A PATH ANALYTIC MODEL OF PROCRASTINATION:
TESTING COGNITIVE, AFFECTIVE, AND BEHAVIORAL COMPONENTS

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I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

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ABSTRACT

A PATH ANALYTIC MODEL OF PROCRASTINATION:

TESTING COGNITIVE, AFFECTIVE, AND BEHAVIORAL COMPONENTS

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The present study investigated the multiple predictors of procrastination among university students. In the present study, a mediational causal model based on cognitive, affective, and behavioral components to procrastination was hypothesized to be tested in order to see the structural relationships among the cognitive, affective, and behavioral variables and to what extend the combination of these variables account for engaging in procrastination. The sample consisted of 1218 undergraduate students (623 female, 595 male) selected from Middle East Technical University by stratified random sampling. Turkish version of Tuckman Procrastination Scale was used to gather information for the dependent variable for the present study. Moreover, Demographic Information Form, Irrational Belief Test, Academic Self-Efficacy Scale, Rosenberg Self-Esteem Scale, Frustration

Discomfort Scale, and Self-Control Schedule were used in data collection. Pilot study was conducted for assessing the validity and reliability of the Frustration Discomfort Scale. Path analysis was utilized to test the hypothesized causal model.

The result revealed that procrastination was negatively predicted from academic self-efficacy, self-esteem, and self-regulation. The findings also validated that academic self-efficacy partially mediated the association of procrastination with discomfort intolerance and emotional irresponsibility. Self-esteem also partially mediated the association of procrastination with discomfort intolerance, with emotional irresponsibility, and with anxious overconcern. Finally the results demonstrated that the self-regulation was the strongest predictor of procrastination besides its mediation role for the relationship between procrastination and frustration discomfort beliefs; between procrastination and irrational beliefs; between procrastination and academic self-efficacy; and between procrastination and self-esteem.

Keywords: Procrastination, Cognitive, affective, and behavioral components, Self-efficacy, Self-esteem, Self-regulation.

ÖZ

ERTELEMENİN YOL ANALİZİ MODELİ İLE İNCELENMESİ:

BİLİŞSEL, DUYGUSAL VE DAVRANIŞSAL BİLEŞENLERİN SINANMASI

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Bu çalışma, üniversite öğrencilerinde ertelemenin çoklu yordayıcılarını incelemektedir. Çalışma kapsamında, bilişsel, duygusal ve davranışsal bileşenleri içeren, ara değişkenli nedensel bir model önerilmiş ve bu model çerçevesinde ele alınan değişkenler arasındaki ilişki yapısının ertelemeyi ne ölçüde yordadığı sınanmıştır. Araştırmanın örneklemi, Orta Doğu Teknik Üniversitesi'nden tabakalı seçkisiz örnekleme yöntemi ile seçilmiş 1218 (623 kız, 595 erkek) lisans öğrencisinden oluşmuştur. Veriler bağımlı değişken için Tuckman Erteleme Ölçeği; bağımsız değişkenler için Akıl Dışı İnançlar Ölçeği, Akademik Öz-yeterlik Ölçeği, Rosenberg Öz-saygı Ölçeği, Engellenmeye Tahammülsüzlük Ölçeği, Öz-kontrol Envanteri ve Demografik Bilgi Formu kullanılarak

toplanmıştır. Verilerin analizinde, önerilen ara değişkenli nedensel model yol analizi kullanılarak sınanmıştır.

Bulgular, akademik öz-yeterlik, öz-saygının ve öz-düzenlemenin ertelemeyi olumsuz yönde yordadığını göstermiştir. Bulgular ayrıca, akademik öz-yeterliğin erteleme davranışı ve engellenmeye tahammülsüzlüğün alt boyutu olan rahatsızlığa tahammülsüzlük arasında; erteleme davranışı ve akılcı olmayan inaçların alt boyutu olan duygusal sorumsuzluk arasında bir ara değişken olduğuna işaret etmektedir. Öz-saygının erteleme davranışı ve rahatsızlığa tahammülsüzlük arasında; erteleme davranışı ve duygusal sorumsuzluk arasında ve erteleme davranışı ve aşırı kaygı arasında ara değişken olduğu bulunmuştur. Sonuç olarak, bulgular ertelemenin en güçlü yordayıcısının öz-düzenleme olduğunu göstermektedir. Bunun yanı sıra; öz-düzenlemenin erteleme ve akıl dışı inançlar arasında; erteleme ve engellenmeye tahammülsüzlük arasında; erteleme ve akademik öz-yeterlik arasında son olarak erteleme ve öz-saygı arasında bir ara değişken rolü olduğunu ortaya koymuştur.

Anahtar Sözcükler: Erteleme, Bilişsel, duygusal ve davranışsal bileşenleri, Öz-yeterlik, Öz-saygı, Öz-düzenleme.

To the most precious person in my life,

To my son,

DENİZ BARAY ÖZER

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As always, thank you to my family for their love throughout the life and owe my existence. They have been there, all the time, and believe in me; that is why I am here. Particularly, I would like to express my gratitude to my father, Mustafa

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CHAPTER I

INTRODUCTION

1.1 Background to the Study

Procrastination is a phenomenon that conjures up many images. In thinking of procrastination, various scenarios may come to mind. A shopping mall, for example, on the evening of 31st December filled with customers purchasing their New Year gifts merely hours before these gifts are to be given. Or thinking about a supermarket, the day before the religious holidays, people are in rush with completing the feast preparation. And most specific example for the topic of procrastination in academic setting, a college dormitory study rooms at just before the midnight, a flustered student starting a term paper assigned at the beginning of the semester, but due the following morning.

