınavlara hazırlık döneminde duyulan kaygı sınav sırasında hissedilen kaygı kadar önem taşımaktadır. OKS’ye hazırlık süreci belirsizliklerle dolu ve en az dokuz aylık uzun bir dönemi kapsamaktadır.

Bu çalışma, OKS sınavına hazırlık sürecindeki öğrencilerin sınava hazırlık kaygısı ve hazırlık kaygısıyla başetme becerilerini kuramsal bir etkileşim modeli çerçevesinde ele almak amacıyla yürütülmüştür. Bu çalışmada üç araştırma sorusu öne sürülmüştür. İlk soruda değişkenlerden elde edilen verilerde cinsiyet farkı olup olmadığı sorulmuştur. İkinci soruda, OKS’ye hazırlık sürecinde hangi değişkenlerde değişiklik olduğu ve bu değişikliğin yönü sorgulanmıştır. Üçüncü soruda bir kavramsal sınav kaygısı modelinin OKS’ye hazırlanan öğrenciler için geçerli olup olmadığı test edilmiştir.

Araştırmanın örneklemi 351 ilköğretim son sınıf öğrencisinden oluşmaktadır. Veriler OKS’ye dersaneye giderek hazırlanan öğrencilerden toplanmıştır. Değişkenler, kavramsal modelin parçalarını oluşturan kişisel özellikler, değerlendirme, başetme ve elde edilen başarı şeklinde beş grupta sınıflandırılabilir. Kişisel özelliklerle ilgili sürekli kaygı ve çalışma becerisi değişkenleri ele alınmıştır. Değerlendirme, sınava verilen önem ve sınavdaki başarı beklentisi değişkenleriyle ölçülmüştür. Sınava hazırlık dönemine ait kaygı ‘hazırlık kaygısı’ şeklinde yeni bir kavram olarak öne sürülmüştür. Başetme, sınav öncesi kaygıyla ve belirsizlikle başetme şeklinde kavramsallaştırılmış ve ölçülmüştür. Elde edilen başarı ise öğrencilerin 2005 yılında yapılan OKS’de elde ettikleri puanlardır.

Araştırma sonucunda sınava hazırlık kaygısının, sınav kaygısından daha farklı bir kavram olduğu ortaya çıkmıştır. Sürekli kaygı, başarı beklentisi, sınava hazırlık kaygısı ve iki sınav kaygısıyla başetme becerisi değişkenlerinde cinsiyet farkı gözlenmiştir. Sınava hazırlık sürecini farklı yaşasalar da sınavda kız öğrencilerin erkek öğrencilerle benzer sonuçlar elde ettikleri gözlemlenmiştir. OKS’ye hazırlanan sekizinci sınıf öğrencilerinin sınava hazırlık sürecinde sınav tarihi yaklaştıkça kaygılarının azaldığı görülmüştür. Verilerin kişisel, değerlendirme, kaygı, başetme ve elde edilen başarı değişkenlerinin oluşturduğu kuramsal sınav kaygısı modeliyle uyum içinde olduğu bilgisine ulaşılmıştır. Model için önerilen dokuz değişkenin sekizi model içine önerilen düzende kabul edilmiş, sadece başetme becerilerinden kaçınma becerisi model kapsamında yer almamıştır. Ayrıca öğrencilerin başarı beklentilerinin sınav başarısı ile doğrudan ilintili olduğu gözlemlenmiştir. Sınav kaygısıyla başetme becerilerinin, kaygı ile başarı arasında adeta bir tampon olması kuramsal modeli destekler nitelikte bulunmuştur.

Anahtar kelimeler: Sınav kaygısı, hazırlık, Orta Öğretim Kurumları Sınavı

CONTENTS

CHAPTER

APPENDICES

TABLES

FIGURES

CHAPTER 1

INTRODUCTION

Academic settings are places where adolescents are involved in person-context interactions in terms of identity development. In academic settings adolescents' self-definitions are partly determined by their academic performance. Testing is a concrete evaluative context where adolescents' perception of their success or failure is determined.

With the requirements of the modern world, testing has become an inevitable practice. It is a frequently used method to set standards of achievement for students who want to be compared with other candidates in order to be placed in an educational or vocational institution. When the educational opportunities are scarce testing is even more vital.

The serious consequences of some tests have led to the term "high stakes". Chapman and Snyder (2000) defined high stakes tests as almost invariably norm-referenced tests used to compare and rank individuals, schools or national systems. Their primary use is to ration future opportunity as the basis for determining admission to the next layer of education or to employment opportunities. Cizek and Burg (2006) illustrated that if a test is used to determine if a high school student can graduate, the consequences of passing or failing it are obviously serious, and the test would be called high stakes.

Tests have come to be more important thresholds in adolescent life in the last quarter of the twentieth century. High stakes tests have been used in the United States since 1983, after the publication of the report called *A Nation at Risk* for the purpose of the improvement of schools. The report argued that schools in the United

States were performing poorly in comparison to other countries and that the country was in jeopardy of losing its global standing. As a result of the report, educational standards were developed and serious consequences were attached to tests in order to hold schools, administrators, teachers, and students accountable for meeting the newly imposed standards. According to the results of assessments, high performing schools would be rewarded, while under-performing schools would be penalized. In parallel with this, students would be motivated to learn, school personnel would be forced to do their jobs (Amrein & Berliner, 2002).

The reason for the rise of high stakes tests in Turkey was different. In Turkey high stakes tests have been used due to scarce educational opportunities. As the number of universities and colleges could not meet the needs of high school graduates who applied for further study, the university entrance exams had been put into the educational system three decades ago in order to select students according to their accumulation of academic knowledge. In Turkey, besides the university entrance exam, until 1998 there was an entrance exam for fifth graders who wanted to be placed in competitive secondary schools, high schools or private schools, which mostly give the opportunity to learn a foreign language. In 1998 when 8 years of schooling became mandatory, this time, eight graders became obliged to compete with their peers for educational opportunities via their first high stakes examination to enter the next layer of the educational system. The exam could only be taken once during their educational journey. While in 2000 more than 400.000 students took the high school entrance exam, since 2003 the participants' number has increased to more than 600.000 each year (http://www.meb.gov.tr/index800.htm).

Adolescents experience stress during testing situations that have high stakes, especially when they have to compete with their peers. The effects of that stress

appear in behavioral or motivational ways. Casbarro (2005) underlines that high stakes testing produces high anxiety, which, in turn, lowers performance. According to Dounay (2000), parents assert that some high stakes tests place undue pressure on young children. Stories of increasing numbers of children suffering from sleep disorders and other stress-related maladies have appeared in the press in the past few years. In Donegan and Trepanier-Street's (1998 in Cizeg & Burg, 2006) study, teachers reported symptoms of stress attributable to testing such as crying, acting out, illness and resistance to attending school. Rubenzer (1988 in Cheek et al, 2002) stated that the "flight or fight" response experienced as a part of test anxiety can lead to major changes in attitude and effort that include withdrawal, outbursts, overactive behaviors, fatigue, avoidance of school, and other depressive symptoms. In Yıldırım's (2004) study on 485 eight to eleventh grade students, test anxiety was shown to significantly predict the depression of students among other variables. Accumulated literature on test anxiety indicates that the consequences of test anxiety are not to be neglected.

Research in test anxiety has a history of more than fifty years. Test anxiety has been studied since the 1950s. Research rapidly accelerated in the 1950s throughout the 1980s, reached its plateau in the late 1980s and experienced somewhat of a slump in the mid-1990s (Zeidner, 1998).

A number of distinctive theoretical models and perspectives have been advanced over the years in order to account for the nature, antecedents, correlates and consequences of test anxiety. Among the test anxiety models, transactional perspectives have gained considerable currency. Lazarus and Folkman's (1984) transactional model of stress is one of the most influential contemporary models conceptualizing stress as a dynamic process or "transaction" between a person and

the environment. According to this conceptualization, psychological stress is "a relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (p.21). Transactional models of stress explaining test anxiety tend to have at least three basic elements: a) antecedents to stress that are personal and environmental variables, such as trait anxiety and the test atmosphere respectively, b) mediators of stress, such as coping mechanisms and, c) outcomes of stress such as test performance (Deary et al, 1996 in Zeidner 1998).

Because of constant transactions, as Endler and Parker (1990 in Soric, 1999) have pointed out, anxiety cannot be studied in a vacuum but must be assessed within the framework of a process. Zeidner (1998) stated that "since the exam process unfolds in a lawful and predictable manner it is relatively easy to control for the temporal aspect of the stressful transaction and thereby zoom in more accurately on coping behaviors during distinct phases of a stressful encounter". Process-oriented designs made it possible to examine those phases comparatively. Cassady (2004) noted that adopting process-oriented conceptualizations of test anxiety has enabled researchers to broaden their attention. Moreover, this line of inquiry is designed to provide more accurate explanations for the thoughts and patterns of behavior observed during the three phases of the learning-testing cycle: test preparation (or forethought), test performance, and test reflection.

Coping with anxiety began to attract the attention of test anxiety researchers in the late 1980s. In the early studies the focus was basically on problems or the negative side of the facts. Nevertheless, solutions did not become obvious by studying only the problematic. Curlette et al, (2002) stated that the focus of stress research has recently shifted from an exclusive focus on environmental stressors to a

broader focus that also includes coping resources. Distinct phases of coping with test anxiety have also been the subject of many studies (Folkman and Lazarus, 1985; Bolger, 1990; Carver and Scheier, 1994; Soric, 1999; Aysan et al, 2001).

Literature indicates that adolescent coping may be different from adult coping and needs to be investigated separately. Compas et al., (2001) alleged that most conceptualizations of coping in the late 1980s were based on models of coping in adults and lacked a strong developmental component. Similarly, most measures of coping had been developed for adults and applied to children and adolescents with little or no modification. According to Frydenberg (1997), until recently much of the theory and research concerning stress and coping centered on adult adaptation. In recent years the theorizing and research as it relates to coping has contributed to an understanding of adolescence.

The research on coping with tests has also broadened its focus from a narrow perspective on the examination situation to a broader view that includes the phases before and after the examination itself, such as the learning phase, the preparation phase and the post-result phase. Nevertheless, the question of how different dimensions of anxiety and coping unfold within a unique stage remained unanswered for a long time (Raffety *et al.,* 1997). Measurement instruments needed for examining different phases were lacking in the literature. Lately, attempts to identify the coping strategies used by adolescents preparing for important exams have led to the development of appropriate instruments (Stöber, 2004) and set the stage for examining the process of test preparation.

In Turkey, the university entrance exam and high school entrance exam that are held nationwide only once in a year on one day exemplify high stakes testing evoking stress for students. Most of the psychological and educational literature on

test anxiety in Turkey is based on research done on the university entrance exam (Önen, 2003; Özdemir, 2002; Lüle, 2002; Börü, 2000; Ekşi, 1998; Çankaya, 1997; Karakelle, 1995). According to the literature review, few studies exist on the high school entrance exams of eight graders where adolescents make every effort to get into good high schools that will help them to prepare for the university exam.

The high school entrance exam determines the future of eight graders by assessing their accumulation of academic knowledge in 120 minutes with a 100 multiple-choice questions. Between 2000-2004 only a mean of 22,4 % of the eight graders could succeed at the high school entrance examination (http://www.meb.gov.tr/index800.htm). As nearly 80% of the applicants could not be placed, the high school entrance examination is indeed a competitive testing situation. Many eight graders prepare for the high school entrance exams for at least nine months, sometimes by attending private preparation institutions during the weekends and weekdays after school.

One of the major issues that school counselors encounter in Turkey is the anxiety felt by eight graders during their preparation for the high school entrance examination. The consequences of test anxiety may vary from sleep disorders, withdrawal, outbursts, overactive behaviors, fatigue, and avoidance of school to other depressive symptoms. Hence, counselors' help may be needed. In order to develop effective intervention programs, how different dimensions of test anxiety and coping unfold during this long preparation period need to be known.

This study was carried out for the purpose of investigating the anxiety and coping of adolescents during their preparation for an important test. In this study how eight graders' anxiety levels and ways of coping changed during the test preparation period were examined, along with how preparation anxiety and coping within a

period were related to subjective and behavioral variables as well as to their performance on the test. A model was proposed and tested on the data. The proposed structure was basically based on the transactional model (Zeidner, 1998).

The students attending a test preparation institute in Istanbul were assessed at two points in time during their training for the high school entrance exam, in March and May 2005. Data were collected on measures of anxiety, coping and appraisal such as: test preparation anxiety, coping with pre-exam anxiety and uncertainty, perceived importance of the exam, achievement expectancy, and study skills. The high school entrance exam took place on June 5, 2005 with the participation of 767.678 eighth graders in all cities of Turkey. Data were also collected on the students' performance on this entrance exam. It was expected that this study would lead the way for the dynamics during the preparation period for a test to be explained. It was hoped that the results would be helpful for the school counselors to develop intervention programs, especially for the preparation period of high stakes exams.

CHAPTER 2

REVIEW OF LITERATURE

Adolescent Stress in Testing Situations

Definition of stress

Lazarus and Folkman (1984) summarized that most often stress has been defined as either stimulus or response. It is stated that stimulus definitions focus on events in the environment such as natural disasters, noxious conditions or illness, and, their focus is outside the organism. Lazarus and Folkman criticized this approach as it assumes that certain situations are normatively stressful and do not allow for individual differences in the evaluation of events. On the other hand they added that a response's focus is inside the subjects. They have been prevalent in biology and medicine. They refer to a state of stress. In response definitions, the organism or the person is spoken of as reacting with stress, being under stress, and so on. According to Lazarus and Folkman (1984), stimulus and response definitions have limited utility, because a stimulus gets defined as stressful only in terms of a stress response. For these two definitions of stress it is stated that the conditions under which some stimuli become stressors need to be specified.

Lazarus and Folkman (1984) proposed an alternative approach emphasizing the relationship between the person and the environment, which takes into account the characteristics of the person on the one hand and the nature of the environmental event on the other. According to this relational view, stress appears as a consequence of cognitive appraisal. Hence, psychological stress is a relationship between the person and the environment that is appraised by the person as taxing or exceeding his

or her resources and endangering his or her well being. The judgment that a particular person-environment relationship is stressful hinges on cognitive appraisal.

Adolescent stress

Adolescent stress has been conceptualized by many researchers. According to Compas, Orosan and Grant (1993), stressors felt by adolescents can be organized into three broad categories: generic stress; severe acute stress; and severe chronic stress. Generic stress includes normative daily stresses and hassles, as well as more major events such as the transition to a new school. Severe acute stress may be caused by serious injuries, disasters, loss of a loved one through death or parental divorce. Severe chronic stress includes exposure to poverty, neighborhood or familial violence, racism, sexism and parental psychopathology. Frydenberg (1997) on the other hand, categorized adolescent concerns as predictors of psychological symptoms under three main headings: family, peer and academic stressors. Incidence in adolescent problems was generally related to such factors as alienation from the family, parental abuse, and limited employment opportunities. There has been an increase in eating disorders, such as anorexia nervosa, among adolescent females in families that are characterized by tension, confusion, rigidity and lack of conflict resolution. Additional evidence of youth stress is shown in the incidence of depression.

Adolescents make important life choices about courses of study and associated careers (Frydenberg, 1997). For adolescent students, test taking can become a major source of stress in their lives, especially when test scores serve as gatekeepers to future opportunities and career pathways (Smyth, 1995 in Aysan, Thompson and Hamarat, 2001). Entrance exam failure is crucial in the lives of Turkish students since the failure rate on competitive entrance exams ranged around

75% in the late 1980s (Öner and Albayrak Kaymak, 1987) and in the 1990s this ratio increased to 95% (Yıldırım and Ergene, 2003) among university candidates.

If the consequences of passing or failing an exam are obviously serious, the test is called high-stakes (Cizeg and Bourg, 2006). Casbarro (2005) stated that high-stakes testing produces high anxiety. High prevalence of depression is mainly blamed on the so-called "examination hell" or "examination war" that adolescents go through while preparing for the competitive university entrance examination (Lee, 2000).

Test Anxiety

Test anxiety had been considered a proper subset of the broader domain of stress and anxiety research. A conceptual and historical overview of the domain of test anxiety is provided by Zeidner (1998). According to the author, the study of test anxiety was launched in the early 1950s by Seymour Sarason and George Mandler. S. Sarason and his coworkers pioneered the development of the first operational self-report measure of test anxiety for both adult and child populations. They were the first to conceptualize test anxiety as a multidimensional construct, including a cognitive and affective component (Zeidner, 1998).

During the 1960s the test anxiety construct was dramatically advanced by three different conceptual distinctions. First, Spielberger applied useful distinction of *state* versus *trait* personality traits to the realm of anxiety. Accordingly, he distinguished between anxiety as a relatively stable disposition or personality trait and anxiety as a more transitory state reaction to specific ego-threatening situations. Based on this distinction, test anxiety was eventually conceptualized as a situation-specific form of trait anxiety (Spielberger et al in Zeidner, 1998).

Second, Alpert and Haber (1960 in Zeidner, 1998) differentiated between facilitating and debilitating anxiety. Facilitating anxiety, characterized by the statement "anxiety helps me do better during exams and tests" is claimed to lead to task-related behaviors and to enhance academic performance. On the other hand, debilitating anxiety, characterized by "anxiety interferes with my performance during exams and tests" is claimed to lead to task-irrelevant behaviors and to impede performance (Zeidner, 1998).

The third conceptual contribution, advanced by Liebert and Morris (1967 in Zeidner, 1998), was the critical differentiation between worry and emotionality. According to this conceptualization, test anxiety was viewed to be a bidimensional phenomenon including a cognitive (worry) and an affective (emotionality) component. Worry was viewed primarily as cognitive concern about the consequences of failure, whereas emotionality was defined as consisting of perceptions of autonomic reactions evoked by evaluative stress (Zeidner, 1998). Later, two more dimensions, namely lack of confidence and interference were added, when the factor structure of the German form of a test anxiety instrument indicated four dimensions (Hodapp, 1995).

In the 1970s a "cognitive-interference" perspective formulated by D. J. Wine to account for the impact of test anxiety upon performance rejected traditional motivational or arousal explanations. It emphasized the role played by cognitive variables on test performance. According to this perspective, test anxious persons divide their attention during exams between task-relevant activities, on the one hand, and task irrelevant cognitive activities (like self-criticism, and somatic concern, etc.) on the other. Research conducted by Irwin Sarason and his coworkers provided support for the cognitive-interference perspective. Nevertheless, towards the end of

the 1970s, the basic concepts and assumptions of the cognitive-interference perspective came under serious attack, with evidence of "study skills" interpretation. This rival model contended that high-test-anxious students do poorly on academic tasks for two reasons: 1) because of poorer study habits and test-taking skills, and 2) because of increased arousal and interference by poor encoding, organization, and mastery of the test material (Zeidner, 1998).

In the 1980s the proliferation of test anxiety research continued. Empirical research tested the basic hypotheses of some theoretical models of test anxiety (self-control, attributional self-expectancy). Furthermore, consistent with the cognitive revolution in psychology, hypotheses derived from information processing models were tested. Research tried to uncover the mechanisms through which anxiety impacts upon performance, with the following information processing phases: attention, short- and long term memory, levels of processing, retrieval, and decision making. The first comprehensive text on test anxiety, named *Test Anxiety: Theory, research, and application* and edited by Irwin G. Sarason, was published in 1980. In addition, the first large scale meta-analyses of various facets of test anxiety, including its correlates, performance consequences and treatment effects were published (Hembree, 1988 and Seipp, 1991 in Zeidner, 1998). Moreover, in 1980, the Society for Test Anxiety Research (STAR), which aimed to stimulate research on test anxiety and to provide a network for facilitating the communication of advances in test anxiety theory, research, assessment, and interventions was founded (Zeidner, 1998).

Between 1990 –1994, although the development of new test anxiety scales and cross-cultural adaptation and validation of existing scales have been witnessed, interest in the topic of test anxiety has shown signs of a slowdown in growth in terms

of research productivity (Zeidner, 1998). After the 1990s, with the accumulation of data, cross-cultural comparisons continued to be produced (Seipp and Schwarzer, 1996).

Definition of Test Anxiety

Zeidner (1998) reviewed that as a scientific construct, test anxiety has taken on a variety of different meanings. In the early days of test anxiety research, the construct was initially defined in motivational terms, as drive level by Spence and Spence in 1966, goal interruption by Mandler and Sarason in 1952, or as need to avoid failure by Atkinson and Feather, 1966. In 1960, Sarason and his colleagues conceptualized test anxiety as a personality disposition that develops when parents hold exaggerated expectations and are overcritical of their children's achievement efforts. Later, with the cognitive revolution of the late 1960s and early 1970s, test anxiety came to be viewed as a cognitive-attentional phenomenon. This view describes the highly anxious person as one who attends to evaluative cues, generates concern about one's ability to do well, and feels physiological arousal. More recent conceptualizations have viewed test anxiety as a self-control process or as a form of a self-handicapping process employed to preserve one's merit in the face of potential failure (Zeidner, 1998).

The most widely accepted definition was proposed by Spielberger who construed test anxiety as a situation-specific personality trait. Here, test anxiety refers to "the individual's disposition to react with extensive worry, intrusive thoughts, mental disorganization, tension, and physiological arousal when exposed to evaluative situations" (Spielberger and Vagg, 1995, in Zeidner, 1998).

Assessment of Test Anxiety

Since 1952 many instruments have been developed for assessing test anxiety. Andersen and Sauser (1995) provided a list of 45 self-report measures of test anxiety and related constructs. One of the most commonly used scales is the Test Anxiety Inventory (TAI) by Spielberger (1980 cited in Schwarzer and Zeidner, 1996). Between 1980 and 1992 thirteen adaptation studies were conducted in order to use TAI in different countries. Table 1 gives information about the culture, year of publication, nature of the sample and sample size.