A majority of population admits to procrastinate at least occasionally; however, a substantial minority admits to engage in procrastination habitually. An absent of a New Year Gift may not bring negative outcomes, or people may not have to welcome the guests for feast. Nevertheless, a late term paper can lower student course grades or even cause one to fail the class or dismiss the school entirely. Hence, procrastination can be seen as a stone in a student's shoes that hinders the progress and forward movement toward accomplish.

Procrastination is a tendency to put off an intended action or decision (Ferrari, Johnson, & McCown, 1995). A substantial body of literature demonstrates that procrastination is prevalent at high levels in academic setting (Harriot & Ferrari, 1996) with some estimates as high as 95% (Ellis & Knaus, 1977; Steel, 2007). It appears to be a significant problem especially among university students (Bishop, Gallagher, & Cohen, 2000; Burka & Yuen, 1983; Ellis & Knaus, 1977; Semb, Glick, & Spencer, 1979; Solomon & Rothblum, 1984). Some research findings indicated that procrastination has an injurious effect on academic performance such as poor grades and course withdrawal (Keller, 1968; Semb et al., 1979; Tan et al., 2008). So, what is the nature of procrastination and how affect students?

Simply, the general tendency to put the priority tasks to another time is called procrastination (Lay, 1986). Procrastination is not a new phenomenon. It has a long history and scientific past that goes back about 20-30 years. The purpose of procrastination seems to make one's life more pleasant but it nearly always adds stress, disorganization and failure (Clayton, 2000). The idea underlying procrastination is "later is better" and this is also a common illusion behind "tomorrow outlook". However, when tomorrow comes, the pattern resurfaces, and the students excuse themselves by promising that "I will do it tomorrow". Hence, procrastination can be seen as "tomorrow syndrome" (Knaus, 2002).

Most of the existing literature on procrastination has concentrated on the negative side of procrastination. Ferrari and Tice (2000), for instance, have depicted on

procrastination as a form of self-handicapping or it might be engaged in to protect the threatened self-esteem (Ferrari, 1991a). Hence, particularly the university population frequently seeks help from counselors and they complain about how badly this habit makes them feel (Schowuenburg, Lay, Pychyl, & Ferrari, 2004) and might bring lower level of life satisfaction. On the other hand, some other researchers (e.g., Sigall, Kruglanski, & Fyock, 2000; König & Kleninmann, 2004) have seen procrastination in a positive side. According to the researchers (Pychyl, Lee, Thibodeau, & Blunt, 2000) it is generally acknowledged that putting something off quite rational and makes individuals feel good. This is particularly true when they put some aversive tasks off and do some enjoyable instead. Some researchers identified procrastination as one means to regulate negative emotions in short term (Tice & Baumeister, 1997). In a similar vein, Sigall et. al. (2000) suggested that procrastinators are optimistic wishful thinkers. Students delay studying for the exams due to their preference of another activity such as socializing with friends. They postpone studying aided by the wishful believes that they would adequately learn the material in one night, or that the exam will be easy, etc (Sigall et. al., 2000). When procrastinating, students don't report unhappy feelings because they would be engaged in relatively enjoyable and pleasant activities (König & Kleninmann, 2004; Pychyl et al., 2000).

Some researchers have seen procrastination as a habit (Ellis & Knaus, 1977) or a personality trait (Ferrari, 1991a; Johnson & Bloom, 1995; Lay, 1986). In some cases, the researchers suggested that engaging in procrastination may be beneficial

(Choi & Moran, 2009). Chu and Choi (2005), for example, reported that some student benefits from working under time pressure and intentionally choose to procrastinate. Tice and Baumeister (1997) however, found that engaging in procrastination provides with short term pleasure but long term stress and illness. Hence, procrastination is frequently connected with negative behaviors and outcome, such as low academic performance (Carden, Bryant, & Moss, 2004; Steel, 2004; Steel, 2002), lack of self-determined motivation (Brownlow & Reasinger, 2000; Lee, 2005), various forms of anxiety (Cassady & Johnson, 2002; Chabaud, Ferrand, & Maury, 2010; Stöber & Joormann, 2001), use of irrational beliefs strategies (Beswick, Rothblum, & Mann, 1988; Schubert, Lilly, & Stewart, 2000) and it can be result in damaging mental health outcomes (Dewitte & Schouwenburg, 2002; Ferrari & Scher, 2000; Scher & Ferrari, 2000) besides negative physical health consequences (Sirois, Melia-Gordon, & Pychyl, 2003; Tice & Baumeister, 1997).

Investigating the causes of procrastination has attracted the interest of researchers, which led to the development of several models that have aimed at understanding the nature of procrastination (Dietz, Hofer, & Fries, 2007; Eun Hee, 2009; Seo, 2008). These theories has led the researchers assessing the reasons of academic procrastination and focused on various aspects of procrastination (Kachgal, Hansen, & Kevin, 2001; Schowuenburg et al., 2004). While some of the scholars have focused on affective aspects of procrastination (Chabaud et al., 2010; Himrod, 1998; Nicholson & Scharff, 2007; Pychyl et al., 2000; Rothblum, 1990;

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Stöber & Joormann, 2001; Walsh & Ugumba-Agwunobi, 2002), some others argued that cognition is important to understand delaying phenomena (Bandura, 1989; Cassady & Johnson, 2002; Sirois, 2004a; Tice, 1991). On the other side, behavioral oriented researchers focused on different variables contributing to procrastination (Ariely & Wertenbroch, 2002; Howell, Watson, Powell, & Buro, 2006; Moon & Illingworth, 2005; Senecal, Lavoie, & Koestner, 1997; Vohs et al., 2008; Wadkins, 1999).

Studies examining affective aspects of procrastination focus on the subjective discomfort associated with task delay (Burka & Yuen, 1983; Solomon & Rothblum, 1984). Specifically, the researcher found procrastination linked with anxiety and worry (Chabaud et al., 2010; Himrod, 1998; Tuckman, 1991), where in some cases negative emotions, when at peak level, can lead to decrease in procrastination (Solomon, Murakami, Greenberger, & Rothblum, 1983). Research studies investigating affective dimension emphasizes the anxiety and worry as the most negative emotions (Ferrari & Tice, 2000; Stöber & Joormann, 2001). The researchers also argued that procrastinators also prone to suffer from frustration (Ellis & Knaus, 1977; Harrington, 2005a, 2005b) particularly before deadlines.

Studies of procrastination based on the cognitive perspective investigate examine why students make conscious decision to procrastinate although it has negative consequences (Karas & Spada, 2009). Cognitive variables such as self-esteem and self-efficacy have been frequently studied associated with procrastination (Ferrari,

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Parker, & Ware, 1992; Ferrari, 1991b; Seo, 2008; Tice, 1991). For example, a proposed explanation of procrastination is that it serves as an individual's inner strategy for protecting a fragile self-esteem (Burka & Yuen, 1983). Bandura (1986) proposed another theory of procrastination when he studied the construct of self-efficacy. Ferrari, Parker and Ware (1992) found a significant negative relationship between self-efficacy beliefs and academic procrastination, suggesting lower level of self-efficacy being related to higher level of procrastination. Similarly, numerous studies have found an inverse relationship between self-esteem and self-efficacy associated with procrastination, with weak self-esteem and self-efficacy is related to more frequent procrastination (Beck, Koons, & Milgrim, 2000; Ferrari, 1994; Ferrari, 2001; Ferrari & Emmons, 1994; Lamba, 1999; Sirois, 2004a).

Procrastination studies conducted by behavioral oriented researchers have focused on the students' amount of study behavior and frequency of task delay (Beck et al., 2000). In order to assess actual procrastination behavior, in a number of studies the date of submitted term paper (Tice & Baumeister, 1997), the date of the questionnaire returned to the experimenter (Lay, 1986) the timing of quiz completion (Moon & Illingworth, 2005) or the timing of laboratory task initiation and completion (Senecal et al., 1997) have recorded. Moreover, some researchers (Ferrari & Tice, 2000; Van Eerde, 2003; Wolters, 2003) argued that self-regulation is one of the strongest behavioral predictor of procrastination. In this respect, students' self-regulation and self-control tendencies became important

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variables to assess behavioral procrastination (Ariely & Wertenbroch, 2002; Ariely, 2002; Howell et al., 2006; Klassen, Krawchuk, & Rajani, 2008).

The variability in findings has lead to a new emphasis on the complexity of procrastination with cognitive, affective, and behavioral components as a psychological phenomenon and need to conceptualize it as a multidimensional phenomenon rather than unitary construct (Rothblum, Solomon, & Murakami, 1986; Watson, 2001). Hence, multiple causes of procrastination have become increasingly popular. It might be attributable to its consistent links with a wide variety of psychological disturbances and distress.

Theoretically, procrastination includes interplay of cognitive, affective, and behavioral components (Rothblum et al., 1986). Solomon and Rothblum (1984) suggested that procrastination is not only a deficit of study habits or organization of time, but involves complex relationships of cognitive, affective, and behavioral components. Specifically, affective aspect of procrastination is associated with mood and emotions (Burka & Yuen, 1983; Ferrari, 1992; Spada, Hiou, & Nikcevic, 2006); cognitive aspect focuses on irrational and illogical factors resulting in procrastination despite negative consequences (Blunt & Pychyl, 2005; Ferrari, 1994). Behavioral component of procrastination refers to dilatory and study behavior (Solomon & Rothblum, 1984).

The failure of previous studies including limited aspects of procrastination suggests a need to be more comprehensive both with respect to theory and empirical research procedures in order to understand what procrastination is and what multiple facets predict its various indicators. In this respect, in the present study, it is expected to extend the previous research by examining the predictors of procrastination including cognitive, affective, and behavioral components. The set of cognitive, affective and behavioral variables representing procrastination that are selected for inclusion in the present study have been identified in the literature as important reasons in procrastination. The selected construct are frustration intolerance, irrational beliefs, self-efficacy, self-esteem, and self-regulation. Of particular interest to the current study is the association with multifaceted nature of procrastination highlighting its cognitive, affective, and behavioral components based on Ellis (1962)'s rational emotive behavior theory.

1.2   Purpose of the Study

The purpose of this study was to investigate the causes of procrastination in a Turkish sample by making use of the broad framework of rational emotive behavior approach. Specifically, a model was hypothesized to be tested in order to see the structural relationships among the cognitive, affective, and behavioral variables and to what extend the combination of these variables account for engaging in procrastination. As reviewed above and are presented in detailed in the following chapter, the hypothesized antecedents of procrastination were two