Table 1: Adaptation of the TAI in Different Countries

Culture	Year	Sample	N
Netherlands	1983	Medical students, school children	723
Germany	1991	High school students	300
Italy	1985	High school and university students	1473
Hungary	1986	Elementary, high school and university students	471
Czechoslovakia	1989	7th and 8th grade students	154
Turkey	1987	Junior, senior high school and university students	164
Jordan	1989	High school, commercial college students	3572
Egypt	1985	High school students	277
Puerto Rico	1983	College students	833
India	1983	10^{th} grade students	151
China	1989	Pre-college and college students	535
Korea	1988	High school students	609
Japan	1992	College and university students	977
USA	1980	Pre-college, college university students	4016

Instruments for assessing the level of test anxiety in elementary school children and high school adolescents are new with respect to the instruments developed for adults or college populations. From the overview given by Cizeg and Burg (2006) recent test anxiety instruments for adolescents and children can be seen.

Table 2: Test Anxiety Instruments for Adolescents and Children

Citation and Source/ Contact Information	Title	Target Student Group
Wren, D.G. & Benson, J. 2001	*Children's Test Anxiety Scale* (CTAS)	Elementary school
Friedman, I.A., & Bendas-Jacob, O. 1997	*FRIEDBEN Test Anxiety Scale*	Middle/junior high school

Test anxiety in high-stakes situations

Estimates on the prevalence of test anxiety among a school-aged population range from 10 to 30% (Rubin, 1999). King et al. (2000) stated that estimates of the prevalence of test anxiety among school-aged children and adolescents vary according to age, gender and cultural differences. The studies reviewed by King et al. (2000) showed that test anxiety occurs in the range between 1.5% and 30% of students. Anderson and Sauser (1995) categorized the individual characteristics which influence test anxiety under five classes: a) cognitive styles (including attention processes), b) generalized personality traits (such as susceptibility to personal threat or failure), c) real and perceived ability-achievement levels, d) perceived importance of the testing event and feelings of "preparedness" and e) backgrounds characteristics (such as gender and family press). The authors added that manifestations of test anxiety are probably influenced by complicated interactions of such factors.

Cross-cultural studies reveal that culture plays an important role in the frequency of test anxiety. Hocevar and El-Zahhar (1985 cited in Seipp and Schwarzer, 1996) compared TAI scores in the United States and Egypt in male and female high school students. Results indicated that Egyptian students scored higher than their American counterparts on both worry and emotionality. In a later study El-

Zahhar and Hocevar (1991) extended the comparison to Brazil and found that Egyptians had a higher worry score than Brazilians and Americans who shared an equal level while both Egyptians and Brazilians reported a higher level of emotionality than Americans. In all the nations females scored higher than males. Alkozei (1990 cited in Seipp and Schwarzer, 1996) compared test anxiety in German and foreign university students. The 92 foreigners came from countries as diverse as, for example, Afghanistan, Egypt, India, Tunisia, Indonesia, Japan, and Vietnam and ten European countries. They were classified as Middle East, Far East and Europe. All foreign students scored significantly higher on total TAI and worry than the Germans, with Middle Eastern students scoring higher than their colleagues from the Far East who had higher scores than students from Europe. No differences between the groups were found for emotionality. Schwarzer (1988 cited in cited in Seipp and Schwarzer, 1996) compared 100 Turkish remigrants and 100 native Turks as to their anxiety level. In both groups the females' test anxiety scores were higher than the males'. No difference was reported between remigrants and native Turks. Öner and Albayrak Kaymak (1987) stated that anxiety is more pervasive in Turkish society than in others. The evidence comes from a study where American, Indian, Spanish and Turkish students were compared. In this study Turkish students had the highest trait anxiety and state anxiety (Le Compte, Öner, 1976 cited in Öner and Albayrak Kaymak, 1987).

According to Zeidner (1998), high-stakes testing environments have been hypothesized as being associated with high mean levels of test anxiety at the national level. It is reviewed that although in some Islamic cultures (e.g., Egypt, Jordan, Saudi Arabia) this hypothesis is supported, low levels of anxiety among students in Japan were seen. Negative consequences of high-stakes testing on students are reported in

several studies. In a study carried out with Turkish high school adolescents, Aysan, Thompson & Hamarat (2001) found that students with high test anxiety tended to have poor perceptions of their health where those perceptions are classified under four clusters: emotional reaction (experiencing negative emotions, such as anger, alienation, or loss of control), low energy level, problems of sleeping and physical symptoms (e.g. headache, back pain, weight loss). According to Curlette et al, (1992 in Aysan, et al., 2001) physiologically, the stress of test taking can make students more vulnerable to negative side effects associated with the stress response, including hypertension, coronary artery disease, respiratory distress, and lowered immune functioning. Brown, Galassi & Akos (2004) examined school counselors' perceptions of the impact of high-stakes testing. In their descriptive research the authors ran two studies where they collected counselors' perception about the negative outcomes of a testing program on students. 80% of the counselors (n=113) in study one and 50% of the counselors (n=69) in study two believed that high-stakes testing had increased the anxiety, pressure, or the level of fear that students experienced. Lee (2000) investigated the relation between clinical depression among Korean adolescents who were preparing for the university entrance examination and students' daily ordeal of studying and schoolwork. He found that the amount of time spent doing homework was related to depression only for the youth who experienced negative effects while doing homework. Cizeg and Burg (2006) summarized the general effects of testing and test anxiety on students. These effects are provided in Table 3.

Table 3: General Effects of Testing and Test Anxiety on Students.

Effect	Relationship(s)
Stress	Test anxiety can induce symptoms of stress, such as crying, acting out, verbalizations
Attitude toward tests and testing	Test anxiety can diminish effort or increase student apathy towards testing
Attitude towards self	Test anxiety can reinforce, induce poor self esteem or poor/inaccurate self-evaluation ("I can't do anything," "I am so stupid…")
Inappropriate test behavior	Test anxiety can prompt cheating (e.g., sharing or copying of answers, obtaining/ using illegal copies of "secure" materials,etc.)
Academic motivation	Test Anxiety can decrease student motivation to learn in general
Motivation (future)	Test anxiety can be associated with dropping out of school, grade retention, graduation, placement in special programs/ classes
Test anxiety	Effects of test anxiety can "cycle back" to result in successive poor test performance, leading to increased levels of test anxiety

Cizeg and Burg (2006). Adressing test anxiety in a high-stakes environment, p.31.

Test anxiety and performance

The relationship between anxiety and performance has been subject to studies since the beginning of the twentieth century. In 1908 the Yerkes-Dodson law stipulated an inverted U-shaped relationship between arousal and performance in learning situations. The optimal level of motivation for effective performance lies in the middle range, rather than the high or low end of the arousal or stress continuum (Zeidner, 1998).

Reviewing studies in the 1950s and 1960s, Anastasi (1976 cited in Anderson and Sauser 1995) defended this nonlinear relationship between anxiety and test performance. According to Zeidner (1998), the evidence in favor of this law is contradictory, and few studies in the domain of test anxiety research have confirmed

this relationship, thus this law is currently rejected as a useful description of the anxiety-performance relationship. Furthermore, the usual statistical techniques in examining test anxiety- performance relationship may be inadequate if curvilinear relations are expected (Zeidner, 1998).

Hembree (1988) conducted a meta-analytical study where he reviewed 562 studies published from 1952 through 1986. Those studies dealt with the correlates, causes, effects and treatment of test anxiety. The main findings indicated that test anxiety caused poor performance and it related inversely to students' self-esteem and directly to their fears of negative evaluation, defensiveness, and other forms of anxiety. Causes giving rise to differential test anxiety levels included ability, gender, and school grade level. A variety of treatments were effective in reducing test anxiety. Contrary to prior perceptions, improved test performance and grade point average consistently accompanied test anxiety reduction. Seipp (1991 cited in Zeidner, 1998) conducted another meta-analysis of the literature based on 156 effect sizes appearing in 126 studies published between 1975 and 1988. Comparable to what was reported by Hembree, Seipp found that the relationship with performance was stronger for the dimension of worry (r=-.29) than for the emotionality component (r=-.15).

About the negative relationship between the level of anxiety and performance, Zeidner (1998) stated that there is a common myth that all test-anxious individuals perform poorly. Unfortunately this myth guided much of the research and needs to be debunked. According to the meta–analytical studies on the anxiety performance relationship reviewed by Zeidner (1998), a correlation at about -.20 across different social evaluative anxiety exists suggesting that the anxiety effect size is weaker than commonly thought. Instead of using linear causal models in exploring

the link between test anxiety and cognitive performance, Zeidner (1998) suggested that future research would profit from employing process models in order to capture better the dynamic and cyclical nature of the anxiety-performance relationship.

Yıldırım and Ergene (2003) examined the prediction capacity of submissive acts, test anxiety, family support, peer support, and teacher support on the academic achievement of 663 Turkish eleventh grade high school students. Major findings of the study were that, family support, submissive acts, teacher support, and test anxiety predicted the academic achievement of the students significantly. The regression analyses revealed that these variables explained 13% of the variance in academic achievement. Test anxiety was the fourth variable explaining academic achievement together with family support, submissive acts and teacher support.

The Transactional Model of Test Anxiety

A number of theoretical models have been advanced to explain the nature, antecedents, correlates, and consequences of test anxiety since the 1950s. These models and theoretical perspectives were grouped under four clusters: drive models, deficit models, contemporary cognitive-motivational models and transactional models. It was stated that no single theoretical perspective on test anxiety can readily account for the complex and multifaceted nature of test anxiety, including phenomenology, developmental antecedents, correlates and consequences, and therapeutic interventions. The need for more comprehensive and integrative models of test anxiety that cover a larger number of facets was put forward. It was asserted that some of the best candidates for the key components of models would be trait test anxiety, stressful evaluative situations, state test anxiety, poor study or test taking

skills, arousal and emotionality, worry, cognitive interference, chronic self doubts and feelings of incompetence, outcome expectancies, failure and success attributions, poor cue utilization and retrieval, cognitive disengagement, withdrawal of attention, avoidance behaviors, and self-regulatory and coping strategies (Zeidner, 1998).

Zeidner (1998) alleged that although no single unified model could readily account for all the data of current research, he attempted to relate test anxiety research to the broader theoretical domain of stress, anxiety, and coping research mainly from a process-oriented, cognitive-motivational transactional perspective. The reason behind the preference of transactional analysis in test anxiety research was that transactional analysis examining the dynamic interaction between person and evaluative context seemed to be the most useful approach to mapping out the test anxiety domain.

According to the transactional model of test anxiety proposed by Zeidner (1998), the theoretical framework of the phenomenon was conceptualized as:

> A dynamic process involving the reciprocal interaction of a number of distinct elements at play in the stressful encounter between a person and an evaluative situation. The key elements in this process include the evaluative context, individual differences in vulnerability like trait anxiety, threat perceptions, appraisals and reappraisals, state anxiety, coping patterns and adaptive outcomes. The relations among the various components in the transactional model are viewed to be dynamic and continuous processes.

Appendix A visualizes the theoretical model.

Objective, subjective and personal variables

In this model test anxiety is a psychological experience including objective, personal and subjective components. The objective component comprises the characteristics of the evaluative situation and can be classified as the situational determinants of

anxiety in evaluative situations and test-related variables. Test related variables include the complexity of the cognitive task, item arrangement, test format, and providing choice among items. Situational determinants include test environment and atmosphere, time pressure, and modes of test administration. Based on the current body of literature, it is difficult to determine to what extent contextual factors differentially affect anxiety levels in examinees high and low in test anxiety (Zeidner, 1998). In high stakes testing situations such as university or high school entrance exams, as objective components are constant for all the examinees the effect of contextual factors are minimized.

Personal variables include motivational factors, intelligence and scholastic ability, affective personality factors, and emotion states. Motivational factors comprise variables such as self-efficacy, optimism, achievement motivation and procrastination. Affective personality factors comprise trait anxiety, depression and self-concept. Study skills is a behavioral personal factor by itself in the transactional model and can be categorized under scholastic ability. According to empirical research reviewed by Zeidner (1998), high-test-anxious students, compared to their low-test-anxious counterparts, tend to evidence higher levels of negative affect like trait anxiety, depression and lower levels of positive affect like self-concept and self-esteem. For motivational factors, according to findings high-test-anxious subjects tend to be characterized by a high fear of failure in test situations and low hope of success. Zeidner (1998) added that these subjects tend to have low belief in their self-efficacy, low expectations of success, and tend to be lower in scholastic aptitude.

In test anxiety research, gender is a personal variable indicating individual differences in reaction to evaluative encounters. In the meta-analytical study of Hembree (1988) where 562 studies dealing with test anxiety were examined, gender

was a variable among the causes giving rise to test anxiety. Aysan et al. (2001) examined the level of anxiety felt by high school seniors preparing for the university entrance exam or term assessments. They found that girls worried and displayed more anxiety over problems than boys did. Females show consistently higher levels of test anxiety than males. The overall test anxiety differences between the sexes are largely due to differences in the emotionality component of test anxiety (Seipp and Schwarzer, 1996; Zeidner, 1998).

The subjective determinants of test anxiety comprise cognitive processes, structures, and belief systems in shaping a person's reactions to stressful evaluative situations (Zeidner, 1998). How one responds to stressful test situations is in large part influenced by cognitive schemata in long-term memory, primary and secondary appraisals of the specific stressor or evaluative context, and expectancy beliefs and attributions. In cognitive processes and structures Lazarus and Folkman's (1984) contribution of cognitive appraisal in their transactional model enriched the field. According to Lazarus and Folkman (1984) cognitive appraisal refers to evaluative cognitive processes that intervene between the encounter and the reaction. They premise that appraisal-related processes shape the reaction of people to any encounter. Three kinds of cognitive appraisal were identified: primary, secondary, and reappraisal. Through primary appraisal an individual qualifies the encounter as "irrelevant, benign-positive, or stressful". If an encounter is qualified as stressful by the person, three forms of further classification await: "harm/loss, threat, and challenge". According to Lazarus and Folkman (1984) harm/loss refers to damage the person has already sustained, threat refers to anticipated harms or losses, and challenge refers to events that hold the possibility for mastery and gain. In secondary appraisal the person evaluates his/her own resources and decides to apply a strategy

(or more) and evaluates whether the chosen strategy fits the required internal/external demands. The second appraisal is also equated to coping. (Carver, Scheier and Weintraub, 1989). Reappraisal is a modified appraisal based on new cues and feedback from the environment or the person (Lazarus and Folkman, 1984). Based on empirical research reviewed, Zeidner (1998) stated that high- and low-test anxious individuals appear to differ considerably in their appraisals of evaluative situations, with high-test-anxious individuals experiencing test situations more as a threat than as a challenge.

Belief systems are other subjective components of transactional test anxiety models. Importance of a test and failure or success expectancies are included in belief systems. Zeidner (1998) reviewed the previous research findings and stated that the grater the subjective importance or value attached to a test, and the higher the estimated expectancy of failure on an exam, the greater the potential for anxiety in the test situation.

Coping with Test Anxiety

The conceptualization of coping evolved through time. Endler and Parker (1990) reviewed that in early research coping was conceptualized as a defense mechanism, which was primarily an unconscious process. In more recent research, however, coping has been conceptualized as a response to external stressful or negative events. These responses are conscious strategies or styles on the part of the individual.

In test anxiety research coping became an important component of transactional models with Lazarus and Folkman's (1984) model. In the previous section of this study cognitive appraisal was reviewed as an important component of the transactional model. Primary appraisal was introduced as a perception of threat to

oneself. Secondary appraisal was the process of bringing to mind a potential response to the threat. Carver, Scheier and Weintraub (1989) stated that coping is the process of executing that response. Folkman and Lazarus (1985) defined coping as cognitive and behavioral efforts to manage (master, reduce, or tolerate) a troubled person-environment relationship.

Conceptualizations of coping in the late 1980s were based on models of coping in adults and lacked a strong developmental component (Compas et al, 2001; Frydenberg, 1997; Seiffge-Krenke, 1995). Compas et al. (2001) defined adolescence and childhood coping as "volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances. These regulatory processes both draw on and are constrained by the biological, cognitive, social and emotional development of the individual". Most measures of coping had been developed for adults and applied to children and adolescents with little or no modification (Compas et al. 2001).

There are debated constructs in coping literature. Coping style and coping strategy are used interchangeably in some of the research. Researchers such as Seiffge-Krenke (1995) and Frydenberg (1997) consider coping style as a higher order coping dimension that gathers distinct strategies. This use of strategy and style led other researchers to distinguish two terms and to redefine these terms. Hunter and Boyle (2004) and Carver and Scheier (1994) underlined the difference between strategy and style because they conceptualized that coping strategies are situational whereas coping styles are dispositional.

In their transactional model Lazarus and Folkman (1984) theorized that coping reactions could change from moment to moment across the stages of a stressful transaction. Hence a coping strategy was not considered to be a trait

phenomenon: it was stated that the situation specific appraisals influenced the selection of a coping strategy. In this study, the latter conceptualization of coping will be used, as students' coping with test anxiety is not perceived as a trait phenomenon. Consequently, coping strategy will be used for the remaining part of the paper as a situation specific act following the theoretical perspective based on but not limited to Lazarus' and Folkman's (1984) work.

Types of coping

Different types of coping strategies exist. Frydenberg (1991) stated that the range of coping behavior, which arises in response to stress, varies from adaptive to maladaptive, from functional to behaviors, which do not assist with coping. Some of these maladaptive behaviors are exemplified by adolescent withdrawal, destructive behavior and in extreme cases, suicide. The dynamic nature of coping is reflected by four points: 1-Coping is an attempt at solving a problem and may not necessarily result in a resolution. 2- Coping can be behavioral or cognitive in nature. 3-Coping is a process that changes over time. 4-Appraisal precedes coping endeavors (Frydenberg, 1997).

The existence of alternative coping taxonomies has been a subject of debate in coping literature (Hunter and Boyle, 2004). Different studies that were conducted using Lazarus and Folkman's Ways of Coping Questionnaire or Ways of Coping Checklist found between four and eight factors (Endler and Parker, 1990; Hunter and Boyle, 2004). These are problem-focused coping, wishful thinking, distancing, avoidance, emphasizing the positive, self-blame, tension reduction, self-isolation, and seeking social support. Research using other measures of coping in both adults and children has found between three and six factors (Hunter and Boyle, 2004).

These are task oriented coping, emotion oriented coping, avoidance oriented coping, acceptance, suppression of competing activities, and the turn to religion.

Bolger (1990) stated that although detailed taxonomies exist, two major types of coping efforts, namely problem-focused and emotion-focused coping, are distinguished by most of the researchers. Carver and Scheier (1994) classified coping strategies under three broad categories. Problem-focused coping are efforts to remove the threatening event or to diminish its impact. Emotion-focused coping are efforts to reduce the negative feelings that arise in response to the threat. Although these two categories are distinguished in principle, they typically co-occur (Folkman and Lazarus, 1985; Carver and Scheier, 1994). Most students report using both coping modes either in relation to different stressors or to the same stressor when the stressful episode is unfolding. In other words the two coping modes are not mutually exclusive (Boekaerts, 2002). The third coping response to a stressful event is a dysfunctional one, namely avoidance. Self-blame, wishful thinking, escapism, self-distraction and mental disengagement are its different types. These "avoidance" types of coping function against people rather than to their advantage (Carver and Scheier, 1994).

Amirkhan (1990) aimed at uncovering general strategies that underlie the myriad of specific coping responses to stress. Analyses with three separate, large and heterogeneous samples revealed three fundamental strategies: problem solving, seeking social support and avoidance. The Multidimensional Coping Inventory, which is another instrument developed by Endler and Parker (1990), yielded three factors, namely task-oriented coping similar to the problem focused dimension of Lazarus and Folkman's Ways of Coping Questionnaire, emotion-oriented coping

similar to the emotion focused dimension of Lazarus and Folkman's Ways of Coping Questionnaire and avoidance-oriented coping.

Hobfoll et al. (1994) underlined that stress and coping occur within social settings and the characteristics of these settings are as important as the characteristics of the individual. These ideas evolved in an alternative theory of coping called "the multi axial model" where it was defended that previous coping research did not take into account the social orientation of people. The topic was approached by applying a multi-axes model of coping that emphasized both social behavior and individual activity. The axes represent dimensions of general coping strategies and not of particular behaviors. In the initial model there were two axes, namely active-passive and prosocial-antisocial. Later in 1998, a third dimension, namely the direct-indirect dimension was added. This third axis was put forward to reflect the multi-cultural differences in coping strategies.

Coping Instruments

Most of the coping instruments used in the studies were prepared with a general perspective so that they could be used with diverse stressors. Aysan (1994) adapted Amirkhan's (1990) Coping Strategy Indicator to Turkish with the participation of 298 university students. The items of this inventory were prepared so that they could deal generally with more than one stressor for different purposes in different studies. Another coping instrument adapted to Turkish and which does not deal with a specific stressor is the Coping Styles Inventory. The Coping Styles Inventory derived from the Turkish version of the Ways of Coping Questionnaire (1980, Folkman and Lazarus in Hunter and Boyle, 2004) was adapted in Turkish by Şahin and Durak (1995). The instrument was used in different studies for different purposes, such as coping with the effects of earthquakes (Kublay, 2001) and depression (Şen, 2005).

In coping research, using an instrument that does not deal with a specific issue, but is prepared generally so that it can be used in many areas has several problems. First, as the stressor differs from person to person unless reminded in the instructions, subjects may respond according to the stressor in their mind. Carver and Scheier (1994) stated that it is difficult to control the characteristics of the event with which subjects are coping. Another shortcoming of using a general coping instrument is that dimensions vary and some of the items are added or dropped by researchers according to their hypotheses under investigation, or according to the population (Endler and Parker, 1990).

In order to overcome this shortcoming of specification, adaptation of coping instruments to specific situations or subjects are needed. For instance the Coping Strategies Inventory for Statistics (CSIS) is a subject-based coping instrument developed by Jarrel and Burry (1989 cited in Onwuegbuzie and Collins, 2002). The attempts to identify the coping strategies used by adolescents preparing for important exams and to seek for their relationship with pre-exam stress led also to the development of appropriate instruments (Stöber, 2004). In order to examine the very period of preparation for high-stakes exam situations, Coping with Pre-Exam Anxiety and Uncertainty originally yielding three factors, namely task orientation and preparation, seeking social support and avoidance, was prepared by Stöber (2004).