dimensions of irrational beliefs and frustration discomfort beliefs, academic self-efficacy, self-esteem, and self-regulation. Figure 1.1 (see on the page 10) represents the hypothesized causal model of the procrastination.
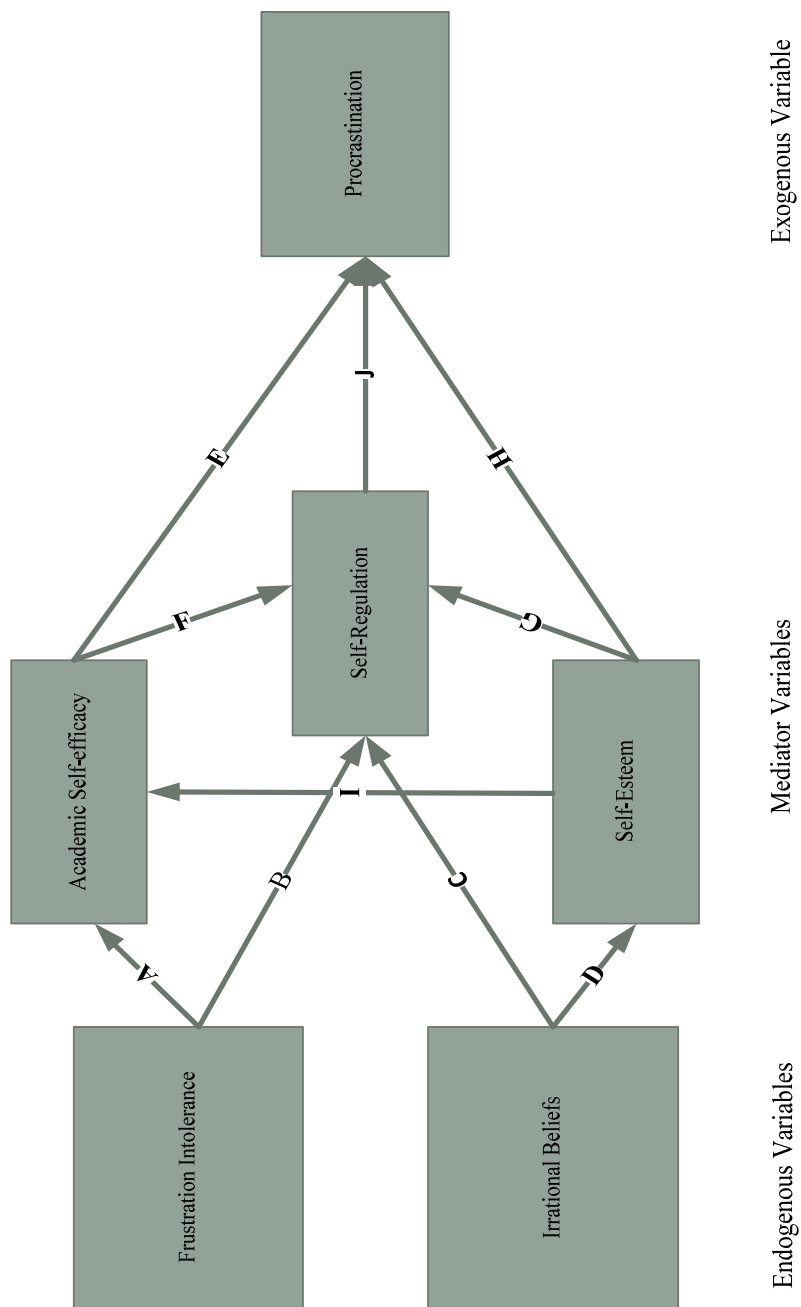
Figure 1. 1 The hypothesized causal model

The hypothesized model tested in the present study combined the independent constructs including two dimensions of frustration discomfort and irrational beliefs, academic self-efficacy, self-esteem, and self-regulation; and a dependent construct including procrastination. In the hypothesized model, moreover, academic self-efficacy, self-esteem and self-regulation were treated as mediators between procrastination and other variables. According to the model, used dimensions of frustration discomfort and irrational beliefs were hypothesized to predict academic self-efficacy and/or self-esteem and/or self-regulation; academic self-efficacy, self-esteem and self-regulation to predict procrastination; self-esteem to predict academic self-efficacy.

Thus, the present study was focused on the following research question:

To what extend the *procrastination* is predicted by the hypothesized model compromised of frustration intolerance (emotional intolerance and discomfort intolerance), irrational beliefs (emotional irresponsibility and anxious overconcern), academic self-efficacy, self-esteem, and self-regulation?

1.3 Hypothesized Model Development

Procrastination is a detrimental habit on the students' academic performance and their psychological health (Accordino, Accordino, & Slaney, 2000). According to Solomon and Rothblum (1984), it is "…the act of needlessly delaying tasks to the point of experiencing subjective discomfort" (p. 503) and studies showed that

large numbers of the students have negatively been affected by procrastination (Beck et al., 2000; Keller, 1968; Semb et al., 1979; Wesley, 1994).

The problem of procrastination has real life consequences and is not just of theoretical consideration. It is empirically clear that multiple factors contribute to procrastination (Solomon et al., 1983). Hence human behaviors resulted from a complex of several factors, and consequently the behaviors should be studied in a network that includes all of these factors (Solomon & Rothblum, 1984). Most previous studies investigating causal factors related to academic procrastination have focused on limited dimensions or variables of procrastination. Those few studies conducted in this field which have used multiple determinants of procrastination (Rothblum et al., 1986; Solomon & Rothblum, 1984) have lack of comprehensive explanations about theoretical relationships among prospective predictor variables and procrastination.

In this respect, reviewing the literature on the factors contributing to student procrastination, the researcher decided to develop a conceptual theoretical model by investigating cognitive, affective, and behavioral factors at the same time. Therefore, the present investigation is expected to extend previous research by exploring a more comprehensive set of cognitive, affective, and behavioral variables that have previously been used to predict procrastination.

As Ellis and Knaus (1977) suggested, procrastination is a self-defeating behavior energized by fear that can be modified by acting differently, thinking differently,

and developing strong feelings supporting the change of familiar patterns. To change patterns of procrastination, the Affect-Beliefs-Cognition (ABC; Ellis and Knaus, 1987) model which is the cornerstone of rational emotive behavior theory (Ellis, 1962). One reason for choosing this model is its theoretical foundation; it is based on the assumption that the process such as feeling, thinking, and acting are not disparate entities, but that they significantly overlap (Ellis, 1973).

1.4   The Development of the Path Model

In the present study, path analysis which is a causal modeling approach to explore the intercorrelations within a defined network (Duncan, 1966; Kenny, 2009; Martinussen, 2010; Pittman, 2010) including some cognitive, affective and behavioral components was used. In order to develop a path model to predict academic procrastination, individual factors which mentioned the strong influence on procrastination in academic setting in the literature were identified. All related factors which were found to be significantly associated with procrastination were presented in the following (Literature Review) chapter. To be able to predict procrastination in academic setting, however, a theoretical model needed to incorporate some of these factors in combination and suggests their interrelationships. Therefore, as suggested in the procrastination literature, the author argued the influence of cognitive, affective, and behavioral factors. Since these components stressed interactively in rational emotive behavior theory, the author decided to use the perspective.

After collecting data within selected construct, which included frustration intolerance belief, irrational belief, self-efficacy, self-esteem, and self-regulation, a correlational study was conducted. Pearson product moment correlation coefficient study was performed among all the subscales of these construct to select best predictors of procrastination statistically.

As the variables used in the path model were showed multidimensional construct, the related dimensions were selected. The selected dimensions for inclusion in the path model have been identified in the literature as the most relevant factors to explain the exogenous variable. As the most relevant dimensions, emotional intolerance and discomfort intolerance subscales were selected from the dimensions of frustration discomfort variable. Moreover, emotional irresponsibility and anxious overconcern were selected among the dimensions of irrational belief variable. Finally a model based on rational emotive behavior approach to investigate the causal factors of academic procrastination was developed.

The theoretical model set out in Figure 1.1 (see on the page 10) links eight different constructs in temporal and causal sequence. Additionally, the model is assumed to be recursive and the linkages hypothesized to be linear and additive. As depicted by the model, academic procrastination is affected by four exogenous affective variables (emotional intolerance, discomfort intolerance, emotional irresponsibility, anxious overconcern) measured midway through cognitive

variables (academic self-efficacy and self-esteem) which purport a measure a students' affective and behavioral (self-regulation) transition.

1.5   The Hypothesized Path Model

The following path model was proposed for the present study to examine the causes of academic procrastination in a Turkish sample by making use of broad framework of Ellis (1962)'s rational emotive behavior approach. Specifically, a model based on rational emotive behavior approach to academic procrastination was developed in order to see a set of relationships among the factors associated with cognitive, affective and behavioral aspects of rational emotive behavior approach and to what extend the combination of these factors account for students engaging in procrastination.

The proposed antecedents of academic procrastination for this study were emotional intolerance, discomfort intolerance, emotional irresponsibility, and anxious overconcern as exogenous variables; academic self-efficacy and self-esteem and self-regulation as endogenous variables. The details of these variables and their associations with procrastination were presented in the next chapter, literature review. Figure 1.1 presents the proposed causal model for the study.

1.6 The Hypothesized Paths

The hypothesized paths including direct and indirect effects are given below.

1.6.1 The Direct Effects of the Path Model

Path A: (Frustration Discomfort to Academic Self-Efficacy). Frustration discomfort is negatively related to academic self-efficacy; suggesting that students who have lower frustration intolerance will have higher academic self-efficacy level.

Path B: (Frustration Discomfort to Self-Regulation). Frustration discomfort is negatively related to self-regulation; students who have lower level of frustration intolerance will have higher level of self-regulation.

Path C: (Irrational Beliefs to Self-Regulation). Irrational beliefs are negatively related to self-regulation; suggesting that students who have lower level of irrational belief will have higher level of self-regulation.

Path D: (Irrational Beliefs to Self-Esteem). Irrational beliefs are negatively related to self-esteem; students who have lower level of irrational belief will have higher level of self-esteem.

Path E: (Academic Self-Efficacy to Procrastination). Academic self-efficacy is negatively related to procrastination, suggesting that students who have lower level of academic self-efficacy will have higher level of procrastination.

Path F: (Academic Self-Efficacy to Self-Regulation). Academic self-efficacy is positively related to self-regulation; students who have lower level of academic self-efficacy will have lower level of self-regulation.

Path G: (Self-Esteem to Self-Regulation). Self-esteem is positively related to self-regulation, suggesting that students who have lower level of self-esteem will have lower level of self-regulation.

Path H: (Self-Esteem to Procrastination). Self-esteem is negatively related to procrastination; students who have lower level of self-esteem will have higher level of procrastination.

Path I: (Self-Esteem to Academic Self-efficacy). Self-esteem is positively related to academic self-efficacy, suggesting that students who have lower level of self-esteem will have lower level of academic self-efficacy.

Path J: (Self-Regulation to Procrastination). Self-regulation is negatively related to procrastination; students who have lower level of self-regulation will have higher level of procrastination.

1.6.2 The Indirect Effects

Path A & E: (Frustration Discomfort to Academic Self-Efficacy to Procrastination). Frustration discomfort is negatively related to academic self-efficacy, which in turn, is negatively related to procrastination. In other words, students who have lower level of frustration discomfort will develop higher level of academic self-efficacy and will engage in lower level of procrastinate.