Coping and Performance

Although some people become distressed or perform poorly under stress, others remain resilient. Bolger (1990) reviewed that these outcomes result from people's coping efforts to alter the stressful situation or to regulate their emotional reactions, thus coping is a process explanation for differences in stress outcomes. Zeidner

(1998) stated that the whole process by which anxiety serves to debilitate performance is complex, with a variety of factors that mediate the effects of anxiety on performance. Mediating effects are causal mechanisms through which situational stress or trait anxiety bears an impact upon test performance.

Gender Differences in Coping

Gender differences are also a topic of interest in the coping literature. Frydenberg (1997) stated that the first findings came from adult coping and according to them males approach and deal with problems more directly than females do. However, according to the study conducted by Frydenberg (1991) in which 643 eleven and twelve year old students participated, female students used as much problem-focused coping as did the male students. The findings suggested that females and males deal with problems in much the same way. Again in the same study it was also demonstrated that females sought and utilized social support as a mode of coping more often than males. In this study Frydenberg used the Ways of Coping Checklist of Folkman and Lazarus. Two years later, with another coping instrument developed especially for adolescents, Frydenberg (1993) found that females used more social support, direct action and more emotional expression (Frydenberg, 1993).

According to the stress appraisal coping model of Lazarus and Folkman (1984) how the individual appraises the stressful event affects the coping strategies used. Similarly, appraisal of the test situation affects students' coping with the test situation. In a study, Ptacek, Smith and Dodge (1994) found that although men and women were similar in their cognitive appraisal of the situation, they nonetheless reported differences in preparatory coping. Women reported seeking social support and using emotion-focused coping to a greater extent than men, whereas men reported using relatively more problem-focused coping than women.

The relationship between stress, coping and grades was investigated by Gonzales, Tein, Sandler and Friedman (2001 cited in Önen, 2003). They found different interaction effects for girls and boys. Results indicated that active coping buffered the effect of high stress on academic achievement; and this effect was higher for girls who reported high levels of stress. On the other hand, for boys, the relationship between coping and grades decreased as the level of stress increased.

The Idea of Temporal Phases in Test Anxiety Research

Idea of Stages

According to Folkman and Lazarus (1985) the essence of stress, coping and adaptation is change. Therefore, it is important to focus on change in order to learn how people come to manage stressful events and conditions. To be concerned with change is to be concerned with process as opposed to structure. Zeidner (1998) alleged that coping with a stressful exam situation is a process. It is a transaction between a person and an event that plays out across time and changing circumstances. The transactional model proposed by Lazarus and Folkman (1984) opened the way for the process-oriented research in test anxiety. Consequently, the idea of temporal phases of test anxiety became salient in terms of a new methodological tool. Carver and Scheier (1994) evaluated Folkman and Lazarus's (1985) study as the prototype of transactional process research. The temporal course of test anxiety and coping were traced through four distinct stages, namely the *anticipatory stage*, involving appraisals of the test situation and preparation for the exam; the *confrontation stage,* involving the actual test-taking experience; the *waiting stage*, following test taking, but prior to the announcement of grades; and the *outcome stage*, in which the uncertainty is resolved when grades are announced

(Zeidner, 1998). After Folkman and Lazarus, many studies used distinct phases of coping with test anxiety (Bolger, 1990; Carver and Scheier, 1994; Soric, 1999; Aysan et al. 2001).

The process-centered theory of stress and coping was first applied in research by studying emotions and coping during three stages of a college examination (Folkman and Lazarus, 1985). Emotion and coping were assessed at three stages of a midterm examination: the anticipation stage before the exam, the waiting stage after the exam before the grades were announced, and after the grades were posted. One of the findings was that people experience contradictory emotions and states of mind during every stage of an encounter. Subjects in the study experienced both threat emotions and challenge emotions. Folkman and Lazarus (1985) concluded that the complexity of emotions and their cognitive appraisals reflect ambiguity regarding the multifaceted nature of the exam and its meanings, especially during the anticipation stage. Another finding regarding coping was that subjects used combinations of most of the available forms of problem-focused coping and emotion-focused coping at every stage of the exam.

Carver and Scheier (1994) detected a limitation in the study of Folkman and Lazarus (1985). How coping and emotions were interrelated across the phases was not examined. That is, although it was possible (for example) that problem focused coping at one phase led to lower levels of negative emotion at the next phase, this possibility was not assessed. Hence Carver and Scheier (1994) replicated Lazarus and Folkman's study and extended it by adding the prospective effects of coping in a transaction. According to Carver and Scheier's (1994) findings, coping did not predict lower levels of future distress; indeed some coping seemed to induce feelings of threat. Feelings of harm before the exam induced several kinds of coping after the

exam, mostly dysfunctional. Confidence about one's grade was a better predictor of emotions throughout than was coping.

Another study using the idea of stages during an examination was the one conducted by Bolger (1990). According to Bolger personality dispositions might explain why some people are vulnerable to stress but others are not. In the study Bolger treated neuroticism and trait anxiety as equivalent concepts. Using a stressful medical school entrance examination, Bolger (1990) tested whether coping processes mediated the effects of neuroticism that is a personality trait, on psychological distress and performance under stress. Then it was examined whether the influence of neuroticism on coping accounted for changes in anxiety and examination performance. Findings indicated that neuroticism influenced coping efforts and increased daily anxiety under stress. Two types of coping, wishful thinking and self-blame, explained over half the relationship between neuroticism and increases in preexamination anxiety. Bolger added that in line with previous research, neither neuroticism nor specific coping efforts influenced examination performance.

In Soric's study (1999) the cognitive appraisal and state anxiety of 137 high school students were examined immediately before a school examination, immediately after the examination and immediately after the announcement of grades. Situational coping responses were assessed immediately after the examination. Social evaluation trait anxiety was measured two weeks before the examination in an unstressful situation. The results showed that individuals with a highly developed social evaluation trait anxiety who perceived the test situation as threatening and who had low expectations of being able to control their achievement in such a situation experienced higher levels of pre-test state anxiety (girls more so than boys). The use of specific strategies of coping was also determined by both the

personality and the perception of the examination situation. Success in the examination was best predicted by the social evaluation trait anxiety, by problem focused coping and by coping through imagination-rumination (negative relation).

Aysan, Thompson and Hamarat (2001) conducted a study with a group of Turkish high school juniors and high school seniors. Subjects completed measures of test anxiety, coping skills, and perceived health status both before and after a major exam period. Students with high test anxiety used less effective coping mechanisms and tended to have poorer perceptions of their health. Prior to the exams it was found that students with high test anxiety tended to rely on the more ineffective coping strategies, namely self blame, wishful thinking and avoidance. Moreover, juniors displayed higher test anxiety and used less effective coping mechanisms than seniors. After the exam period, improvements were seen for both age groups on perceived health, but the scores of the younger students remained significantly higher than the scores of seniors on one of the key measures of test anxiety.

Preparation stage

While the relationship between the stages of an exam was examined in many studies, the need for a detailed investigation of a unique stage has emerged. The preparation stage of an anticipated exam is a stressful period worthy of being investigated in order to help students who feel anxious and uncertain while preparing. Raffety (1997) stated that most process-oriented anxiety and coping research has assessed change across the periods before, during and after a stressful event by sampling a single point in each period. These studies have mapped the general direction of change from period to period. Nevertheless, the need for examining the preparation phase in more detail has emerged. In order to take more than one sample and to answer the question of how different dimensions of anxiety and coping unfold within

a stage, Raffety et al. (1997) used diary writing during 10 periods that began 7 days before an upcoming exam.

CHAPTER 3

PURPOSE OF THE STUDY AND RESEARCH QUESTIONS

The high school entrance exam is an anticipated stressor for Turkish eighth graders. It has been used for the placement of eighth grade graduates in competitive high schools since 1998. Each year more than 600.000 students take the exam in all parts of the country. Students compete with each other by answering 100 multiple choice questions. Preparation for the high school entrance exam takes at least 9 months. Some of the students start preparing for the exam from the seventh grade on. Beside their formal schools a lot of the students attend private courses in institutions out of their formal school in order to learn test taking strategies as well as the subject matter of the courses they study at school. As preparation for exams is a difficult stage for students it is thought that the students who attend those private institutions form a highly stressed group. While they have to revise a bulk of knowledge in a limited time period they also have to learn test-taking techniques in competitive classes with lots of other young people. Moreover, they have to work for their school's requirements, which may sometimes be different from the subjects revised while preparing for the exam.

In such stressful environments school counselors are also under a lot of pressure. They are expected to be knowledgeable about the characteristics of that competitive environment to help the test-anxious students. They need to gain insight about the preparation period in order to tailor intervention programs against the test anxiety felt during the test preparation. Information gathered especially from the eighth-year students preparing for the high school entrance exam can empower the counselors who would be informed more about the anxiety felt during the

preparation period. The information would be helpful to assist for the students endangered with test anxiety.

The transactional test anxiety model (Zeidner, 1998) was thought to be an appropriate theoretical base for this study. The variables evolving around test anxiety felt during the preparation were considered. The relationship between these variables within the model was investigated. The question of whether there can be a change during the preparation period as well as gender differences in all variables were also particular points of interest.

The transactional models of anxiety include personal determinants such as scholastic ability, and situational determinants also called objective variables such as mode of administration that affect primary and secondary appraisals, namely beliefs and coping respectively (Hunter and Boyle, 2004; Spielberger and Vaag, 1995). The model that was adapted for this study had two distinct parts, as personal variables and evaluative situation, like the other transactional test anxiety models. For the high school entrance examinations applied in Turkey the situational determinants for all examinees were assumed to be constant as the time constraint and modes of test administration are the same for all participants. For the personal variables, study skills, trait anxiety and gender were selected as the preparation phase for the high school entrance exam was examined.

In most of the transactional models of test anxiety, the primary appraisal is explained by threat, challenge, harm or indifference. How one responds to stressful test situations is also influenced by expectancy beliefs and attributions (Zeidner, 1998). In this study, achievement expectancy and the importance of the exam were selected for appraisal variables based on the previous studies of Önen (2003) and Ptacek et al. (1994) who used one or both variables as appraisal variables.

Preparation anxiety was another variable in this study. In the previous studies preparation anxiety was assessed in a way that was similar to the anxiety dealing with the confrontation phase of an exam. Hence there was the need to specifically define a variable in order to examine the anxiety felt specifically during the preparation phase of an important exam.

One example of the potential importance of coping in an educational setting has to do with the high stakes exam situation of school-aged students (McCarthy et al 2002). Hence coping was another variable selected for this study. Stöber (2004) defined a construct for adolescent coping against the uncertainty and anxiety felt during the preparation phase of an anticipated exam. This was thought to be an appropriate variable for investigating coping during the preparation for the high school entrance exam of Turkish eighth graders.

Performance was the last variable. It was assessed by the scores on the high school entrance exam, which took place on 5 June 2005.

The variables that were examined during the preparation for the high school entrance exam and that were selected based on the transactional model (Zeidner, 1998) were: preparation anxiety, personal variables such as study skills and trait anxiety, appraisal variables such as achievement expectancy and the importance of the exam, coping and performance. The preparation period for the high school entrance exam was examined for students preparing for a competitive entrance exam. The research questions for this study can be stated as follows:

1-What were the students' levels of:

a) trait anxiety,

b) study skills,

c) achievement expectancy,

d) importance given to the exam,

e) preparation anxiety,

f) coping strategies, and,

g) performance? And were there any gender differences?

2- Did the levels of preparation anxiety, coping strategies, study skills and achievement expectancy change during the preparation period?

3- How did the empirical findings fit the theoretical model of test anxiety?

CHAPTER 4

METHOD

In this study there were three research questions:

1- What were the students' levels of trait anxiety, study skills, achievement expectancy, importance given to the exam, preparation anxiety, coping strategies, and, performance? And were there any gender differences?

2- Did the levels of the preparation anxiety, coping strategies, study skills and achievement expectancy change during the preparation period?

3- How did the empirical findings fit the theoretical model of test anxiety?

Subjects

The subjects of the study were 351 Turkish eighth-graders preparing for the high school entrance exam. The mean age was 14.06 with a standart deviation of 0.35. For the gender distribution, 59% of the students were female and 41% were male. The students' families were assumed to be of middle and high SES. This was inferred from the fact that they could afford the preparatory institution fee. The parents' educational levels were also considered. 70% of the fathers and more than 65% of the mothers were at least high school graduates. Details of the parents' education are given in Table 4.

Table 4: Parents' Education Level

	Mothers (%)	Fathers (%)
Did not finish primary school	2,1	1,5
Elementary school	16,1	9,2
Middle school	15,5	15,5
High school	37,9	31,5
University	28,4	42,4

Students participated in the study two months before the high school entrance exam for which they were preparing. Data were collected from students who attended a private institution for exam preparation. The institution prepared students for the high school entrance exam in four different settlements in Istanbul, namely Bakırköy, Beylikdüzü, Kadıköy and Beşiktaş. These private institutions start to prepare students for entrance exams two years before the exam in content knowledge and test taking skills. 44% of the participants in this study had started to attend the preparatory institution since the previous year.

Instruments

Data were collected on demographic information, personal variables, appraisal, preparation anxiety, coping and performance. For this study personal variables were considered to be trait anxiety and study skills. Appraisal was represented by two variables, namely importance given to the exam and achievement expectancy. As situational variables were constant for all the candidates of the high school entrance exam there was no assessment on this set of variables. Preparation anxiety, coping with pre-exam anxiety and uncertainty and performance were operationalized.

Demographic Form

The form included questions about gender, age, parents' education. A copy of the demographic data form is presented in Appendix B.

Trait Anxiety Scale

Trait anxiety was assessed by using the Trait Anxiety Scale of STAI (State Trait Anxiety Inventory) which was designed in 1970 by Spielberger et al. STAI contains two subscales: State Anxiety and Trait Anxiety. The validity and reliability studies of this scale for the Turkish population had been carried out by Öner and Le Compte (1983). The Trait Anxiety Scale consisted of 20 statements in which the subjects described how they generally felt. Participants rated these items on a 4-point Likert scale ranging from almost never (1) to almost always (4). Total scores ranged from 20 to 80 with high scores indicating high levels of test anxiety. In scoring, as 1, 6, 7, 10, 13, 16 and 19 were reverse items, they were rated by a negative sign. The total score for trait anxiety was obtained by adding up 35, which is a constant that should be added to the sum of negative and positive items.

Trait anxiety norms for the Turkish high school students within the age range of 15-16 years is 39.81 for girls and 39.77 for boys. A copy of Trait Anxiety Scale is presented in Appendix C.

Study Skills Rating Scale

Study skills indicate the behavioral variable among the personal variables worth investigating during the preparation for the high school entrance exam. It was assessed by the Study Skills Rating Scale developed by Cassady (2004). The Study Skills Rating Scale assessed the perception of how ineffective one's study habits were. Through a set of 8 self-report items, students' skills were investigated during the preparation for exams. Responses to the items in this instrument followed a four-

point Likert-type scale from “not like me” to “very much like me”. The possible range of scores on this scale was between 8 and 32. High scores indicated ineffective study skills. The original scale demonstrated the qualities of internal consistency. Cronbach alpha was 0.86.

The instrument was adapted into Turkish for this study. The translation of the items from English to Turkish was accomplished by a graduate student at Boğaziçi University and back translation to English was done by an academician.

A pilot study was run with 97 eighth-graders in order to check the reliability of the instrument. The instrument was found to be internally consistent with a Cronbach Alpha coefficient of 0.74. For the validity of the instrument expert opinion was obtained.

The English version is given in Table 5. The translated scale that was used in the pilot study can be found in Appendix D.

Table 5: Study Skills Rating Scale

1- I often find that I do not study enough for tests.
2- My mind wanders a lot when I am studying.
3- When I get a bad grade on a test, it is usually because I didn’t study enough.
4- I usually put off studying until the day before the test.
5- I often feel like I am wasting time when studying.
6- I often find that I cannot remember what I have read after reading a few pages.
7- I find it hard to concentrate when I am studying for a test.
8- I generally do not know how to prepare for tests.

Importance Scale

Importance was one of the subjective parts of the transactional test anxiety model used for the appraisal of the eighth graders during their preparation for the high school entrance exam. An eleven-item instrument that was developed by Özdemir (2002) in Turkish to assess the perceived importance of the university entrance examination for self and for significant others was used. The importance for “the self” dimension included items such as “I will be very happy if I pass the exam”. The

importance for "the other" dimension included items such as "everybody expects me to pass the exam". The participants rated these 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). In Özdemir's study (2002), internal consistency for both factors was found to be acceptable. The Cronbach Alpha coefficients of importance for the self and importance for the other were 0.75 and 0.68 respectively.

A pilot study was run in order to assess the psychometric properties of the scale for Turkish eighth graders. 100 subjects different from the participants of the main study participated in the pilot study. The internal consistency of the instrument was checked for eighth graders. Cronbach alpha coefficient was found to be 0.88.

A factor analysis was also run in the pilot study with eighth graders to observe the factor structure. Contrary to the findings of the original study by Özdemir (2002) where two factors for self and others appeared, in these data all the items were gathered in one factor. The scale that was prepared in Turkish can be found in Appendix E.

Achievement Expectancy Scale

Achievement expectancy was the second subjective part of the transactional test anxiety model used for the appraisal of the eighth-graders during their preparation for the high school entrance exam. The perceptions of the students' achievement expectations on the high school entrance exam were assessed by a single item taken from an achievement expectation scale (Özdemir, 2002) where the participants rate their probability of passing the exam on a 5-point Likert scale (1= %0, 2=%25, 3=%50, 4=%75, 5=%100). The original scale included questions about the perceptions of students' and closed others' (specifically, mother, father, and course teacher) achievement expectations about the university entrance exam. In this study

only self perception was used. The scale was prepared in Turkish and can be found in Appendix F.

Preparation Anxiety Scale

An instrument to assess the anxiety experienced during the preparation period could not be found. Consequently the widely used test anxiety scale, Test Anxiety Inventory (TAI), developed by Spielberger (1980) and adapted to Turkish (Öner and Albayrak Kaymak, 1987; Öner, 1990) was readapted by changing the wording of the items. In the Test Anxiety Inventory the items reflect the particular moment of an exam. In the Preparation Anxiety Scale all 20 items of the Turkish Test Anxiety Inventory were changed so that they would reflect the anxiety felt during the preparation process for the high school entrance exam instead of a particular exam period. The number of items was again 20 and the first item was a reverse item like in the Test Anxiety Inventory. Scores varied between 20 and 80. Higher scores indicated higher preparation anxiety. For the entire scale in Turkish see Appendix G. An example of an item is given in Table 6.

Table 6: An Example of an Item of the Preparation Anxiety Scale

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

A pilot study was run to assess the psychometric properties of the new form of the instrument. 82 eighth graders other than the participants of the main study participated in the pilot study. A reliability check was executed for the internal consistency of the adapted instrument. The Cronbach Alpha coefficient was found as 0.93. The item total correlations were satisfactory. In Table 7 the corrected item-total correlation for each item is given.

Table 7: Corrected Item-Total Correlations for the Items of the Preparation Anxiety Scale

Items of Preparation Anxiety Scale	Item-total correlations coefficients
Item 1	.45
Item 2	.59
Item 3	.73
Item 4	.56
Item 5	.51
Item 6	.66
Item 7	.56
Item 8	.70
Item 9	.55
Item 10	.54
Item 11	.56
Item 12	.58
Item 13	.77
Item 14	.73
Item 15	.34
Item 16	.73
Item 17	.73
Item 18	.57
Item 19	.70
Item 20	.51

For the construct validity of the instrument the correlation between the Trait Anxiety Scale and the Preparation Anxiety Scale was investigated. The Pearson correlation coefficient was calculated to be 0.66 ($p < .001$) from the data obtained from 333 students of the main study who took both scales. This was accepted as evidence for the construct validity of the preparation anxiety scale.

Coping with Pre-Exam Anxiety and Uncertainty (COPEAU)

The students' coping strategies during the preparation for the high school entrance exam were assessed by COPEAU (Stöber, 2002 in Stöber, 2004). The original scale was prepared in German. The instrument was based on items from the COPE inventory developed by Carver, Scheier and Weinraub (1989 in Stöber, 2004) in English and from the coping scales of DAI (Rost and Schermer, 1997 in Stöber, 2004) in German. The English version of the instrument was provided by Stöber (2004).

The measure comprised 21 items subsumed to three 7-item scales that captured coping by means of a) task-orientation and preparation, b) seeking social support, and c) avoidance. Participants responded to items on a six-point scale ranging from "definitely not true" (1) to "definitely true" (6). The scale's psychometric properties had been assessed by the participation of German adolescents. Original subscales' Cronbach Alpha coefficients ranged between 0.75 and 0.87. The English version of the items for each subscale is given in Table 8.

For the adaptation into Turkish, first, items of the instrument were translated and back translated by two instructors of Boğaziçi University. The Turkish version of the subscales is given in Appendix H. Then the items of three subscales were mixed and ranked according to the following list formed by using random number table: 12-13-4-5-2-17-11-14-6-18-1-15-16-7-21-9-20-19-3-10-8. For the Turkish version of the items and instruction see Appendix I. Scoring is done by adding points separately in each subscale.

Table 8: English Version of the Items of COPEAU's subscales.

Task- Orientation and Preparation
1-I think about how I can best prepare for the exam.
2-I concentrate on how I'm going to deal with the exam and, if necessary let other things slide.
3-I cut back on my leisure time to prepare for the exam.
4-I take extra time to prepare for the exam.
5-I do what needs to be done, one step at a time.
6-I put other activities to one side and concentrate on the exam coming up.
7-I concentrate all my efforts on the exam.
Seeking Social Support
8-I ask people who have had similar experiences what they did/would do in this situation.
9-I discuss my feelings with someone.
10-I try to get advice from someone about what to do.
11-I attempt to get the emotional support of friends or relatives.
12-I try to get sympathy and understanding for my situation from others.
13-I talk to someone about how I feel.
14-I talk to others to find out more about the exam.
Avoidance
15-I convince myself that it's not all bad.
16-I put thoughts of the exam out of my mind.
17-I try not to think about the exam.
18-I turn to other activities for diversion.
19-I persuade myself that I don't care about the exam.
20-I go to the movies or watch TV so I don't think about the exam so much.
21-I make a conscious effort to think about something else.