Path A & F & J: (Frustration Discomfort to Academic Self-Efficacy to Self-Regulation to Procrastination). Frustration discomfort is negatively related to academic self-efficacy, which in turn, positively related to self-regulation. Self-regulation, in turn, is positively related to procrastination. That is, students who have lower level of frustration discomfort will develop higher level of academic self-efficacy, leading them to have higher level of self-regulation, resulting in engaging lower level of procrastination.

Path B & J: (Frustration Discomfort to Self-Regulation to Procrastination). Frustration discomfort is negatively related to self-regulation, which in turn, negatively related to procrastination. Students who have lower level of frustration discomfort will have higher level of self-regulation and engage in lower level of procrastination.

Path C & J: (Irrational Beliefs to Self-regulation to Procrastination). Irrational belief is negatively related to self-regulation which in turn, negatively related to

procrastination. In other words, students who have lower level of irrational belief will have higher level of self-regulation and engage in lower level of procrastination.

Path D & H: (Irrational Beliefs to Self-Esteem to Procrastination). Irrational belief is negatively related to self-esteem which in turn, negatively related to procrastination. In this respect, students who have lower level of irrational belief will develop higher level of self-esteem which leads to engage in lower level of procrastination.

Path D & G & J: (Irrational Beliefs to Self-Esteem to Self-Regulation to Procrastination). Irrational belief is negatively related to self-esteem which in turn, positively related to self-regulation. Self-regulation is negatively related to procrastination. In other words, students who have lower level of irrational belief will develop higher level of self-esteem which leads to higher level of self-regulation resulting in lower level of procrastination.

1.7   Significance of the Study

Throughout the school years, responsibility of student performance gradually shifts from parents to teacher and teacher to students (Tuckman, 1991). Students become less dependent on their parents when they are children in school setting. Then they gradually independent and their learning pace are more or less determined by themselves. The self-independence reaches a high point at the

university period. Procrastination is one of the most important problems in this period since they take direct responsibility for their own learning. Many college students admits not to finish their learning assignments within expected time limits (Beswick et al., 1988; Pychyl, Morin, & Salmon, 2001) which result in their score being below average grade expectation. Some of them fail school and finally they may drop out or quit (Keller, 1968). ,

There is some empirical evidence that engaging in procrastination result in underachievement (Howell & Buro, 2009; Lubbers, Van der Werf, Kuyper, & Hendriks, 2010). Hence, it is significant to understand the nature of procrastination by investigating the multiple factors cause students to procrastinate. Most previous studies examining associated factors to procrastination have focused on limited aspects of procrastination. Solomon and Rothblum (1984) suggested that procrastination is more than a deficit of study habit or poor time management; it involves complex relationships of cognitive, affective, and behavioral components (Solomon et al., 1983). Nevertheless, little has been known about overall affects of cognitive, affective, and behavioral factors with respect to different measures of procrastination. In this respect, the present investigation is expected to extend previous research by exploring path analytic relationships among a set of cognitive, affective, and behavioral variables aimed to predict procrastination and a set of associated measures used in the past utilized to assess procrastination.

In the present study the researcher focused on rational emotive behavior approach to explain the several domain of student procrastination. In this respect, it is believed that a better understanding of the effects of a wide variety of cognitive, affective, and behavioral factors on procrastination in university students should assist educators and counselors in dealing with procrastination and their academic needs. Moreover, results of this study may contribute to the research carried out in this field in terms of understanding the causal relationships among the study variables. It is also expected that this study will contribute to the limited literature about procrastination in Turkey. Moreover, in the present study, a new measures was introduced; Frustration Discomfort Scale (FDS, Harrington, 2005). It is expected that the Frustration Discomfort Scale would encourage new studies about students' frustration intolerance associated with both procrastination and other construct.

This study was design to contribute theoretical knowledge base by measuring procrastination as suggested by Solomon and Rothblum (1984) stressing the need of studies including overall effect of cognitive, affective, and behavioral variables. Specifically, the present study built on a grounded theory of procrastination (Ellis, 1973) which stresses the need to consider cognitive, affective, and behavioral aspects of procrastination.

Although procrastination research has been considerable attention in western population in terms of its nature, cause and effect relationships, and treatment alternatives, there appear lack of studies conducted to understand the nature and

multiface of procrastination for Turkish samples in terms of grounded theories. Various aspects of procrastination was supported by taking the base of various approaches, however, there appear lack of studies conducting the overall effects of cognitive, affective, and behavioral studies even in the Western populations. In this respect, the comprehensive nature of procrastination with respect to its cognitive, affective, and behavioral components is believed to account for various factors contributing to procrastination of Turkish university students.

The present study, by making use of rational emotive behavior perspectives, attempted to test several cognitive, affective, and behavioral factors in predicting procrastination in academic setting. In this respect, findings that are obtained from the present study may also guide to the practitioners in designing appropriate intervention and treatment programs that will help students engaging in procrastination in academic tasks. The apparent prevalence of procrastination particularly in university students and the problems that often result in negative outcomes seem to justify attention of counseling professionals in order to meet the needs of students in assisting to overcome their procrastination habit.

1.8   Definition of the Terms

The terms that are used throughout the study are conceptualized and defined as follows:

Procrastination refers to the act of needlessly delaying tasks to the point of feeling subjective discomfort (Solomon & Rothblum, 1984). Operational measures of procrastination from specific self-reported behavior are assessed by Turkish version of Tuckman Procrastination Scale (Tuckman, 1991).