A pilot study was run in order to assess the psychometric properties of the translated scale for Turkish eighth-graders. 106 subjects different from the participants of the main study participated in the pilot study.

In the pilot study, first internal consistency was calculated separately for each subscale. Cronbach alpha coefficients were 0.87 for task orientation and preparation subscale, 0.84 for the seeking social support subscale and 0.61 for the avoidance subscale.

Second, evidence for construct validity was investigated through factor analysis. It was observed that except for three items, factors were the same with the original form. Question 8 and Question 20, which originally belonged to the "seeking social support" subscale, were loaded higher in factor 1. Question 10, which originally belonged to the "avoidance" subscale, was loaded higher in factor 2. The

loadings for the conceptual factors were adequate. The three factors explained 51% of the variance. Factor loadings are given in Table 9.

Table 9: Factor loadings of COPEAU

	Factor 1	Factor 2	Factor 3
Question 14	.83		
Question 11	.75		
Question 9	.75		
Question 5	.69		
Question 4	.68		
Question 3	.61		
Question 8	.58	.45	
Question 20	.58	.46	
Question 19	.55		
Question 2		.75	
Question 16		.73	
Question 7		.65	
Question 1		.61	
Question 21		.53	
Question 10		.46	.25
Question 13			.70
Question 18			.63
Question 17			.56
Question 15			.54
Question 6			.52
Question 12			.45

The factor analysis was also run with the main data (n=351). It was observed that the three factors were exactly the same as in the German sample. 47 % of the variance was explained by the 3 factors. Factor loadings of the main data can be seen in Table 10.

Table 10: Factor Loadings of the Main Data

	Factor 1	Factor 2	Factor 3
Question 14	.80		
Question 4	.72		
Question 9	.71		
Question 5	.67		
Question 3	.67		
Question 11	.66		
Question 19	.47		
Question 16		.73	
Question 7		.69	
Question 2		.69	
Question 20		.62	
Question 8		.60	
Question 21		.57	
Question 1		.53	
Question 13			.74
Question 15			.69
Question 18			.67
Question 17			.59
Question 6			.54
Question 10			.47
Question 12			.37

Third, concurrent validity was examined by comparing the subscales of another coping scale, namely Coping Strategy Indicator, (Amirkhan, 1990). Coping Strategy Indicator was adapted to Turkish by Aysan (1994). 33 items of Coping Strategy Indicator (CSI) can be found in Appendix J. There were also three subscales with 11 items corresponding exactly to the Problem Solving, Seeking Social Support and Avoidance subscales. COPEAU's translated subscales were correlated with CSI. All three subscales were significantly correlated in the two instruments. The avoidance subscale's correlation was lower than the other two subscales. The correlations are given in Table 11.

Table 11: Correlation coefficients between the subscales of the Turkish forms of COPEAU and CSI

	CSI Problem Solving	CSI Seeking Social Support	CSI Avoidance
COPEAU Task Orientation	.60 p<.001		
COPEAU Seeking Social Support		.58 p<.000	
COPEAU Avoidance			.21 p<.05

Performance

The high school entrance exam scores were used to assess the students' performance. In 2005 more than 600.000 eighth graders took the exam nationwide in Turkey. The high school entrance examination assessed their accumulation of academic knowledge in 120 minutes by a hundred multiple-choice questions in four subject areas, namely mathematics, Turkish, science and social studies. The scores were obtained in August 2005 from the private institution which the students attended for test preparation.

Procedure

First, the instruments were prepared. The Preparation Anxiety Scale was developed using the items of the Turkish form of the Test Anxiety Inventory. The coping scale (COPEAU) and the Study Skills Rating Scale were translated into Turkish. The Importance and Achievement Expectancy Scales, which had been developed for older Turkish students, needed to be assessed for reliability with eighth graders. After the translation, all of the prepared instruments were administered to eighth graders in pilot studies for the examination of the psychometric characteristics. Second, the process of preparation for the high school entrance exam was examined using these scales and inventories.

The process of preparation for the high school entrance exam was examined by collecting data in two waves. In March 2005 the Trait Anxiety Scale of the STAI, Study Skills Scale, Achievement Expectancy Scale, Importance Scale, the Preparation Anxiety Scale, Coping Scale, and the demographic form were given to 351 subjects. As preparation anxiety, coping strategies, study skills and achievement expectancy were assumed to be open to change through time, at the end of May, four of the scales, namely Preparation Anxiety Scale, Coping Scale, Study Skills Scale and Achievement Expectancy Scale were administered again. 189 of the 351 students participated in the second measurement. The high school entrance exam took place on 5 June 2005 with the participation of 767.678 eighth graders in all the cities of Turkey. In August 2005 examination scores of the students were obtained.

The first and second research questions, which investigated gender differences and change during the preparation period respectively, were investigated through t test. For the third research question, concerning the relationship between the variables within a model, structural equation modeling was used to test the hypothesized transactional test anxiety model on the data.

CHAPTER 5

RESULTS

In this part, before the results are presented, an overview of the data is provided. First, the distribution of the scores obtained on all variables is portrayed. Then, the relationships between these variables are summarized using a table of correlation coefficients. After the descriptive statistics, histograms and correlation coefficients, the results for the three research questions are presented. The first research question was on gender differences in students' levels of trait anxiety, study skills, achievement expectancy, importance given to the exam, preparation anxiety, coping strategies, and, performance. The second research question tapped whether the levels of preparation anxiety, coping strategies, study skills and achievement expectancies changed throughout the period as the students prepared for the high school exam. The last research question investigated how the empirical findings fit a theoretical model of test anxiety.

As an overview of the variables of this study, the levels of trait anxiety, study skills, achievement expectancy, the importance given to the high school entrance exam, preparation anxiety, coping strategies, and, the performance of the Turkish eighth-graders preparing for the high school entrance examination were determined. The variables of the study were listed in line with the theoretical model (Zeidner, 1998) to be tested in the third research question. The first group of variables named the "personal variables" consisted of the trait anxiety and study skills. The next group of "appraisal" variables was achievement expectancy and the importance given to the exam, followed by preparation anxiety and the three coping strategies. The students' actual performance on the high school entrance exam was the last

variable since the model was actually designed to explain the structure of the variables to show how each were related to this final performance.

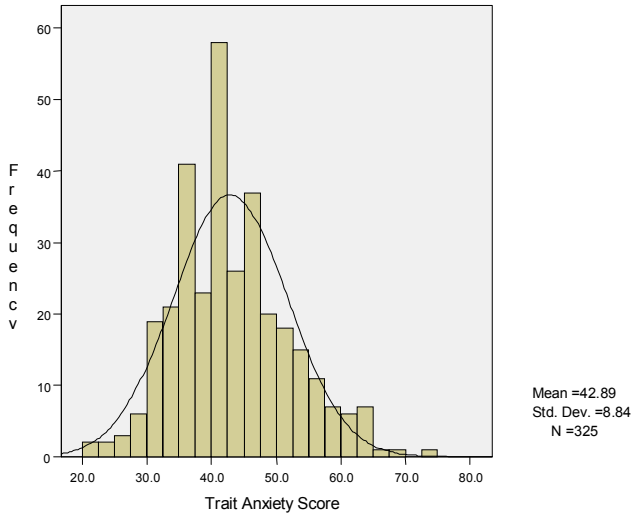
The means and standard deviations for all the variables were computed. In order to crystallize the observation of the distributions, histograms were used. Descriptive statistics are presented in Table 12. The histograms follow the table.

Table 12 : Descriptive Statistics

	Possible Range	n	Mean	Standard deviation
PERSONAL VARIABLES				
Trait Anxiety Score	20-80	351	42.82	8.73
Study Skills Score	8-32	350	17.64	5.06
APPRAISAL VARIABLES				
Achievement Expectancy	1-5	350	3.65	0.86
Importance of Exam Score	11-77	347	64.16	9.85
PREPARATION ANXIETY SCORES	20-80	333	43.05	13.30
COPING				
Coping strategy1: Task orientation	7-42	347	29.62	7.23
Coping strategy2: Seeking Social Support	7-42	344	29.62	7.61
Coping strategy3: Avoidance	7-42	337	21.37	6.32
PERFORMANCE				
Exam score	100-500	189	380	42.28

1- Trait Anxiety

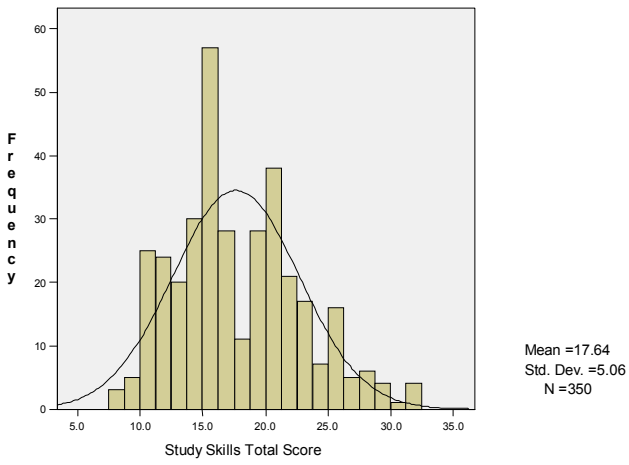
Figure 1: Histogram of Trait Anxiety



The first personal variable was trait anxiety. This variable was the unique variable among the others with Turkish norms that had been previously determined. Öner and Le Compte (1983) had provided norms of trait anxiety for 646 Turkish high school students. From that study it is known that the 222 female students' mean was 39.81 with 10.82 standard deviation and the 424 male students' mean was 39.77 with 9.67 standard deviation. In the present study the trait anxiety of all eighth graders was 42.82 with a standard deviation of 8.73. This was slightly higher than the norms.

2- Study Skills

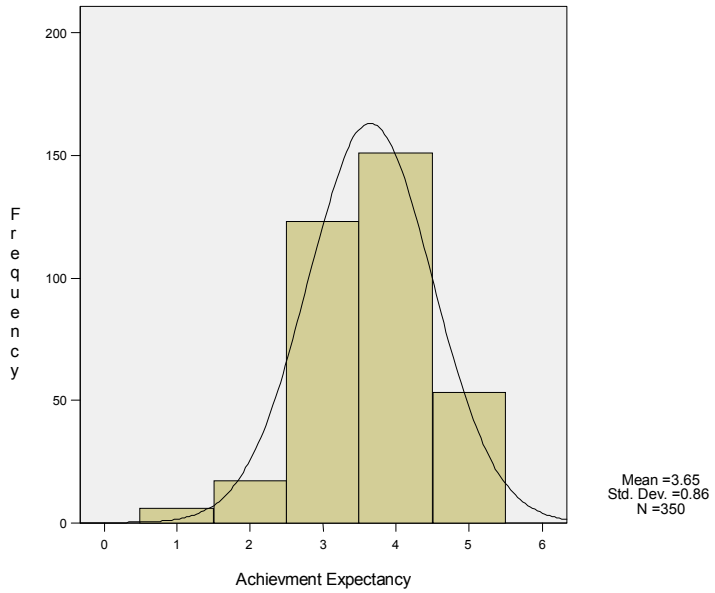
Figure 2: Histogram of Study Skills



Study skills was the second personal variable. The study skills scores indicated how effective the students perceived their study skills to be. The students could get scores between 8 and 32. High scores indicated how poor the students thought their study skills were. In March, the mean score was 17.64 with a standard deviation of 5.06 for 350 eighth graders.

3- Achievement Expectancy

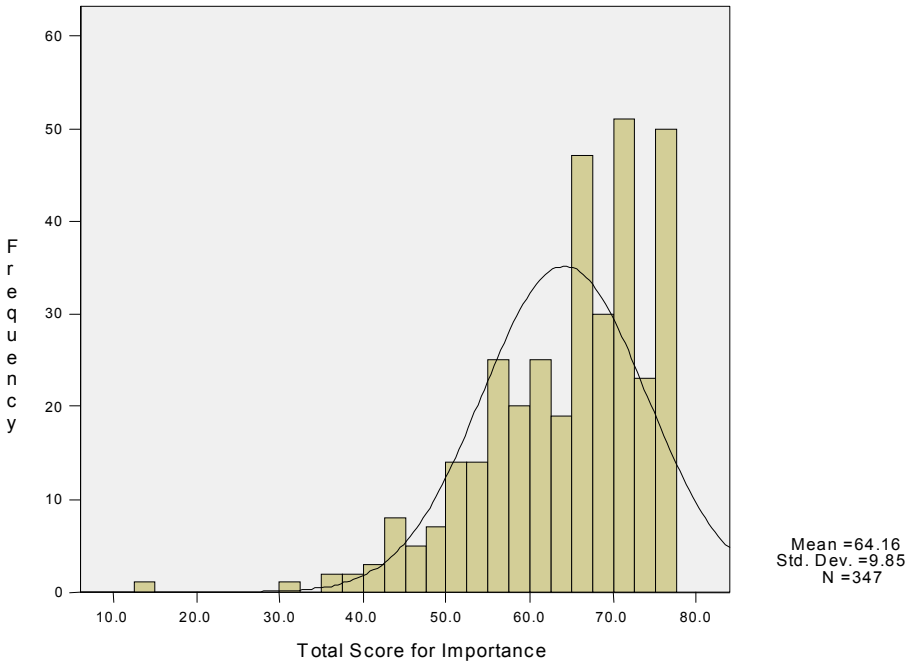
Figure 3: Histogram of Achievement Expectancy



Achievement expectancy was one of the appraisal variables of the preparation period for the high school entrance exam. In March, 350 eighth graders' achievement expectancy mean was 3.65 with a standard deviation of 0.86 where scores in the scale ranged between 1 and 5. Each one of the five possible values indicated the percentage of the students expecting success. Hence, a mean value of 3.65 means that most students think that their probability of success in the exam is around 67%.

4-Importance of the Exam

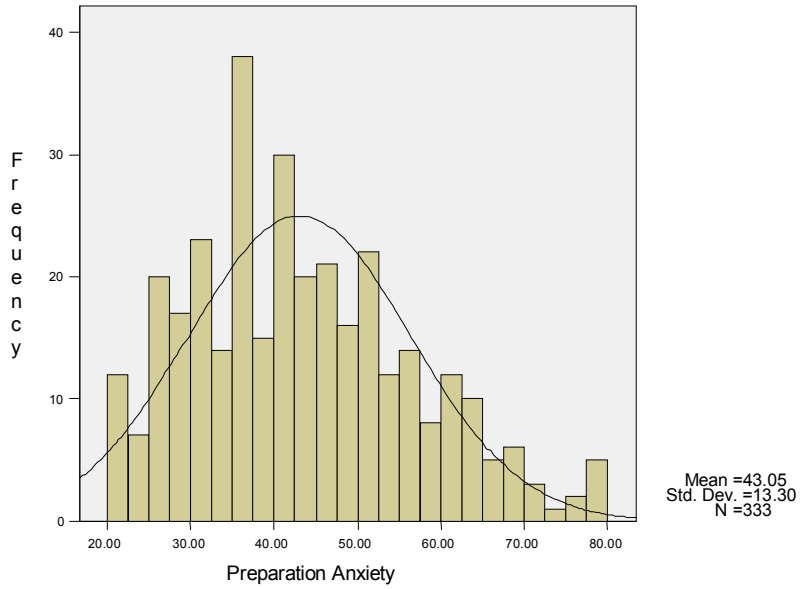
Figure 4: Histogram of Importance of the Exam



The importance given to the high school entrance exam was the second appraisal variable of the preparation period. The scores ranged between 11 and 77 where high scores indicated that students gave more importance to the exam. The mean score was 64.16 with a standard deviation of 9.85. The curve was negatively skewed, indicating that the majority of the scores were clustered around the high scores.

5-Preparation Anxiety

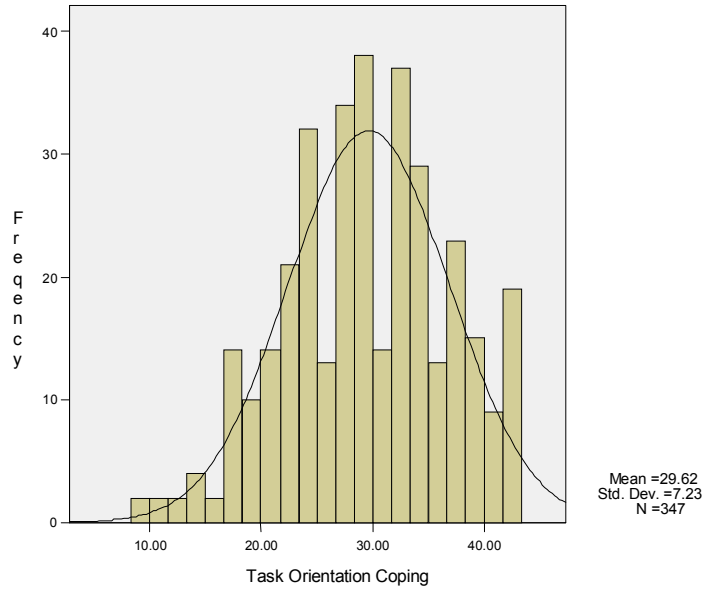
Figure 5: Histogram of Preparation Anxiety



Preparation anxiety scores for the eighth-graders could range between 20 and 80. High scores indicated higher preparation anxiety for the high school entrance exam. For 333 students the mean for preparation anxiety level was 43.05 with a standard deviation of 13.30.

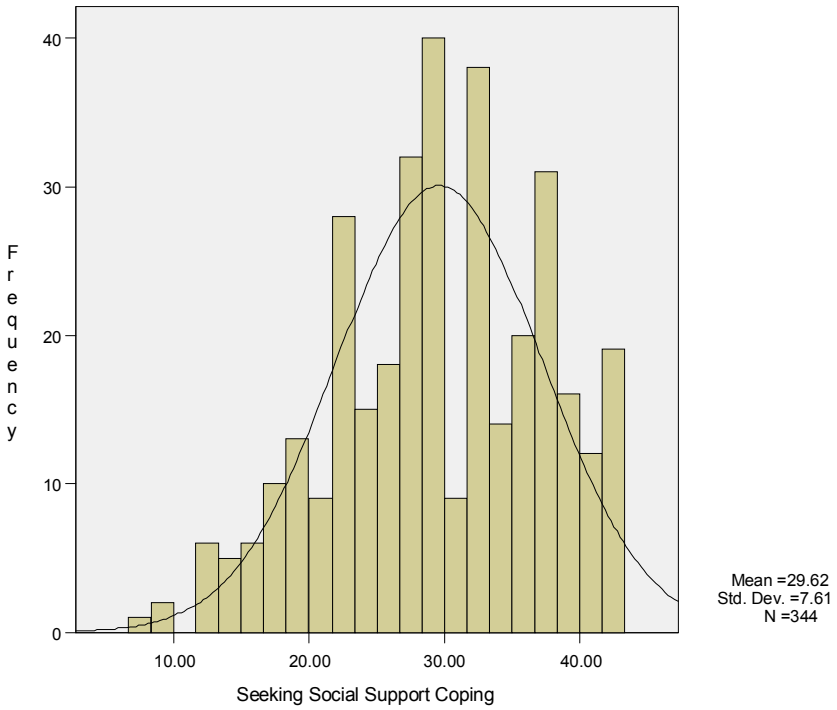
6- First Coping Strategy: Task orientation and preparation

Figure 6: Histogram of First Coping Strategy: Task orientation and preparation



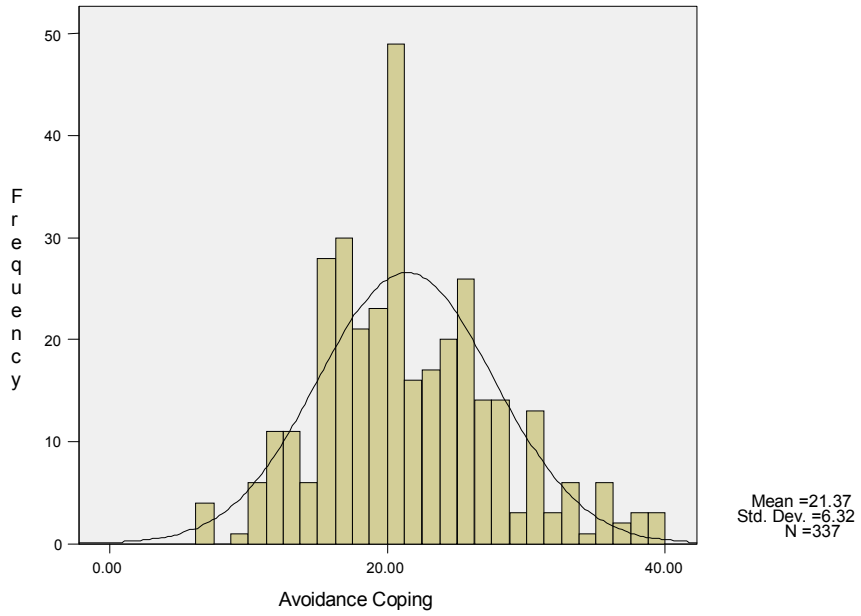
7- Second Coping Strategy: Seeking Social Support

Figure 7: Histogram of Second Coping Strategy: Seeking Social Support



8- Third Coping Strategy: Avoidance

Figure 8: Histogram of Third Coping Strategy: Avoidance

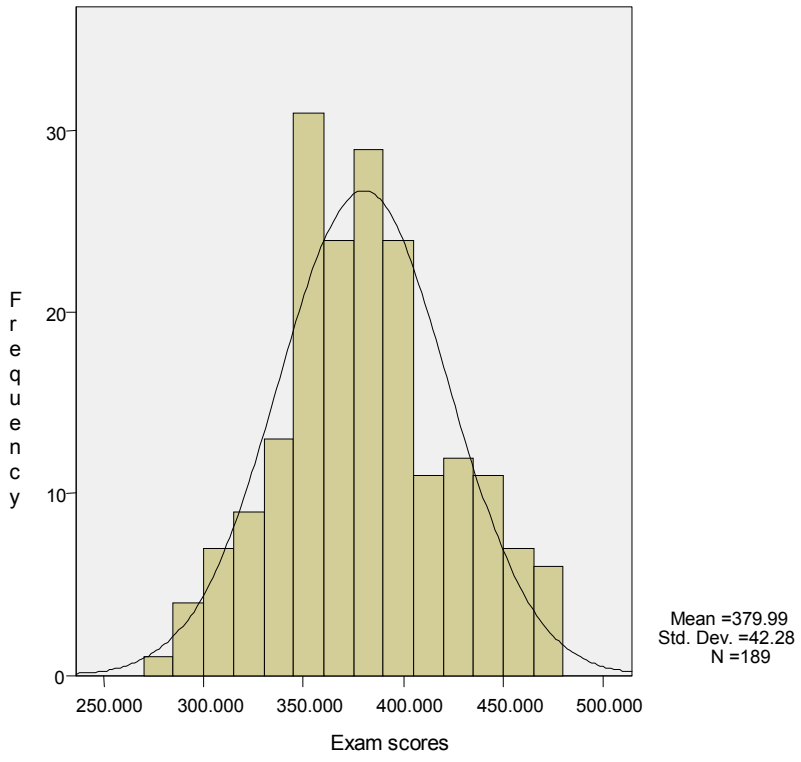


Students could get scores between 6 and 42 for the three coping strategies. For the task orientation and preparation and seeking social support strategies, the mean

scores were 29.62 with 7.23 and 7.61 of standard deviations respectively. The third coping strategy was avoidance. For 337 eighth graders the distribution of the scores for this strategy indicated a mean score of 21.37 with a standard deviation of 6.32.

9- Performance: The Score on the High School Entrance Exam

Figure 9: Histogram of the Performance



The last variable was the performance on the high school entrance exam which took place in 2005. The high school entrance exam scores ranged between 100 and 500. (http://egitek.meb.gov.tr/Sinavlar/Klavuz/2005/2005OKSekilavuz.doc).

In this study the scores of the high school entrance exam obtained by 189 subjects were used. The mean score was 379.99 with a standard deviation of 42.28. The scores were distributed normally.

After getting information about the variables through descriptive statistics and histograms, the correlation coefficients between variables were calculated in

order to see the relations between the variables. Table 13 shows the correlations coefficients between variables.

Table 13: Correlation Coefficients Between Variables of the Study

	Per.	Tr. Anx.	Prep. Anx.	Coping 1-Task or.	Coping 2-Soc. Sup.	Coping 3-Av.	Ach. Exp.	St. sk.	Imp.
Perform	1	-.18*	-.26**	-.17*	-.16*	.07	.40**	-.03	-.10
Trait Anxiety		1	.65**	-.01	.20**	-.14*	-.42**	.48**	.29**
Prep. Anxiety			1	.14**	.30**	-.19**	-.40**	.41**	.36**
Coping 1-Task orient.				1	.45**	-.05	.10	-.31**	.23**
Coping 2-Social Sup.					1	.05	-.08	-.05	.22*
Coping 3-Av.						1	.07	.05	-.15**
Achiev. Expect.							1	-.28**	-.01
Study skills								1	.15**
Import.									1

*p<.05 **p<.01 (2-tailed).

In this section two clusters of correlations are presented. First, the relationship between preparation anxiety and the other variables are presented. Second, the relationship between performance and the other variables will be tapped on.

Preparation anxiety was the only variable which was related significantly to all the other variables that were investigated during the preparation period. For the relationship between preparation anxiety and the first personal variable, trait anxiety, the correlation coefficient was found to be r= .65 (p< .01). The second personal variable, study skills, was also highly correlated to preparation anxiety (r= .41, p< .01). All three coping strategies, namely task orientation, social support seeking and

avoidance were significantly related to preparation anxiety (r= .14, r= .30 and r=. -19 respectively for p< .01). Finally, the relationship between preparation anxiety and appraisal was calculated. The correlation coefficient between the achievement expectancy score and preparation anxiety score was r= -.40 (p< .01). For the relationship between importance and preparation anxiety the correlation coefficient was found to be r= .36 (p< .01).

After the relationship between preparation anxiety and other variables was revealed by using correlation coefficients, how performance was related to the variables taking place during the preparation phase of the high school entrance exam was investigated.

For the relationship between performance and trait anxiety, the first personal variable, the correlation coefficient between the trait part of the STAI score and the high school entrance exam scores was found to be r= -.18 (p< .05). This result showed that as the trait anxiety increased performance decreased. The variable of study skills, which was the other personal variable, was not found to be related to performance. The relationship between preparation anxiety and performance was also significant. The correlation coefficient between the preparation anxiety scale's total score and performance was -.26 (p<0.01). This result indicated that as the preparation anxiety that assessed the process increased, instead of the very moment of taking the exam, performance decreased.

The relationship between performance and the three coping strategies was another point to investigate. The correlation coefficient between performance and the two coping strategies was found to be significant, namely task orientation and social support (r= -.17 and r= -.16 respectively for p< .05). The third coping strategy,

avoidance, was not related to performance. According to these results task orientation and social support strategies were inversely related to performance.

Finally, the relationship between performance and appraisal were investigated. Achievement expectancy and importance were the variables for appraisal. Whereas performance was significantly related to achievement expectancy ($r=.40$, $p<.01$), no significant relationship was observed between importance and performance.

After the descriptive statistics, histograms and correlation coefficients, the results of the research questions are presented.

First research question: What were the students' levels of trait anxiety, study skills, achievement expectancy, importance given to the exam, preparation anxiety, coping strategies, and performance? And were there any gender differences?

In order to examine the gender differences the scores obtained from males and females were compared on study skills, trait anxiety, achievement expectancy, importance, preparation anxiety, the three coping strategies and the score on the high school entrance exam.

Table 14: Gender Differences Between the Variables of the Study

	Gender	N	Mean	Standard Deviation	t	p
Study skills	Female	206	17.5	5.31	-0.75	n.s.
	Male	144	17.9	4.69		
Trait Anxiety	Female	206	44.2	9.28	3.05	0.01
	Male	145	40.9	7.88		
Achievement Expectancy	Female	206	3.54	0.84	-2.98	0.01
	Male	144	3.81	0.86		
Importance of Exam	Female	203	64.9	9.95	1,57	n.s.
	Male	144	63.2	9.67		
Preparation Anxiety	Female	198	45.1	13.45	3.50	0.01
	Male	135	40.1	12.51		
Coping Strategy 1: Task orientation and preparation	Female	205	30.6	7.17	3.16	0.01
	Male	142	28.2	7.10		
Coping Strategy 2: Seeking social support	Female	205	31.4	7.16	5.45	0.01
	Male	139	27.1	7.51		
Coping Strategy 3: Avoidance	Female	200	21.1	6.01	-0.85	n.s.
	Male	137	21.7	6.76		
Score of high school entrance exam	Female	121	381	40.29	0.41	n.s.
	Male	68	378.3	45.87		

n.s.: not significant

Significant differences between males and females were observed in their levels of trait anxiety, achievement expectancy, preparation anxiety and two coping strategies, namely task orientation and seeking social support. The mean for the trait anxiety scores was 44.2 with a standard deviation of 9.28 for females and 40.9 with a standard deviation of 7.88 for males ($t= 3.05$, $p< .01$). Girls showed more trait anxiety than boys. The achievement expectancy scores of the males were

significantly higher than the achievement expectancy scores of the females, the means were 3.81 and 3.54 respectively, with a standard deviation of 0.86 for the males and 0.84 for the females ($t= -2.98$, $p< .01$). The boys' expectations of success on the exam were higher. The mean for the preparation anxiety scores was 45.1 with a standard deviation of 13.45 for the females and 40.1 with a standard deviation of 12.51 for the males ($t= 3.50$, $p< .01$). Females experienced more preparation anxiety than males. Female students obtained significantly higher scores than male students on the two coping strategies. The mean of the task orientation and preparation coping scores was 30.6 with a standard deviation of 7.17 for the females and 28.2 with a standard deviation of 7.10 for the males ($t= 3.16$, $p< .01$). The mean of the seeking social support coping scores was 31.4 with a standard deviation of 7.16 for the females and 27.1 with a standard deviation of 7.51 for the males ($t= 5.45$, $p< .01$).

In sum, male students showed lower levels of both trait and preparation anxiety. Their expectations about their success in the high school entrance exam was also greater than the females'. In line with these findings, females used task orientation and preparation coping more than males. They also sought more social support as well. No significant differences were found between the genders in study skills, importance given to the exam, the third coping strategy of avoidance, and performance.

The second research question: Did the levels of the preparation anxiety, coping strategies, study skills and achievement expectancy change during the preparation period?

In order to examine the change during the preparation period, the scores collected at two points in time were compared. The mean scores obtained in March and May can be observed in Table 15.

Table 15: Mean Scores Obtained in March and May 2005

	March 2005 (2 months before the exam)			May 2005 (15 days before the exam)			t	p
	N	Mean	Standard deviation	N	Mean	Standard deviation		
Achievement Expectancy	194	3.61	.85	194	3.63	.84	-0.36	n.s.
Preparation anxiety	181	44.47	13.37	181	41.94	12.18	3.55	.01
Coping strategy 1: Task orientation and preparation	191	29.43	7.25	191	28.17	7.36	2.67	.01
Coping strategy 2: Seeking social support	191	29.79	7.87	191	29.84	8.21	-0.10	n.s.
Coping strategy 3: Avoidance	186	20.74	5.97	186	21.99	6.75	-2.39	.02
Study Skills	201	17.69	5.13	201	17.31	5.01	1.36	n.s.

n.s.: not significant

Significant differences between the scores obtained in March and May were observed in preparation anxiety and two of the three coping dimensions, namely task-orientation and preparation and, avoidance. For preparation anxiety scores in March the mean was 44.47 with a standard deviation of 13.37. In May a mean of 41.94 with a standard deviation of 12.18 ($t=3.55$, $p<.001$) indicated decreased preparation anxiety scores. For the first coping strategy scores, task orientation and preparation, in March the mean was 29.43 with a standard deviation of 7.25. In May a mean of 28.17 with a standard deviation of 7.36 ($t=2.67$, $p<.01$) indicated a decrease in the task orientation and preparation coping scores. For the third coping strategy, avoidance, in March the mean was 20.74 with a standard deviation of 5.97. In May a mean of 21.99 with a standard deviation of 5.01 ($t= -2.39$, $p<.02$) indicated an increase in avoidance coping scores. The changes can also be traced from the following figures.

Figure 10 : Change in Preparation Anxiety

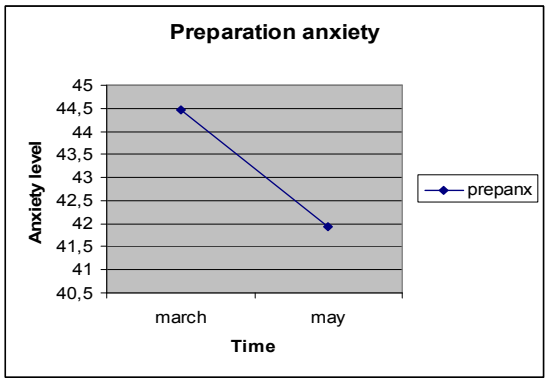


Figure 11 : Change in Task Orientation Coping

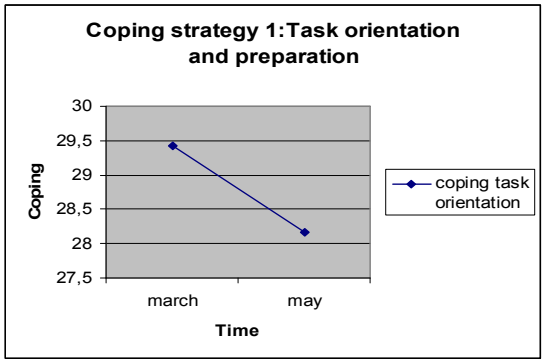
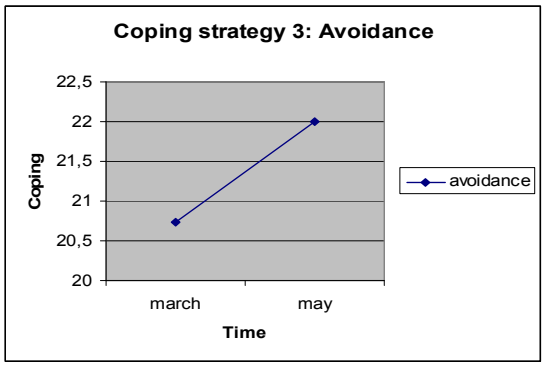


Figure 12 : Change in Avoidance Coping



No significant differences were observed in the seeking social support coping strategy scores, and in the other variables such as study skills and achievement expectancy over the two months time period.

Figure 13 : Change in Social Support Coping

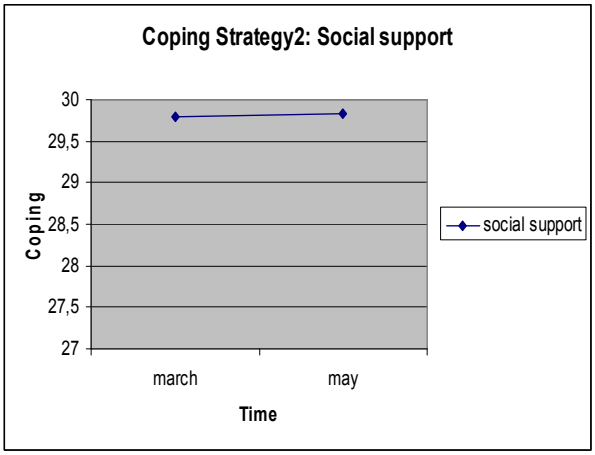


Figure 14 : Change in Study Skills

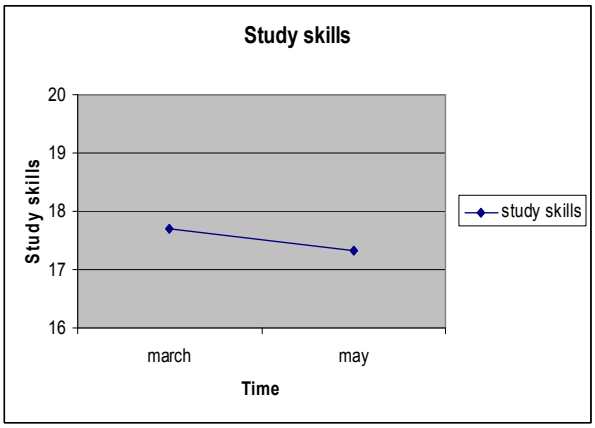
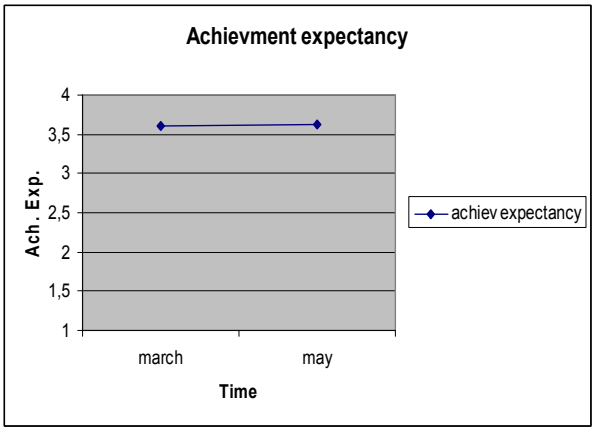


Figure 15 : Change in Achievement Expe



As the changes that took place between the two points of data collection were examined, it was observed that preparation anxiety levels decreased in this group of students who were involved in an intense preparation program. The perceived study skills and achievement expectancies remained constant during this phase. Changes were observed in two coping strategies. While the task orientation coping strategy scores decreased, the avoidance coping scores increased.

Third research question: How did the empirical findings fit the theoretical model of test anxiety?

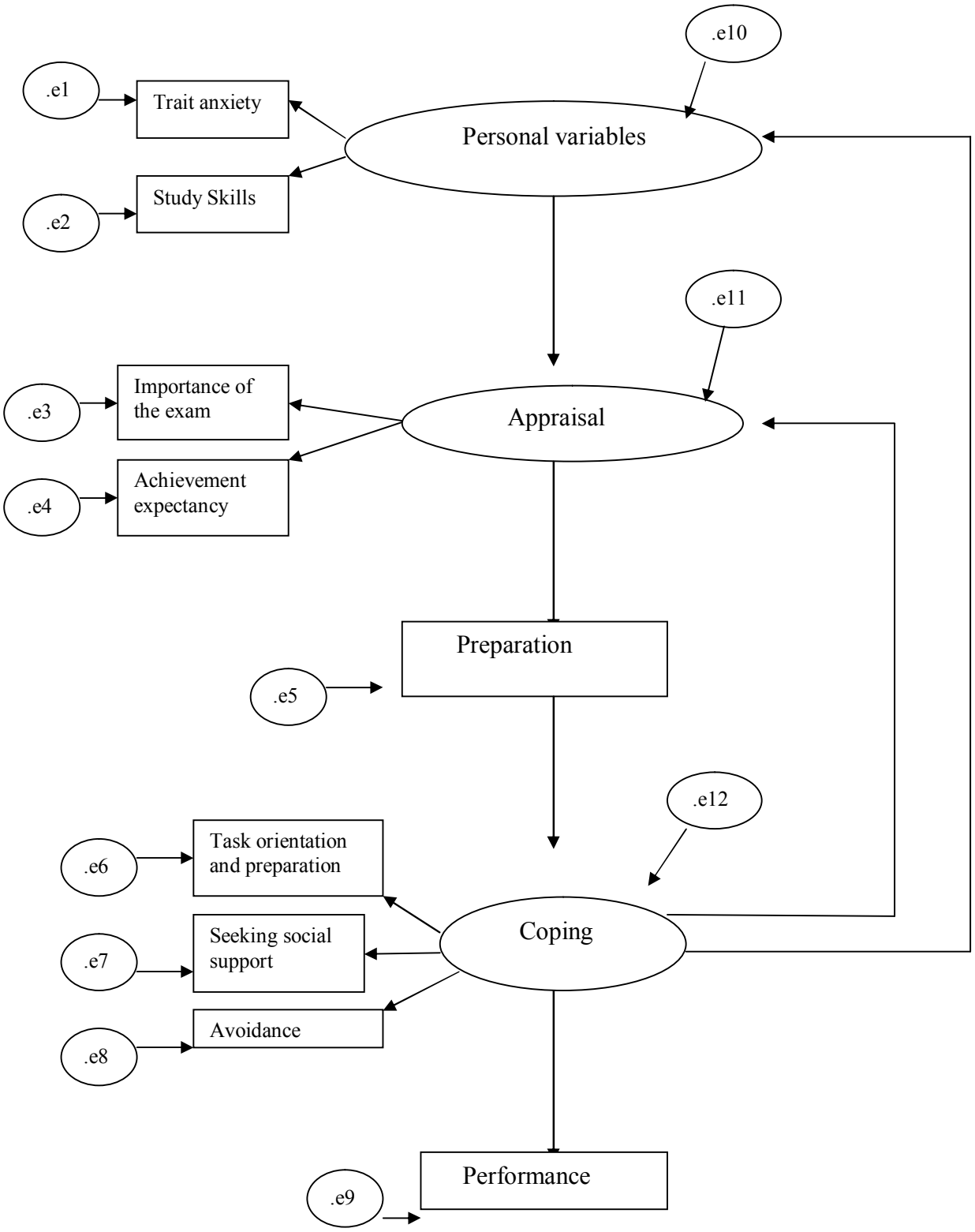
In order to investigate the third research question, a hypothesized test anxiety model (Zeidner, 1998) was tested through structural equation modeling. The analysis was run by using the statistical software AMOS 6.0.

The primary task of model-fitting processes is to determine the goodness-of-fit between the hypothesized model and the sample data (Byrne, 2001). Goodness-of-fit tests indicate the degree to which the patterns of parameters specified in a model are consistent with the patterns of variance and covariance from a set of observed data. After drawing the hypothesized general model into the input sheet of AMOS, the program calculates the goodness of fit statistics, the statistical significance and the estimated beta values of the relationships within the model. The goodness-of-fit statistics include chi-square difference statistics. First, the discrepancy between sample data covariance matrix and hypothesized model covariance matrix is calculated. To continue the analysis, they should be found to be insignificant. Literally, this means that discrepancy between the data and the postulated model is nonexistent (Byrne, 2001). In addition to chi-square, the goodness of fit indices such as NFI, IFI, TLI and CFI, are checked for statistical significance. NFI, IFI, TLI and CFI values close to 1 indicate a very good fit. RMSEA is another goodness of fit

index and a value of the RMSEA of about .05 or less would indicate a close fit of the model (Arbuckle & Wothke, 1999).

In this study, the hypothesized model was depicted in Figure 16. The descriptive properties of the data were as follows: N=203 and for gender distribution, 64.5 % of the sample was female and 35.5 % was male. The chi-square value was significant for the hypothesized model, indicating that the model fit analysis was not significant for this hypothesized model.