Frustration Intolerance identifies a belief that a person is unable to withstand the discomfort of a situation or an event (Walen, DiGuiseppe, & Dryden, 1992). Operational measure of frustration tolerance from specific self-reported emotion is evaluated by Turkish version of Frustration Discomfort Scale (FDS; Harrington, 2005) . The scale provides 4 subscales namely, emotional intolerance, discomfort intolerance, entitlement, and achievement. Two of the frustration tolerance dimensions to operationally measure affective components for the present study were Emotional intolerance and Discomfort intolerance.

Emotional Intolerance subscale reflects the belief that 'emotional distress is intolerable and must be quickly relieved or avoided' (Harrington, 2005, p.876).

Discomfort Intolerance subscale reflects the belief that life should be easy, comfortable and free of hassles, effort and inconvenience.

Irrational Beliefs refers to self-defeating absolutistic beliefs leading to inappropriate emotions that sabotage a person's life goal pursuit and attainment (Crawford *&* Ellis, 1989; Ellis, 1984). The Turkish version of Irrational Belief Test (Jones, 1969) provides 8 irrational beliefs; namely, demand for approval, high self expectation, blame proneness, emotional irresponsibility, anxious overconcern, dependency, helpless, and perfectionism. The two irrational beliefs to operationally measure affective construct for the present study were selected as anxious overconcern, emotional Irresponsibility.

Anxious Overconcern identifies the belief that in case of happening bad or dangerous events, one must concern about it and should worry (Woods, 1990).

Emotional Irresponsibility identifies the belief that persons have little control over their unhappiness or emotional disturbance since it is caused by other people or events. They also believe that everything would be all right if others would change (Woods, 1990).

Academic Self-Efficacy refers to beliefs in capability to carry out the action required to succeed in an academic task (Bandura, 1997). Operational measure of self-efficacy in academic setting result from self-reported cognitive construct is assessed by Academic Self-efficacy Scale (Jerusalem *&* Schwarzer, 1981).

Self-Esteem refers to global judgments of self worth (Roseberg, 1965). Operational measures of self-esteem result from self-reported cognitive constructs are indicated on the Rosenberg (1965) Self-Esteem Survey (SES).

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Self-Regulation refers to control the impulses to engage in behaviors that have known cost to the self (Metcalfe & Mischel, 1999). Operational measures of self-regulation from specific self-reported behavior are indicated on Turkish version of Self Control Schedule (Rosenbaum, 1980).

1.9   Limitations of the Study

In the light of this study, possible limitations should be considered. The scope of the study is limited to the data collected from undergraduate level of students namely; freshmen, sophomore, junior and senior grades, enrolled in the Middle East Technical University. When considered the students' various procrastination levels, generalization of findings to students who enrolled in the prep-school and graduate programs is limited.

Second limitation of the study might be owing to the self-report nature of the data collection. As in the present study, procrastination levels could not be assessed by multiple way of evaluation including observation of the actual academic postponement, peer and instructor ratings regarding students' procrastination tendencies, levels of procrastination is limited with the students' self-reporting.

Another limitation might be related to the study variables used in the present study. As the present study aimed at predicting procrastination with respect to cognitive, affective, and behavioral components, some of the variables including frustration discomfort, irrational beliefs, academic self-efficacy, self-esteem and

self-regulation were selected to be able to represent these constructs. Hence, in the present study, cognitive, affective, and behavioral components associated with procrastination are limited with the selected variables.

CHAPTER II

REVIEW OF THE LITERATURE

In this chapter, the research literature deemed by the author to be most relevant to the purpose of this study is summarized. This chapter includes seven sections. Definitions of procrastination are presented in the first section. The second section includes the forms of procrastination. In the third one, demographic influence on procrastination is presented. In the fourth section theoretical models of procrastination based on the present research studies are addressed. The fifth section of this chapter includes the theoretical framework of the present study. In the sixth section of this chapter presents antecedents of procrastination association with cognitive, affective, and behavioral factors. Finally, in the last section procrastination studies conducted in Turkey are given.

2.1 Definitions of procrastination

The term procrastination is derived from the Latin verb *procrastinare*, meaning to delay or postpone until another day (DeSimone, 1983 as cited in Burka & Yuen, 1993) is the combination of two words -*pro* means implying forward motion, and *crastinus*, meaning "belonging to tomorrow" (Ferrari et al., 1995).

For the contemporary definitions, the literature review present multiple ways in that procrastination is defined and conceptualized variously by the researchers and there does not appear to be a consensus on a single definition. Through all definitions include "delay" component. Senecal, Koestner, and Vallerand (1995), for example, defined procrastination as failing to perform activity within the expected time frame, although one knows and wants to complete it. Lay (1986)'s definition on procrastination also included the same content which is the failure to spend the most time on important tasks. Scher and Osterman (2002) identified procrastination as "a substantial hindrance to success" (p. 385). Similar to Picarelli (2003), Hess, Sherman and Goodman (2000) defined procrastination as "the tendency to delay a task to the point that one becomes frustrated about not completing it" (p. 61). Kachgal, Hansen, and Kevin (2001)'s approach to procrastination includes the feeling of being overwhelmed, lack of motivation, and poor time management.

Whilst, the term procrastination has the same component, delaying, the definitions are not consistent. Milgram (1991) broadened the definition by stressing four essential components of procrastination. According to him, procrastination also includes (a) a behavior chain of postponement, (b) resulting a substandard behavioral outcome, (c) involving a task perceived by the procrastinator as important to perform, and (d) concluding a state of emotional upset (Kutlesa, 1998).