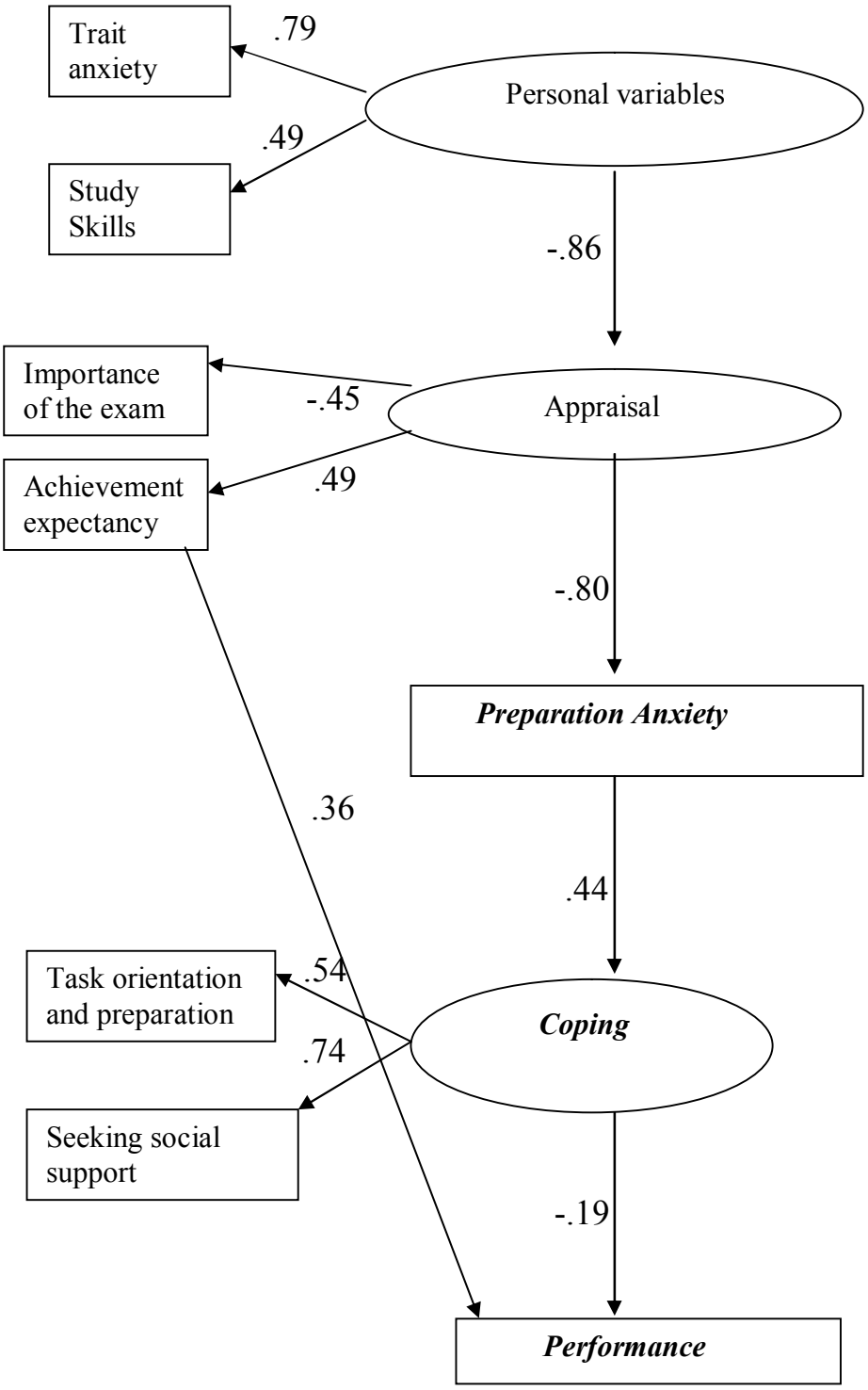
Figure 16: Hypothesized model in SEM



The next step is the modification of the model. The modification index gives the expected relations, which are not in the hypothesized model. According to these suggestions, the model is modified, and at the end, a modified model that is both as a whole, and in terms of parameters, is the significant model.

In the present study, according to the suggested modifications provided by the software the following modified model was obtained as shown in Figure 17.

Figure17: Modified model in SEM



The model fit analysis of the modified model was significant since the chi square test showed no difference (X^2=20.332, df=14, p=. 120). The values given for relationships in the figure on arrows are standardized ß (beta) values for each relationship. Standardized beta values are also given in Table 16.

For the statistical significance of the modified model in addition to the chi-square, the goodness of fit indices NFI, IFI, TLI and CFI were computed. Goodness of fit indices showed a well fit between the sample data and the model as the results were found to be close to 1. The exact values can be seen in Table 17. The value for RMSEA is close to 0.5 and is given in Table 18.

Table 16: Regression Weights

Regression Weights: (Group number 1 - Default model)

			Unstandardized estimate (B)	S.E.	C.R.	p	Standadized ß
Appraisal	<---	Personal v.	-.143	.033	-4.405	***	-.856
Preparation Anx.	<---	Appraisal	-24.639	4.331	-5.688	***	-.800
Achievement expectation	<---	Appraisal	1.000				,488
Coping	<---	Prep. Anx.	.197	.040	4.896	***	.437
Study Skills	<---	Personal v.	1.000				.490
Trait anx.	<---	Personal v.	2.654	.491	5.399	***	.786
Importance	<---	Appraisal	-10.337	2.658	-3.889	***	-.449
Social support	<---	Coping	1.000				.738
Task orientation	<---	Coping	.658	.177	3.722	***	.538
Performance	<---	Coping	-1.320	.620	-2.128	.033 *	-.186
Performance	<---	Expect.	17.062	3.148	5.421	***	.356

Table 17: Model fit indices

Model	NFI Delta1	IFI Delta2	TLI rho2	CFI
Default model	.941	.981	.960	.980

Table 18: RMSEA Value

Model	RMSEA
Default model	.047

Data from the constructs, namely personal and appraisal variables, anxiety, coping and performance, which were entered in the hypothesized model, were found to be related to each other as proposed by Zeidner (1998). Like in the theoretical model, the personal variables of trait anxiety and students' perceptions of their study skills preceded the appraisal variables. The appraisal variables, namely the importance given to the exam and achievement expectancy in the tested model preceded preparation anxiety. Coping was the next construct, which mediated preparation anxiety's effect on performance.

Trait anxiety and study skills were utilized in the description of personal variables. Higher scores for both reflected that the students had the perception of ineffective study skills and high trait anxiety. In the accepted model of determining personal variables, while trait anxiety had a value of .79 as standardized beta, study skills' value of standardized beta was .49.

In various studies, appraisal variables were measured by threat, harm, challenge, indifference, beliefs or the perceived importance of a stimulus. In this study, the perceived importance of the high school entrance exam and students' achievement expectancies led to the description of the appraisal variable. Standardized beta for the importance of the exam was measured as -.45. Achievement expectancy's standardized beta was .49.

In Zeidner's (1998) model, test anxiety was at the center of the model reflecting the effects of appraisal variables on performance. In this study, as the focus was to examine the preparation period for the high school entrance exam, the original construct of test anxiety was replaced with preparation anxiety. The SEM analysis was run to test whether the model for test anxiety was valid as well for preparation anxiety. After the analysis it was found that the preparation anxiety fitted the model

similar to the test anxiety felt during the confrontation stage in the original model. This showed that preparation anxiety could be a new construct different from test anxiety that would be worth investigating in exam situations.

The three coping strategies were included in the examination of the preparation process. While SEM analysis kept task orientation type of coping and social support seeking type of coping, avoidant coping was rejected. Hence, in the final model coping was represented by two strategies. The first strategy, the task orientation and preparation strategy, had a value of .54 as standardized beta. The second strategy, seeking social support, had .74. These results were interpreted to mean that coping was used when anxiety was felt during preparation. Both coping strategies were found to be used simultaneously by the students who were preparing for the high school entrance exam.

According to the theoretical model, the outcome could be assessed in various ways. Performance was one of the ways of operationalizing of the outcome. In some studies, scores obtained on tests developed for practice purposes were used (Önen, 2003). In the present study for the performance the actual high school entrance exam scores were obtained. Performance reflected the real achievement of the students and it was the variable that produced preparation anxiety. In the tested model performance was the last step among the variables. Variables were placed to explain their relationship to performance.

The model equally accepted all the paths that were designed between the variables. The unique relation that did not exist in the original theoretical model was the direct relation between achievement expectancy and performance. In SEM analysis, the present model required this direct relationship between achievement expectancy and performance. This showed that achievement expectancy was not only

a moderating variable but it had a direct relationship with performance. The relationship between achievement expectancy and performance was strong. This was interpreted as the students' realistic evaluations of their performance. The students who prepared for the high school entrance exam knew their potentials and the outcome of their endeavours.

Between the personal variables and the appraisal variables there was a strong negative relationship indicated by a beta value of -.86. As the perception of ineffective study skills and trait anxiety scores became higher, appraisal of the situation was affected negatively. Appraisal variables reflected the effects of personal variables on preparation anxiety. Again, a strong negative relationship indicated by a beta value of -.80 was found between the preparation anxiety and appraisal variables. It could be concluded that higher trait anxiety and perception of ineffective study skills were responsible for the negative appraisal of the preparation period with lower achievement expectancy and were related to higher preparation anxiety. Between preparation anxiety and performance two coping strategies mediated the negative effects of preparation anxiety as shown by a beta value of .44. This diminished load of anxiety is negatively related to performance. This last relation was reflected with a standardized beta of -.19. It could be concluded that preparation anxiety had a negative effect on performance. The coping efforts were helpful to a degree. As achievement expectancy had a direct relationship with performance, it had to be worked on separately to increase performance.

CHAPTER 6

DISCUSSION

From the descriptive statistics a general profile of eighth graders who were preparing for the high school entrance exam was obtained. In this section the views on students' profiles on personal variables, appraisal variables, preparation anxiety, coping and performance are presented.

The personal variables consisted of the students' trait anxiety levels and their self-evaluations of their study skills. The trait anxiety scores were gathered to obtain dispositional information about the tendencies for being anxious. The difference between dispositional trait anxiety and situational preparation anxiety, which will be dealt with in one of the following paragraphs, was thought to be worth emphasizing. As the Turkish norms for the trait anxiety existed (Öner and Le Compte, 1983), it was possible to compare the eight-graders' trait anxiety scores with the norms. Since the mean scores were comparable with those of the norm group it was concluded that the trait anxiety levels of the subjects of this study resembled those of the norm group. There was no indication that the trait anxiety levels were at a point to hinder the subjects' academic lives. This result was something to be expected, as the students who participated in this study had successfully finished seven grades and become candidates for being placed in reputable high schools.

On the scale where the study skills were measured, higher scores indicated negative characteristics, pointing to the students' perception of ineffective study skills. The range of possible scores was between 8 and 32. The mean score was 17.64 with a standard deviation of 5.06. This result, indicating a mean score close to the median, was interpreted to mean that the students felt that they had more or less

learned how to study. From the histogram it was observed that nearly half of the subjects felt that they used appropriate study skills while the other half evaluated their study skills as poor.

For the appraisal variables, students' achievement expectancies and the importance that they gave to the exam were assessed. According to the results obtained, eighth-graders had realistic expectations about their achievement levels. Achievement expectancy scores could range between 1 and 5, higher points indicating higher achievement expectancy. A mean of 3.65 with the normal distribution mirrored the students' real performance on the entrance exam as seen by the students. Hence, the subjects of the study were aware of their potential and they were neither too ambitious nor did they underestimate themselves.

The second appraisal variable was the importance given to the high school entrance exam. The distribution of these scores showed that the exam was very important for these students as should be expected. The highest possible score was 77 and the mean score of the subjects was 64.16. It should be kept in mind that the sample consisted of eighth-graders who were preparing for the entrance exam at a private institution. Their attending a preparatory institution during weekends and/or during week after their school was itself an indicator that this group of students gave a lot of importance to the high school entrance exam.

Preparation anxiety was the next and perhaps the most relevant variable in the present study. It was especially coined to examine the anxiety felt during the preparation period for the high school entrance exam. In most of the studies on test anxiety the students' anxiety levels were assessed as the anxiety felt during the confrontation phase of an exam (Hembree, 1988; Aysan et al., 2001; Önen, 2003). A specific construct to investigate the anxiety felt during the preparation phase of an

important exam was needed. Preparation anxiety was defined as the anxiety students felt during the preparation process of an important exam. It was claimed that this type of anxiety was different from the anxiety felt at the confrontation stage of an exam. Hence, it should be assessed differently. An instrument for assessing students' anxiety levels as they prepared for an important exam had to be developed. Consequently, the wording of the Turkish form of the test anxiety inventory (TAI) items were changed so that the items would reflect the anxiety felt during the preparation process. Scores obtained from this new instrument varied between 20 and 80, similar to the TAI. The higher scores indicated higher anxiety at the preparation period. The results obtained by this instrument showed that the eighth-graders in this study who were preparing for the high school entrance exam felt anxious during the preparation period, since the mean score in this study was found to be 43.05 and the standard deviation was 13.30. The median was found to be 50, the mean score obtained from the eighth-graders preparation anxiety levels was interpreted as showing that the students felt anxious up to a point. This means that the anxiety level was also interpreted as was not excessive.

Coping was a variable following appraisal and anxiety in models of the transactional theories of coping (Hunter and Boyle, 2004; Lazarus and Folkman, 1984). In this study, which examined the preparation period for a high stakes test, coping likewise was a mediator between preparation anxiety and the outcome. Two points were taken into consideration regarding coping as a variable. First, coping was defined following Lazarus and Folkman's (1984) conceptualizations. It was taken to be a situational rather than a dispositional variable. Hence, coping strategies rather than coping styles were investigated. Second, coping was specifically defined as coping with the exam anxiety as a subject based variable. Therefore a specific

instrument to measure coping with preparation anxiety was sought instead of a general coping instrument. Stöber's (2004) coping instrument COPEAU, Coping with Pre-Exam Anxiety and Uncertainty was found to have those two characteristics. The instrument was found to be appropriate for the operationalization of the coping variable in this study. The Turkish adaptation of the instrument was found to be psychometrically similar to the original form, hence it was used in the main study.

The three coping strategies defined in the study were task orientation and preparation, seeking social support and avoidance. According to the findings, eighth-graders who prepared for the high school entrance exam used all three coping strategies during the preparation process and the distribution of the three coping strategies were more or less normal. The mean values indicated that the least used coping strategy was avoidance. This finding brought into mind the idea that the avoidance type of coping strategies function against people rather than to their advantage (Carver and Scheier, 1994).

Although the main focus of this study was to examine the students' preparation period for important exams in order to guide the school counsellors who need to help test-anxious students, a second aim in the periphery was to find a relation between the variables which played a role during the preparation process and in performance. Performance was an important variable that the counselors would have to face. People who require help would usually worry about the results of the exam and also want information about the relationship between anxiety and performance. Hence, another variable that was examined in the study was performance on the high school entrance exam. The scores used in the study were the scores of the actual high school placement test. Like the other variables, the distribution of performance was also nearly normal. Another interesting finding was

that the distribution of the performance on the test was parallel to the students' achievement expectancies. This showed that the group of students who participated in the study were aware of their potentials and they had realistic opinions about themselves.

To summarize, the group of eighth-graders were quite healthy in terms of trait anxiety. They cared about the entrance exam, perceiving it as very important. They experienced realistic achievement expectancies. They had differing perceptions of their study skills. They had some preparation anxiety. They used all three strategies, namely task orientation and preparation, seeking social support and avoidance, to cope with that preparation anxiety. Accordingly, this profile showed that this group of students was comparable to any group that was in an intense preparation process for a high stakes test and could possibly be a group that a counselor would have to work with. As this profile gave information about the subjects, with nearly normal distributions, the findings from the descriptive statistics were also interpreted as showing that the sample was free from bias.

The most important finding was the prevalence of preparation anxiety, which was the focus of this study. Preparation anxiety took part as an existing component of the preparation process, differing from the anxiety felt at the confrontation phase.

Before the variables were entered into the transactional model (Zeidner, 1998), correlation coefficients between the variables and preparation anxiety and performance measures were examined. In the correlation coefficients section, two clusters of correlations presented in the results were interpreted. The first cluster comprised the interpretation of the relationship between preparation anxiety and all the other variables. The second cluster included the relationship between performance and other variables.

First, the results indicated that high correlation existed between preparation anxiety and the other variables. Preparation anxiety was the only variable that was related significantly to all the other variables that were investigated during the preparation period, indicating that the variables that were hypothesized to play a role in the students' anxiety were appropriate. The correlation coefficients between preparation anxiety and other variables ranged between -.19 and .65 and the significance level for all variables was $p<.01$. These relations pointed to the prevalence of preparation anxiety. Consequently, the existence of a new construct became apparent. Clearly preparation anxiety was a distinct form of anxiety that should be worked with.

The relationship between preparation anxiety and the coping strategies also presented valuable information. If counselors could detect the type of coping strategies that the students used, this might be an opportunity for them to raise students' consciousness and to intervene if necessary.

In the correlation section the second cluster of analyses was conducted, taking performance in the test into consideration. As cited in the discussion of the first research question, achivement expectancy and students'performance were the two variables which had similar distributions. In this section a high correlation ($r= .40$, $p<.01$) was found between performance and achievement expectancy. This result was interpreted as the students' awareness of their capacities. Eighth-graders preparing for the high school entrance exam were found to be realistic in their achievement expectations.

In the next part the results of the three research questions will be discussed. First, the gender differences between the variables were examined. Second, how the

variables changed during the preparation period was considered. Third, how empirical findings fit a theoretical model of test anxiety was tapped on.

First research question: Were there any gender differences in the students' levels of trait anxiety, study skills, achievement expectancy, importance given to the exam, preparation anxiety, coping strategies, and, performance?

In order to detect the gender difference female and male students were compared on nine variables, which were trait anxiety, perceived effectiveness of study skills, achievement expectancy, perceived importance of the exam, preparation anxiety, performance and the coping strategies. It was found that five variables out of nine showed gender differences. The female students' means on trait anxiety, preparation anxiety, task orientation coping and seeking social support coping were higher than the means of the male students. Only the achievement expectancy means of male students were higher than the female students' means.

Gender difference in appraisal was detected in the students' achievement expectancies but not in the perceived importance given to the exam. The perceived importance given to the exam showed no gender differences. This might be expected from this sample since all the students were attending an institute to prepare for the exam and almost all of them found the exam to be very important. The results only showed that they internalized their goals since the scores were high for both groups. The highest possible score on the "perceived importance" scale was 77 points. The female students' mean score was 64,9 with a standard deviation of 9,95 and the male students' mean score was 63,2 with a standard deviation of 9,67. The gender difference in appraisal was apparent in the achievement expectancy scores. Male students expected to be more successful on the entrance exams than the female students.

The gender differences in the appraisal variables were comparable with the literature. In their study Ptacek, Smith and Dodge (1994) had found that although men and women were similar in their cognitive appraisal of the situation, they nonetheless reported differences in preparatory coping. In the present study there were two appraisal variables, the importance given to the exam and achievement expectancy. Although the result for the importance given to the exam was parallel with the literature, in the present study the males' achievement expectancies were higher than the females' expectancies.

Females' scoring higher on both dispositional and situational anxiety was consistent with the literature. While preparation anxiety was the situational variable, trait anxiety was the dispositional variable. Although preparation anxiety was conceptualized and operationalized differently than test anxiety which is felt during the exam, as literature exists only on test anxiety this study's preparation anxiety results were compared with test anxiety results. According to the cross-cultural comparison of gender group differences in test anxiety for school age students, female students showed higher test anxiety scores than their male counterparts in thirteen countries: China, Czechoslovakia, Germany, Holland, Hungary, India, Iran, Italy, Jordan, Korea, Türkiye and the United States (Zeidner, 1998) in line with this study. For trait anxiety, Turkish norms were provided by Öner and Le Compte (1983) who reported no gender difference in normal conditions, but in stressful conditions females had higher levels of anxiety than males. In Taşdelen's study (1995) subjects were similar to the present study. 112 males were compared to 122 female adolescents of 14 years old. Data were gathered from schools in Istanbul. Taşdelen (1995) found that the mean score for females (43,68 with 9,48 standard

deviation) was significantly higher than the one for males (41,90 with 7,10 standard deviation).

For the gender differences in coping, as the existence of coping is meaningful when there is anxiety, females' higher scores on two types of anxiety and two types of coping makes sense. For the seeking social support coping, the findings of this study were parallel with Frydenberg's (1991, 1993) results. Females' seeking social support coping was higher than males' seeking social support both in the literature and in the present study. Nevertheless, for the task orientation coping there were differences between the literature and the findings of this study. In the present study, like seeking social support, females also had higher scores in the task orientation and preparation type of coping than male students. In the two separate studies where two different coping instruments were used, Frydenberg (1991, 1993) reported that girls used as much problem focused coping as did boys.

To summarize, there were no gender differences in study skills in personal variables, perceived importance in appraisal variables and performance. Female students' means on trait anxiety, preparation anxiety, task orientation coping and seeking social support coping were higher than the means of the male students. Males scored significantly higher than females only in achievement expectancy. Although there were gender differences in some variables, male and female students' performances on the high school entrance exam were similar. This might be interpreted to mean that female students with high anxiety and low achievement expectancy equate their vulnerability during the process by using task orientation and social support seeking types of coping. Hence, although males and females finally arrive at the same outcome they experience the preparation process differently. This

may give the counselors clues as to how to help male and female students during their preparation for high stakes tests.

Second research question: Did the levels of preparation anxiety, coping strategies, study skills and achievement expectancy change during the preparation period?

The main purpose of this research question was to consider whether any change had occurred during the preparation period. The study had to focus on the preparation process of the high school exam at two points in time, March, two months before the exam, and May, two weeks before the exam. Since the data were collected from the students of a private institution preparing the students for the high school entrance exam, March was their seventh month of preparation and May was their ninth month. 44% of the students had started to attend the institution the previous year. It was found that three of the six variables showed a significant change during this time. The levels of preparation anxiety and task orientation coping diminished, and avoidance coping increased while no change occurred in the students' study skills, achievement expectancies, and, their use of seeking social support coping strategies.

The decrease in preparation anxiety can be explained with the intensity of the preparation for the exam. It may be a factor for the descend of preparation anxiety since the students get constant feedback with various trial exams. The feedbacks might have decreased the preparation anxiety by providing information against uncertainty.

It might be expected that the change in coping would follow the change in preparation anxiety. The results showed that there was a decrease in the task orientation coping parallel to preparation anxiety. It can be claimed that the task

orientation coping became less necessary as preparation anxiety diminished. Among the coping strategies used, avoidant coping can be considered as a form of maladaptive coping. Hence, students might have had the luxury of using this type of coping as the anxiety diminished.

No change in the seeking social support type of coping can be interpreted as follows. Parallel to achievement expectancy, there might have been no need for an increase in seeking social support. It should also be emphasized that the seeking social support type of coping did not decrease. It can be concluded that as goals were formed earlier than the seventh month of the preparation, seeking social support type of coping was established earlier and it continued to be used in the seventh and ninth months. Sharing the trial exam results and the common errors that were repeated by candidates, and how the others managed to get higher scores on the trial exams continued to be subjects of the eighth-graders' casual conversations as they were in the earlier months of preparation.

Although a personal variable, the perceived study skills was not a dispositional variable. Hence, it could be expected to change. As the study skill levels did not show any change from March to May it can be interpreted that the students had already learned how to study by then. The mean was 17 on the scale that ranges between 8 and 32, higher scores showing the perception of less efficient study skills. As there was nine points between 17 and the minimum point of the scale indicating perceived efficient study skills, with additional training of study skills that can be tailored by counselors anxiety may be further diminished.

As an appraisal variable, no change in the achievement expectancy can be interpreted to mean that the candidates' expectancies about themselves, were formed before the seventh month of their preparation, probably after they got one of their

first trial exam scores, established appropriate study skills and obtained feedback from later trial exams.

Third research question: How did the empirical findings fit the theoretical model of test anxiety?

The main focus of this question was to identify the variables that were relevant to the preparation period and to detect the relations among them so that counselors would be guided in helping adolescents with preparation anxiety. A second aim was to detect the relationship between these variables and students' performance in the actual exam. This relationship can provide valuable feedback for counselors. In order to examine these relations a theoretical model (Zeidner, 1998) was hypothesized and tested through structural equation modeling (SEM). It can be useful to review the theoretical model that can be found in Appendix A.

High stakes testing situations have an advantage for examining the process of test preparation. As variables of the evaluative situations such as time constraint, mode of administration and atmosphere were the same for all the candidates in a high stakes testing, in the present study this cluster of variables was kept constant and was not added in the SEM analysis. Other than this part, data from the constructs, namely personal and appraisal variables, anxiety, coping and performance, which were entered in the hypothesized model, were found to be related to each other as proposed by Zeidner (1998). Like in the theoretical model, personal variables were stated before appraisal variables. Appraisal variables in the tested model came before preparation anxiety. Coping was the following construct, which mediated preparation anxiety's effect on performance.

Trait anxiety and study skills led to the description of personal variables. Higher scores for both variables reflected that the students had the perception of

ineffective study skills and high trait anxiety. In the accepted model, to determine personal variables while trait anxiety had a value of .79 as standardized beta, study skills' value of standardized beta was .49.

The high correlation (r=. 65, p<. 01) between preparation anxiety and trait anxiety was considered to be a signal for counselors to take the students' dispositional characteristics into consideration before any intervention. A student with a high trait anxiety score would probably be more anxious about uncertainty during preparation. Taking this into consideration, priority to intervene can be given to those who work with high trait anxiety. The second caveat for counselors came from the other high correlation coefficient between study skills and preparation anxiety (r=. 41, p<. 01). Higher scores in the instrument that measured the perception of the study skills demonstrated that candidates had self-evaluations of inefficient skills during test preparation. It was proposed that effective study skills could be taught to the students. As perception of inefficient study skills was related to preparation anxiety, counselors could lower the preparation anxiety by teaching appropriate study skills. Another solution could be asking teachers to transmit those skills in their lessons.

In various studies, appraisal variables were measured by threat, harm, challenge, indifference, beliefs or perceived importance of a stimulus. In this study the perceived importance of the high school entrance exam and achievement expectancy led to the description of the appraisal variables. The standardized beta for the importance of the exam was measured as -.45 in the model. Achievement expectancy's standardized beta was .49.

In Zeidner's (1998) model, test anxiety was at the center of the model, reflecting appraisal's effects on coping before reaching performance. In this study, as

the focus was to examine the preparation period for the high school entrance exam, the original construct of test anxiety was replaced with preparation anxiety. The SEM analysis was run to test whether the model was valid for preparation anxiety as well. After the analysis, it was found that preparation anxiety fit well into the model, similar to the test anxiety felt during the confrontation stage in the original model. This was interpreted as showing that preparation anxiety was a new construct and different from test anxiety.

Three coping strategies were included in the examination of the preparation process. While SEM analysis kept task orientation type of coping and social support seeking type of coping, avoidant coping was rejected and had to be taken out of the model. Hence, in the accepted model coping was represented by two strategies. The first strategy, task orientation and preparation strategy had a value of .54 of standardized beta. The second strategy, seeking social support, had .74 . These results showed that coping was used when anxiety was felt during exam preparation. Both coping strategies were found to be used simultaneously by the students who were preparing for the high school entrance exam.

If students use avoidant coping, since there is a negative relationship between avoidant coping and preparation anxiety ($r= -.19$, $p<.01$), to diminish preparation anxiety counselors can direct the students to task orientation which is known to be a more effective coping strategy. Furthermore, the relationship between social support coping and preparation anxiety being significantly high ($r=. 30$, $p<. 01$) indicates that anxious students prefer social support as a coping strategy. One role of the counselors might be to organize casual gatherings or more structured type of interventions like group counseling where students can exchange experiences and feelings to help them overcome test anxiety.

According to the theoretical model, the outcome could be assessed in various ways. Performance on the test was one way of operationalizing the outcome. In different studies trial exam scores were used (Önen, 2003). In the present study for performance the high school entrance exam scores were obtained. Performance reflected the real achievement of the students and it was the variable that produced preparation anxiety. In the tested model performance was the last step among the variables. The variables were placed in the model to explain their relationship to performance on the anticipated exam.

The model equally accepted all the paths between the variables that were designed. The only relation which did not exist in the original theoretical model was the direct relation between achievement expectancy and performance. In the present SEM analysis the model required a direct relationship from achievement expectancy to performance. This showed that achievement expectancy was not only a moderating variable but that it had a direct relationship with performance. The relationship between achievement expectancy and performance was strong. This was interpreted as students' realistic expectations about their performance on the high school entrance exam. The students who prepared for the high school entrance exam knew their potentials and predicted the outcome of their endeavor.

Between personal variables and appraisal variables there was a strong negative relationship indicated by a beta value of -.86. As the perception of study skills and trait anxiety scores became higher appraisal of the situation was affected negatively. Appraisal variables reflected the effects of personal variables on preparation anxiety. Again, a strong negative relationship of -.80 beta value was found between preparation anxiety and appraisal variables. It could be concluded that higher trait anxiety and perception of ineffective study skills were responsible for the

negative appraisal of the preparation period with lower achievement expectancy and higher preparation anxiety.

Between preparation anxiety and performance two coping strategies mediated the negative effects of preparation anxiety with a beta value of 0.44. This diminished anxiety was negatively related to performance. This last relation was reflected with a standardized beta of -.19. It could be concluded that preparation anxiety had a negative effect on performance. The coping efforts were helpful to a degree. As achievement expectancy had a direct relationship with performance, it had to be worked on separately to increase performance.

Before passing on to what counselors can do with this situation, it should be remembered that between performance and preparation anxiety correlation coefficients was calculated as -.26. In the SEM model a beta value of -.19 between coping and performance was found. This second finding was interpreted as coping strategies acting as mediators.

These findings could be helpful for counselors' to work with students who prepare for high stakes exams. Counselors' work can be two-fold. First, preparation anxiety can be reduced during the process. Second, performance can be increased. In order to decrease preparation anxiety, counselors can take various steps. Trait anxiety and the preparation anxiety of exam candidates can be assessed at the beginning of the preparation process. Students with high anxiety scores should be the ones to be followed since they could be susceptible to performing under their potential.

From the findings of the second research question we have inferred that the preparation anxiety levels of students who felt well prepared decreased. From the findings of the third research question we have seen that when the perception of

ineffective study skills decreases the negative appraisal of the situation disappears. As appraisal was related directly to preparation anxiety which was also related to performance mediated by coping, counselors should pay attention to how the variables are related to each other. In order to decrease preparation anxiety it might be enough to intervene only in study skills. As a summary, counselors could help the students by intervening in study skills.

In order to increase students' test performance, counselors could work to increase achievement expectancy. This means that counselors can assess the level of achievement expectancy from the beginning of the preparation process and the students with low achievement expectancy could be provided with additional help for study skills, methods for acquiring and keeping knowledge, time management and test taking strategies.

CHAPTER 7

CONCLUSION

The aim of this study was to examine the preparation period of the high school entrance exam where each year more than half million eighth-graders compete. It was expected that the findings would ultimately help counselors who work with exam candidates. More specifically, it was hoped that the findings would provide information about the anxiety felt by the eighth-graders in preparation for the high school entrance exam which would guide the counselors in their intervention for anxiety reduction.

Besides providing information about anxiety, this study also provided novelty in two areas. The first novelty was theoretical. Following Zeidner's (1998) specific transactional model and Raffety et al.'s (1997) suggestions it was focused on the preparation phase instead of exam taking phase. In this study the preparation period for an important exam was investigated. Consequently the construct of test anxiety and its measurement of test anxiety required a revision. In order to examine the preparation process the construct of preparation anxiety was put forth. For the operationalization of the new construct, the test anxiety felt during the confrontation period was substituted with preparation anxiety which underlines the preparation process. For the measurement of this new conceptualization the wording of the Test Anxiety Inventory was changed to reflect the anxiety felt during the preparation process. At the end a new measurement instrument was obtained.

Second, during the literature review a new coping instrument was discovered. Coping with uncertainty and anxiety scale (COPEAU) was a subject based instrument developed for the students. Moreover, it measured coping strategies and

not coping styles. In this study COPEAU was adapted to Turkish because COPEAU's properties were well suited for purpose of examining the preparation process . It was found that the measurement instruments' three factors were the same in the Turkish sample. As a result, in this study two new instruments were introduced to Turkish researchers.

A summary of the findings can be presented in three folds, following the research questions. The first finding was on gender differences. The girls' experiences differed from the boys' experiences in the preparation period. Female students felt more anxiety during the preparation period of the high school entrance exam. The success levels on the other hand, showed no difference. At the end the two groups' success levels were equal. The second finding focused on the process. Preparation anxiety decreased during the preparation period, from two months before the exam to fifteen days before the exam. This shows that if students felt that they were well prepared they did not feel as much preparation anxiety. The third finding indicated that Zeidner's (1998) theoretical model of test anxiety could also be valid for preparation anxiety. According to the findings obtained from structural equation modeling analysis, personal variables were related to appraisal variables, which led to preparation anxiety. This constituted the skeleton of the model. The model also showed that coping mediated preparation anxiety's effects on performance.

These findings can guide counselors to take some preventive steps. According to the knowledge provided by this study counselors can give tests of trait anxiety and preparation anxiety to students who are at the beginning of the process of preparation in order to detect which students to follow during the next period of preparation. This scanning will provide the list of students who would be most likely to suffer from anxiety during the test preparation period. Next, counselors could

provide methods for acquiring and retaining knowledge and test taking strategies together with study skills. Another intervention of the counselors can be detecting the coping strategies of the students and if the students are using more avoidant type of coping the counselor can help them to change this type of coping with task oriented or seeking social seeking types of coping.

Limitation of this study

As the data were gathered two months before the exam and 15 days before the exam the whole preparation process which starts at least 9 months before could not be reflected in the findings. Preparation anxiety showed a decrease from March to May what happened in at the very beginning, for example from October to January is not known. So the decrease in preparation anxiety should not be generalized for the months earlier than March.

Suggestions for Further Research

A design which reflects the trend in the changes which take place during the preparation period can be used. The first data should be gathered at least 8 months before the exam. In the present study it is known that 44% of the students started preparing for the high school entrance exam from the seventh grade. That's why data can possibly be collected from seventh-graders. Otherwise three shots should be the minimum number of the collection data, the first should be at least 8 months before

the exam, the second 4 months before the exam and the third 15 days before the exam.

Another suggestion would be that the best results can be obtained from a study which has a longitudinal design. In Turkey eighth-graders after three or four years of high school start preparing for the university entrance exam. Whether students' behaviors, appraisals, anxieties and coping strategies change in the long run is a valuable research question to be answered.

The data were gathered through inventories in order to reach a bigger sample. A qualitative study where students write diaries for more personal information on how they experience the preparation period could contribute to the research literature on test anxiety.

REFERENCES

Amirkhan, J. H. (1990). A factor analytically derived measure of coping: The coping strategy indicator. *Journal of Personality and Social Psychology, 59*, 1066-1074.

Amrein, A. L., & Berliner, D.C. (2002, March). High-stakes testing, uncertainty, and student learning. *Education Policy Analysis Archives*, *10* (18). Retrieved 21 March 2006 from http://epaa.asu.edu/epaa/v10n18/.

Anderson, S. B. & Sauser, W. I. (1995). Measurement of test anxiety: an overview. In C.D. Spielberger & P.R. Vagg (Eds.), *Test Anxiety: Theory, Assessment, and Treatment.* 15-33. Washington: Taylor and Francis.

Arbuckle, J.L. & Wothke, W. (1999). *Amos 4.0 User's Guide*. Chicago, IL: SPSS Inc. SmallWaters Corporation.

Aysan, F. (1994). Başaçıkma stratejisi ölçeğinin üniversite öğrncileri için geçerliği, güvenirliği. *Çukurova Üniversitesi, 1. Eğitim Bilimleri Kongresi bildiriler kitabı. Adana: Çukurova Üniversitesi, 3,* 1158-1168.

Aysan, F., Thompson, D. & Hamarat, E. (2001). Test anxiety, coping strategies, and perceived health in a group of high school students: A Turkish sample. *The Journal of Genetic Psychology, 162,4,* 402-411.

Boekaerts, M. (2002). Unraveling the mental representation students make of stressful events. In G. S. Gates & M. Wolverton (Eds.), *Toward wellness.* (pp..39-59). Greenwich, Connecticut: Information Age Publishing.

Bolger, N. (1990). Coping as a personality process: A prospective study. *Journal of Personality and Social Psychology, 59*, 525-537.

Börü, A. (2000). *Üniversite giriş sınavlarında öğrencilerin yaşadığı kaygı ve nedenleri.* Unpublished MasterTthesis, Anadolu University, Social Sciences Institute.

Brown, D., Galassi, J.P. & Akos, P. (2004). School counselors' perceptions of the impact of high-stakes testing. *Professional School Counseling, 8,1*, 31-39.

Bryne, B., M. (2001). *Structural Equation Modeling with AMOS: Basic Concepts, Applications and Programming*. Mahwah, N.J.: Lawrance Erlbaum Associates.

Casbarro, J. (2005). *Test anxiety and what you can do about it.* New York: Dude Publishing.

Carver, C. S. & Scheier, M. F., (1994). Situational coping and coping dispositions in a stressful transaction. *Journal of Personality and Social Psychology, 66*, 184-195.

Carver, C. S., Scheier, M. F., & Weintraub, J.K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology, 56*, 267-283.

Cassady, J. C. (2004). The influence of cognitive test anxiety across the learning-testing cycle. *Learning and Instruction, 14,* 569-592.

Chapman, D.W. & Snyder, C. W. (2000). Can high stakes national testing improve instruction: reexamining conventional wisdom. *International Journal of Educational Development, 20,* 457-474.

Cheek, J.R.; Bradley, L, J.; Reynolds, J. & Coy, D.(2002). An intervention for helping elementary students reduce test anxiety. *Professional School Counseling*; *Career and Technical Education*, *6, 2,* 162-164.

Cizek, G. J. & Burg, S.S. (2006). *Addressing test anxiety in a high-stakes environment: strategies for classrooms and schools*. CA: Corwin Press.

Compas, B. E. Orosan, P.G. & Grant, K. E. (1993). Adolescent stress and coping: Implications for psychopathology during adolescence. *Journal of Adolescence, 16*, 331-349.

Compas, B. E., Connor-Smith, J.K., Saltzman, H., Thomsen, A.H., Wadsworth (2001). Coping with stress during childhood and adolescence: problems, progress, and potential in theory and research. *Psychological Bulletin,127,1,* 87-127.

Curlette, W. L.; Matheney, K.B.; McCarty,C.J.; Seraphine, A.E. (2002). Assessing coping of school-aged youth: validation of the coping resources inventory scales for educational enhancement. In G.S.Gates & M. Wolverton (Eds.), *Toward Wellness,* (pp.39-59), Greenwich, Connecticutt: Information Age Publishing Inc.

Çankaya, Ö. (1997). *The relationship among test anxiety, self-esteem and academic achievement in eleventh grade students.* Unpublished Master Thesis. METU, The Graduate School of Sciences, Department of Educational Sciences.

Dounay, J. (2000). High stakes testing is high stress, too. *The Educational Digest, 65,* 9, 9-13.

Ekşi, P. (1998). *Sınav kaygısının üniversite adayı ergenlerde incelenmesi*. Unpublished Master Thesis. Marmara University, Department of Educational Sciences.

El-Zahhar, N. & Hocevar, D. (1991). Cultural and sexual differences in test anxiety, trait anxiety and arousability. *Journal of Cross-Cultural Psychology, 22,* 2, 238-249.

Endler, N. S. & Parker, J.D. (1990). Multidimensional assessment of coping. A critical evaluation. *Journal of Personality and Social Psychology, 58*, 5, 844-854.

Folkman, S., & Lazarus, R. S. (1985). If it changes it must be a process: A study of emotion and coping during three stages of a college examination. *Journal of Personality and Social Psychology, 48*, 150-170.

Frydenberg, E. (1991). Adolescent coping: the different ways in which boys and girls cope. *Journal of Adolescence, 14*, 119-133.

Frydenberg, E. (1993). Boys play sport and girls turn to others: age, gender and ethnicity as determinants of coping. *Journal of Adolescence, 16*, 253-266.

Frydenberg, E. (1997). *Adolescent coping*. London: Routledge.

Hancock, D. R (2001). Effects of test anxiety and evaluative threat on students' achievement and motivation. *Journal of Educational Research Bloomington, 94, 5,* 284-291.

Hembree, R. (1988). Correlates, causes, effects, and treatment of test anxiety. *Review of Educational Research, 58, 1*, 47-77.

Hobfoll, S.E., Dunahoo, C.L., Ben-Porath, Y. & Monnier, J. (1994). Gender and coping: The dual-axis model of coping. *American Journal of Community Psychology, 22,* 1, 49-82.

Hodapp, V., Glanzmann, P. G. & Laux, L.(1995). Theory and measurement of test anxiety as a situation-specific trait. In C. D. Spielberger & P. R. Vaag (Eds.), *Test Anxiety: theory, assessment and treatment*. (pp.47-58). Washington D.C.: Taylor and Francis.

Hunter, S. C. & Boyle, J. M. (2004). Appraisal and coping strategy use in victims of school bullying. *British Journal of Educational Psychology, 74,* 83-107.

Karakelle, N. (1995). *Öğrenci yerleştirme sınavı ile üniversitelere yerleştirilen öğrencilerden en yüksek ve en düşük puanı alan öğrencilerin akademik başarıları ile ilgili bilişsel ve bilişsel olmayan özellikleri.* Unpublished PhD Dissertation. Hacettepe University, Social Sciences Institute.

King, N.J., Ollendick, T.H., Prins & P.J.M. (2000). Test-anxious children and adolescents: Psychopathology, cognition, and psychophysiological reactivity. *Behaviour Change: Adolescent Health,17*, 3, 134-143.

Kublay, A.E. (2001). *Children's psychological well-being and mothers' stress and coping styles in an earthquake situation* Unpublished Master Thesis. Boğaziçi University, Social Sciences Institute.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer.

Lee, M. (2000). Korean examination hell: Long hours of studying, distress and depression. *Journal of Youth and Adolescence*, 29,2, 249-271.

Lüle, A.R. (2002). *Lise mezunu olup üniversiteye hazırlanan ergenlerin özerklik düzeyleri ile kaygı düzeyleri arasındaki ilişkinin incelenmesi.* Unpublished Master Thesis. Marmara University, Department of Educational Sciences.

Onwuegbuzie, A.J.& Collins, K.M. (2002). Predictors of study coping and examination-taking coping strategies among graduate students. In G. S. Gates & M. Wolverton (Eds.), *Toward wellness.* (pp..81-98). Greenwich, Connecticut: Information Age Publishing.

Önen, P. (2003). *The impact of coping strategies, test anxiety and expectancies on the university entrance trial exam scores.* Unpublished Master Thesis. Boğaziçi University, Social Sciences Institute.

Öner, N ; Le Compte, A. (1983). *Süreksiz durumluk/ Sürekli kaygı envanteri : El kitabı*. İstanbul : Boğaziçi Üniversitesi Yayınları, Yayın no: 640.

Öner, N. & Albayrak-Kaymak, D. (1987). The transliteral equivalence and the reliability of the Turkish TAI. In R. Schwarzer, H.M. van der Ploeg & C.D. Spielberger (Eds.) *Advances in test anxiety research*, 5, 227-239. Lisse, The Netherlands: Swets & Zeitlinger.

Özdemir, M. (2002). *The psychological effects of the university entrance examination on high school students: The role of self-esteem and anxiety.* Unpublished Master Thesis. METU, Social Sciences Institute.

Ptacek, J.T.; Smith, R. E. &Dodge, K.L. (1994). Gender differences in coping with stress: when stressor and appraisals do not differ. *Personality and Social Psychology Bulletin*, 20, 421-430.

Raffety, B. D., Smith, E. R & Ptacek., J.T. (1997). Facilitating and debilitating trait anxiety, situational anxiety, and coping with an anticipated stressor: A process analysis. *Journal of Personality and Social Psychology, 72*, 4, 892-906.

Rubin, S (1999). *The role of culture and other predictors in test anxiety*. Published dissertation by UMI Company, 9934570, Pace University: New York.

Seiffge-Krenke, I. (1995). *Stress, coping, and relationships in adolescence.* Mahwah, New Jersey: Lawrence Erlbaum, Publishers.

Seipp, B. & Schwarzer, C. (1996). Cross-cultural aspects of stress in academic settings. In C. Schwarzer & M. Zeidner (Eds.), *Stress, anxiety and coping in academic settings.(pp.13-68).* Düsseldorf : Francke Verlag Tübingen und Basel.

Soric, I. (1999). Anxiety and coping in the context of a school examination. *Social Behavior and Personality, 27, 3*, 319-330.

Stöber, J. (2004). Dimensions of test anxiety: Relations to ways of coping with pre-exam anxiety and uncertainty. *Anxiety, Stress and Coping, 17, 3,* 213-226.

Şahin, N. H. & Durak, A. (1995). Stresle başa çıkma tarzları ölçeği: Üniversite öğrencileri için uyarlanması. Türk Psikoloji Dergisi, 10 (34) 56-73.

Şen, S. (2005). *The relationship between coping, dimensions of perfectionism, perceived intensity of life events and depressive symptoms in Boğaziçi University students: "a test of cognitive model of depression".* Unpublished Master Thesis. Boğaziçi University, Social Sciences Institute.

Taşdelen, N. (1995). Examination of the effects of percieved psychological maltreatment of mothers, on adolescents. Unpublished Master Thesis. Boğaziçi University, Social Sciences Institute.

Yıldırım, I. (2004). Test anxiety, daily hassles, and social support as predictors of depression. (Depresyonun yordayıcısı olarak sınav kaygısı, gündelik sıkıntılar ve sosyal destek). *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 27,* 241-250.

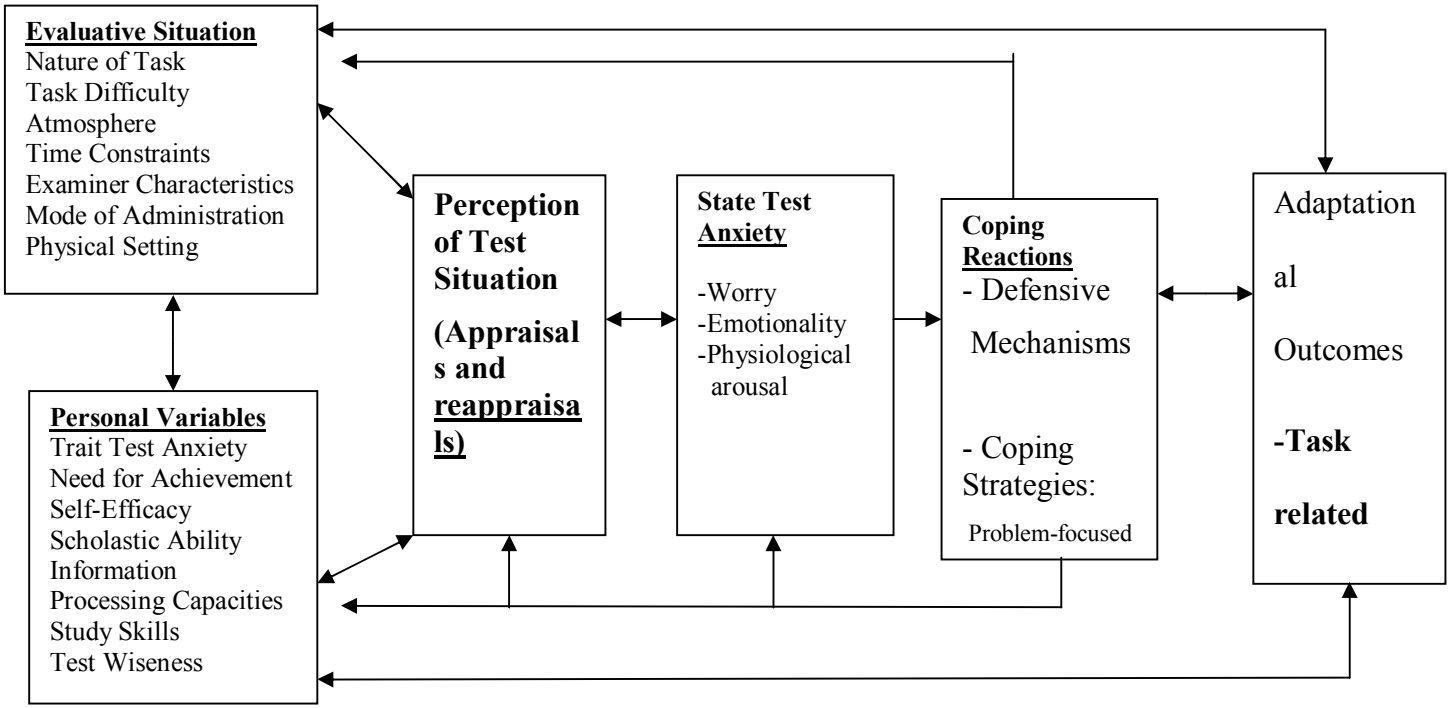
Yıldırım, I. Ergene, T. (2003). Social support, submissive acts, and test anxiety as predictors of academic achievement among high school students. (Lise son sınıf öğrencilerinin akademik başarılarının yordayıcısı olarak sınav kaygısı, boyun eğici davranışlar ve sosyal destek.) *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 25,* 224-234.

www.meb.gov.tr/index800.htm. Ministery of Education, Türkiye.

Zeidner, M. (1998). *Test anxiety: the state of the art.* New York : Plenum Press.

Appendix A: Theoretical Model

Transactional model of test anxiety. Based on Zeidner (1997 in Zeidner, 1998)



Appendix B: Demographic Form

DEMOGRAFİK FORM:

Tarih: .....

1. Adı Soyadı : …….

2. Doğum tarihi:……

3. Cinsiyeti: Kız ( ) Erkek ( )

4. Okulu: .....

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

……..

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

…….....

7. LGS (Lise Giriş Sınavı)'ye girecek misiniz? Evet ( ) Hayır ( )

Cevabınız evet ise:

8. LGS'ye hazırlanmak için ne yapıyorsunuz?

a) Sadece dersaneye gidiyorum. Evet ( )

Hayır ( )

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

Hayır ( )

c) Diğer:

……

9. Kaç senedir dersaneye gidiyorsunuz?

Bu sene başladım. ( )

İki (ya da daha fazla) senedir dersaneye gidiyorum. ( )

10. Daha önce LGS ya da ÖSS'ye girmiş ablanız / ağabeyiniz var mı? Evet ( )
Hayır ( )

11. Girdiyse kazandı mı? Evet ( ) Hayır ( )

Appendix C: Trait Anxiety Scale

SÜREKLİ KAYGI ENVANTERİ

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 D: Study Skills Rating Scale

DERS ÇALIŞMA BECERİLERİ ÖLÇEĞİ

İsim Soyadı: ..... Sınıf: ..... Tarih:.....

(İsminiz farklı günlerde size verdiğimiz testlerin karışmaması için sorulmuştur. Cevaplarınız gizli tutulacaktır.)

Lütfen aşağıdaki ifadeleri okuyun ve size ne kadar uyduğunu uygun rakamı yuvarlak içine alarak gösterin.

Bana hiç uymuyor=1 Bana biraz uyuyor=2 Bana oldukça uyuyor=3 Bana tamamen uyuyor=4.

1- Sıksık sınavlara yeterince çalışmamış olduğumu görürüm.	1	2	3	4
2- Çalışırken aklım başka yerlere gider.	1	2	3	4
3- Bir sınavdan kötü not aldığımda bu, genellikle yeterince çalışmadığım içindir.	1	2	3	4
4- Genellikle sınava çalışmayı son güne bırakırım.	1	2	3	4
5- Ders çalışırken sıklıkla zaman kaybediyormuşum gibi gelir.	1	2	3	4
6- Çoğunlukla birkaç sayfa okuduktan sonra okuduklarımı hatırlayamadığımı fark ederim.	1	2	3	4
7- Sınava çalışırken dikkatimi toplamakta zorluk çekerim.	1	2	3	4
8- Genellikle sınavlara nasıl çalışacağımı bilmem.	1	2	3	4

Appendix E: Importance Scale

Adı : ……. Soyadı: …… Tarih: …….

LGS (Lise Giriş sınavına girecek misiniz?) Evet ( ) Hayır ( )

SINAV ÖNEMİ ÖLÇEĞİ

Aşağıda LGS 2005 (Lise Giriş Sınavı) ile ilişkili olarak verilen ifadelerin, duygu ve düşüncelerinizi dikkate alarak sizin 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 sınavı kazanmama 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 F: Achievement Expectancy Scale

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

Size göre, sizin sınavı kazanma ihtimaliniz nedir?	% 0	% 25	% 50	% 75	% 100
Annenize göre, sizin sınavı kazanma ihtimaliniz nedir?	% 0	% 25	% 50	% 75	% 100
Babanıza göre, sizin sınavı kazanma ihtimaliniz nedir?	% 0	% 25	% 50	% 75	% 100
Dersane öğretmenlerinize göre, sizin sınavı kazanma ihtimaliniz nedir?	% 0	% 25	% 50	% 75	% 100

Appendix G: Preparation Anxiety Scale

Adı Soyadı: ..... Tarih: .....
(İsminiz farklı günlerde size verdiğimiz testlerin karışmaması için sorulmuştur. Cevaplarınız gizli tutulacaktır.)

SINAVA HAZIRLIK ENVANTERİ

Yönerge: Aşağıda LGS'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 **LGS sınavına hazırlanırken son bir ay içinde** nasıl hissettiğinizi gösteren yanıtı işaretleyin.

	Hiçbir zaman	Bazen	Sık sık	Her zaman
1.LGS sınavına hazırlanırken kendimi güvenli ve rahat hissediyorum	(1)	(2)	(3)	(4)
2.LGS'de alacağım puanı düşünmek sınava hazırlanırken beni olumsuz etkiliyor	(1)	(2)	(3)	(4)
3.Dersanedeki deneme sınavlarında donup kalıyorum.....	(1)	(2)	(3)	(4)
4.LGS'ye hazırlanırken bir okulu kazanıp kazanmayacağımı 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. LGS sınavına hazırlanırken kendimi huzursuz ve rahatsız hissediyorum.....	(1)	(2)	(3)	(4)
7. Dersanedeki deneme sınavları sırasında kendimi çok sinirli hissediyorum.....	(1)	(2)	(3)	(4)
8.Başarısız olma düşünceleri yüzünden dikkatimi çalışmaya veremiyorum.....	(1)	(2)	(3)	(4)
9.LGS için iyi hazırlandığımı bilsem bile kendimi oldukça sinirli hissediyorum.....	(1)	(2)	(3)	(4)
10. LGS sınavına hazırlanırken sinirlerim öylesine geriliyor ki midem bulanıyor.....	(1)	(2)	(3)	(4)

	Hiçbir zaman	Bazen	Sık sık	Her zaman
11. Deneme sınavlarının sonucunu almadan hemen önce çok huzursuz oluyorum.....	(1)	(2)	(3)	(4)
12. Deneme sınavlarında kendimi adeta başarısızlığa itiyorum.....	(1)	(2)	(3)	(4)
13. LGS'ye hazırlanma süresince kendimi çok gergin hissediyorum.....	(1)	(2)	(3)	(4)
14. LGS'ye hazırlanırken paniğe kapılıyorum.....	(1)	(2)	(3)	(4)
15. LGS'ye hazırlanmanın beni bu kadar rahatsız etmemesini isterdim.....	(1)	(2)	(3)	(4)
16. Deneme sınavlarına girmeden önce çok endişeleniyorum (kuruyorum).....	(1)	(2)	(3)	(4)
17. LGS'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 (kurmamaya) çalışıyorum, fakat yapamıyorum.....	(1)	(2)	(3)	(4)
20. LGS'ye hazırlanırken öyle sinirli oluyorum ki aslında aslında bildiğim şeyleri bile unutuyorum.....	(1)	(2)	(3)	(4)

Appendix H: Turkish Version of the Subscales of Coping Scale (COPEAU)

SINAVA HAZIRLIK ESNASINDA HİSSEDİLEN KAYGIYLA BAŞA ÇIKMA ÖLÇEĞİNİN ALT BOYUTLARI:

1) Göreve yönelme ve hazırlık (Task orientation and preparation):

1. Sınava nasıl en iyi şekilde hazırlanabileceğimi düşünürüm.
2. Sınavın nasıl üstesinden geleceğimin üzerine yoğunlaşır, gerekirse diğer işleri bir kenara bırakırım.
3. Boş zamanlarımın bir kısmını sınava hazırlanmak için kullanırım.
4. Sınava hazırlanmak için fazladan zaman ayırırım.
5. Yapılması gerekenleri adım adım yaparım.
6. Diğer etkinlikleri bir kenara bırakarak sınava odaklanırım.
7. Tüm çabalarımı sınava yoğunlaştırırım.

2) Sosyal destek arayışı (Seeking social support):

8. Benimkine benzer deneyim yaşamış kişilere böyle bir durumda ne yaptıklarını ya da ne yapacaklarını sorarım.
9. Duygularımı biriyle konuşur paylaşırım.
10. Ne yapılması gerektiği konusunda birinin tavsiyesini almaya çalışırım.
11. Arkadaş veya akrabalarımdan duygusal destek almaya çalışırım.
12. Durumumla ilgili olarak başkalarından ilgi ve anlayış görmeye çalışırım.
13. Nasıl hissettiğim konusunda biriyle konuşurum.
14. Sınav hakkında daha fazla bilgi edinmek için başkalarıyla konuşurum.

3) Kaçınma (Avoidance):

15. Herşeyin o kadar kötü olmadığına kendimi ikna ederim.
16. Sınavla ilgili düşünceleri aklımdan çıkarırım.
17. Sınavı düşünmemeye çalışırım.
18. Kafam dağılsın diye başka etkinliklere yönelirim.
19. Sınavı umursamadığıma kendimi ikna ederim.
20. Sınavı fazla düşünmemek için sinemaya giderim veya televizyon seyrederim.
21. Özellikle sınavdan başka şeyler düşünmeye çalışırım.

Appendix I : Coping Scale: Coping with Pre-Exam Anxiety and Uncertainty (COPEAU)

SINAVA HAZIRLIK KAYGISIYLA BAŞA ÇIKMA ENVANTERİ

İsim Soyadı: .....Sınıf : .....Tarih: .....

(İsminiz farklı günlerde size verdiğimiz testlerin karışmaması için sorulmuştur. Cevaplarınız gizli tutulacaktır.)

Herkes **önemli sınavlar** (örneğin testler, yazılı sınavlar gibi) **öncesinde** gerginlik, kaygı ve belirsizlik yaşar. Aşağıdaki açıklamalar gerginlik, kaygı ve belirsizlikle başa çıkma girişimlerinizi ele almaktadır.

Lütfen son bir ayı düşünerek, her maddeyi okuduktan sonra **1'den (Kesinlikle doğru değil), 6'ya (Kesinlikle doğru)** kadar olan puanlardan sizin için uygun olanını YUVARLAK İÇİNE ALIN.
Önemli sınavların öncesinde...

1. Durumumla ilgili olarak başkalarından ilgi ve anlayış görmeye çalışırım.					
Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

2. Nasıl hissettiğim konusunda biriyle konuşurum.					
Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

3. Nasıl hissettiğim konusunda biriyle konuşurum.					
Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

4. Yapılması gerekenleri adım adım yaparım.					
Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

5. Sınavın nasıl üstesinden geleceğimin üzerine yoğunlaşır, gerekirse diğer işleri bir kenara bırakırım.					
Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

6. Sınavı düşünmemeye çalışırım.					
Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

7.Arkadaş veya akrabalarımdan duygusal destek almaya çalışırım.					
Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

8.Sınav hakkında daha fazla bilgi edinmek için başkalarıyla konuşurum.					
Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

9. Diğer etkinlikleri bir kenara bırakarak sınava odaklanırım.					
Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

10. Kafam dağılsın diye başka etkinliklere yönelirim.

Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

11. Sınava nasıl en iyi şekilde hazırlanabileceğimi düşünürüm.

Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

12. Herşeyin o kadar kötü olmadığına kendimi inandırırım.

Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

13. Sınavla ilgili düşünceleri aklımdan çıkarırım.

Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

14. Tüm çabalarımı sınava yoğunlaştırırım.

Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

15. Özellikle sınavdan başka şeyler düşünmeye çalışırım.

Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

16. Duygularımı biriyle konuşur paylaşırım.

Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

17. Sınavı fazla düşünmemek için sinemaya giderim veya televizyon seyrederim.

Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

18. Sınavı umursamadığıma kendimi inandırırım.

Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

19. Boş zamanlarımın bir kısmını sınava hazırlanmak için kullanırım.

Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

20. Ne yapılması gerektiği konusunda birinin tavsiyesini almaya çalışırım.

Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

21. Benimkine benzer deneyim yaşamış kişilere böyle bir durumda ne yaptıklarını ya da ne yapacaklarını sorarım.

Kesinlikle doğru değil					**Kesinlikle doğru**
1	**2**	**3**	**4**	**5**	**6**

Appendix J : Turkish Version of the Coping Strategy Indicator (CSI)

İsim Soyadı: ..... Sınıfı:.....Tarih: .....
(İsminiz farklı günlerde size verdiğimiz testlerin karışmaması için sorulmuştur. Cevaplarınız gizli tutulacaktır.)

BAŞAÇIKMA STRATEJİSİ ÖLÇEĞİ

Açıklama : Bu çalışmada bireylerin yaşamlarında sorunlarla nasıl başa çıktığı belirlenmeye çalışılmaktadır. Aşağıda çeşitli başa çıkma yolları verilmiştir. Sizden bunları ne derece kullandığınızı belirtmeniz istenmektedir. Tüm yanıtlarınız gizli tutulacaktır.

Lütfen **sizde kaygı yaratan bir sınavın öncesini düşünerek** aşağıdaki soruları yanıtlayın.

Ne dereceye kadar ...

1. ...duygularınızı bir arkadaşınıza açtınız?
   □ Çok □ Biraz □ Hiç
2. ...probleminizin en iyi şekilde çözümlenmesi için çevrenizdeki şeyleri yeniden düzenlediniz?
   □ Çok □ Biraz □ Hiç
3. ...ne yapacağınıza karar vermeden önce bütün olası çözümleri aklınızda tartıştınız?
   □ Çok □ Biraz □ Hiç
4. ...aklınızı problemden uzaklaştırmaya çalıştınız?
   □ Çok □ Biraz □ Hiç
5. ...bir kişinin size gösterdiği sempati ve anlayışı kabul ettiniz?
   □ Çok □ Biraz □ Hiç
6. ...başkalarının yaşadığınız şeylerin gerçekten ne kadar kötü olduğunu görmemesi için elinizden geleni yaptınız?
   □ Çok □ Biraz □ Hiç
7. ...konu ile ilgili olarak başkalarıyla konuştunuz, çünkü bu konuda konuşmak kendinizi daha iyi hissetmenize yardımcı oldu?
   □ Çok □ Biraz □ Hiç
8. ...durumla başedebilmek için kendinize bazı amaçlar edindiniz?
   □ Çok □ Biraz □ Hiç
9. ...seçeneklerinizi çok dikkatli bir biçimde tarttınız?
   □ Çok □ Biraz □ Hiç
10. ... daha iyi zamanlarla ilgili hayaller kurdunuz?
    □ Çok □ Biraz □ Hiç
11. ...problemi çözmek için işe yarayan çözümü bulana dek değişik yolları denediniz?
    □ Çok □ Biraz □ Hiç
12. ...korku ve kaygılarınızı bir arkadaşınıza veya akrabanıza açtınız?
    □ Çok □ Biraz □ Hiç
13. ...zamanınızı her zamankinden çok yalnız olarak geçirdiniz?
    □ Çok □ Biraz □ Hiç
14. ...sadece konuşmak bile bazı çözümlere ulaşmanıza yardım ettiği için (yaşadığınız) durumla ilgili olarak konuştunuz?
    □ Çok □ Biraz □ Hiç
15. ...durumu düzeltmek için ne yapılması gerektiğini düşündünüz?
    □ Çok □ Biraz □ Hiç
16. ...tüm dikkatinizi problemin çözümüne yönelttiniz?
    □ Çok □ Biraz □ Hiç
17. ...aklınızda bir eylem planı şekillendirdiniz?
    □ Çok □ Biraz □ Hiç
18. ... her zamankinden daha fazla televizyon seyrettiniz?
    □ Çok □ Biraz □ Hiç

19. ... kendinizi daha iyi hissetmeniz için birisine (arkadaş ya da profesyonel bir kişi) gittiniz?
□ Çok □ Biraz □ Hiç
20. ... olayda gerçekleşmesini istediğiniz şey için kesin kararlılık gösterdiniz ve savaştınız?
□ Çok □ Biraz □ Hiç
21. ... genel olarak insanlarla birlikte olmaktan kaçındınız?
□ Çok □ Biraz □ Hiç
22. ...kendinizi bir uğraş (hobi) veya bir spor etkinliğine gömerek problemden kaçındınız?
□ Çok □ Biraz □ Hiç
23. ... problemle ilgili olarak daha iyi hissetmenize yardımcı olması için bir arkadaşınıza gittiniz?
□ Çok □ Biraz □ Hiç
24. ...durumu nasıl değiştirebileceğinizle ilişkili olarak bir arkadaşınızın tavsiyesine başvurdunuz?
□ Çok □ Biraz □ Hiç
25. ...aynı problemi yaşamış olan arkadaşlarınızın anlayış ve sempatisini kabul ettiniz?
□ Çok □ Biraz □ Hiç
26. ... her zamankinden daha fazla uyudunuz?
□ Çok □ Biraz □ Hiç
27. ... "herşey daha farklı olabilirdi" diye hayal kurdunuz?
□ Çok □ Biraz □ Hiç
28. ...romanlardaki veya filmlerdeki karakterlerle özdeşim kurdunuz?
□ Çok □ Biraz □ Hiç
29. ...problemi çözmeye çalıştınız?
□ Çok □ Biraz □ Hiç
30. ...insanların sizi kendi başınıza bırakmasını istediniz?
□ Çok □ Biraz □ Hiç
31. ... arkadaşınız veya akrabanızın size yardımcı olmasını kabul ettiniz?
□ Çok □ Biraz □ Hiç
32. ... sizi en iyi tanıyan kişilerden size güvence vermelerini istediniz?
□ Çok □ Biraz □ Hiç
33. ...ani hareketlerde bulunmaktansa dikkatlice bir hareket tarzı planlamaya çalıştınız?
□ Çok □ Biraz □ Hiç

YARDIMLARINIZ İÇİN TEŞEKKÜRLER