It is seen in the procrastination literature, the early approaches to define the phenomenon were placed in behavioral terms. Solomon and Rothblum (1984) defined the procrastination as "the act of needlessly delaying tasks to the point of experiencing subjective discomfort" (p. 503). Some other researchers (e.g. Burka & Yuen, 1983; Lay, 1986) defined it related to task avoidance. With the increased popularity of cognitive and cognitive behavioral approaches, definitions of procrastination then moved toward inclusion of cognitive components such as irrationality (Milgram, Dangour, & Raviv, 1991; Senecal, Julien, & Guay, 2003) and failures in self-regulation (Ellis & Knaus, 1977; Ferrari, 2001; Ferrari & Tice, 2000; Knaus, 2001). Some authors also believe that there needs to be an affective component related to procrastination. Then a growing number of definitions incorporated affective components, such as discomfort associated with procrastination (Burka & Yuen, 1983; Fee & Tangney, 2000; Ferrari, 1991a; Rothblum et al., 1986). Rothblum, Solomon and Murakami (1986) explained procrastination as a complex and maladaptive (Sigall, Kruglanski, & Fyock, 2000) phenomenon with cognitive, affective, and behavioral components. In this respect, affective domain has a relationship with test anxiety and gender. Cognitive domain is involved in attributing style (internal and external) such as fear of failure and/or task aversiveness. Behavioral domain is related with the students' amount of study behavior and frequency of dilatory behavior.

To the conclusion, procrastination can be described as doing the most important tasks after the least important tasks due to some cognitive, affective, and behavioral components. In this respect, in the present study the researcher

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concentrated more on cognitive, affective, and behavioral structures of procrastination based on Ellis (1962)'s rational emotive behavior perspective.

2.2   Forms of Procrastination

Different from the past classification of procrastination, recently (Chu & Choi, 2005) provided an alternative perspective to procrastination. They suggested that not all procrastination could be harmful or are precursor of negative consequences. Specifically, they argued two types of procrastination namely active and passive procrastination.

Active procrastination is making intentional decision to procrastinate, using their strong motivation under time pressure, and ability to complete the tasks before deadlines and achieving satisfactory outcomes (Chu & Choi, 2005). This definition is similar to what Ferrari (1994) defined as 'functional procrastination' which represents an occasional, acceptable behavior including purposeful goal-oriented tactics that end up with results in success. Choi and Moran (2009) argued that active procrastination is observable behavioral characteristic including (a) preference for time pressure, (b) cognitive decision to procrastinate, (c) behavioral capacity to meet deadlines, and, (d) ability to achieve satisfactory outcome. Specifically, when active procrastinators confronted with last minute pressure, they tend to enjoy the feelings of being challenged, which lead to increase in motivation. On the contrary to passive procrastinators, active procrastinators preplan and organize their task activities although they do not stick on the rigid

time schedule. They can be able to estimate the minimum amount of time necessary to finish a task and push themselves to proceed to the goal even under the last minute pressure. Unlike passive procrastinators, they under more task-oriented coping strategies under stress. Since active procrastinators know how to motivate themselves under time pressure, they make intentional decision to procrastinate, and complete the task on time. They usually obtain satisfactory results although they procrastinate (Chu & Choi, 2005). Although procrastination has been viewed as negative phenomenon (Ellis & Knaus, 1977; Ferrari, 2001; Rothblum et al., 1986); active procrastination has positive implications for some person in terms of their self-efficacy, stress coping and performance (Choi & Moran, 2009; Chu & Choi, 2005).

Passive procrastination is traditional procrastinating. This is similar to what Ferrari (1994) defined as 'dysfunctional procrastination'. It includes postponing of a task until the last minutes due to an inability to make decision to act in a timely manner (Chu & Choi, 2005). Or people may start to do work but never finish (O'Donoghue & Rabin, 2008). Passive procrastinators generally tend to put more pleasant activity to another one without much planning or organization the time (König & Kleninmann, 2004; Pychyl et al., 2000; Sigall et al., 2000). They often fail to complete task on time, probably because they tend to underestimate the time required to complete a particular task. Unlike active procrastinators, they largely rely on emotional or avoidance coping strategies. They generally fail to control focusing on the task and tend to gravitate toward more pleasant activities than carry on the task (Tice & Baumeister, 1997). They desire immediate

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gratification of their needs, which can bring to stress in the short term, but then lead to self-defeating outcomes (Harriot & Ferrari, 1996). The procrastination research is generally classified according to four main forms of passive procrastination as (a) academic procrastination, (b) work-related procrastination (c) life routine procrastination and (d) decisional procrastination.

Academic procrastination is defined as putting off the academic tasks until the last minute (Solomon & Rothblum, 1984). The early research study conducted by Hill, Hill, Chabot, and Barral (1978) revealed that approximately 90% of the students reported to procrastinate on academic task at least occasionally, and 50% reported to engage in procrastination at least half of the time or more. It is common especially among university students (Burka & Yuen, 1983). Recently, Schouwenburg (2004) collected over 2.000 college and university students' procrastination scores and examined the prevalence of procrastination in a student population. The scores revealed that almost all students procrastinate in some degree.

Analogously, the researchers examine work-related procrastination in work settings. One of the main differences between work and academic procrastination might be the consequences of procrastination (Sokolowska, 2009). On the contrary to academic tasks which are solitary endeavors; tasks in workplaces are required team working. Thus, Hammer and Ferrari (2002) suggested that work procrastination affects performance of the team and is considered more costly than that of academic procrastination. In a prevalence study carried out with working

adults, Ferrari (1992) found that procrastination was a self-perceived problem for many. The level of perceived problem reflected an individual assessment of personal performance related to personal standards (Van Eerde, 2003).

Everyday procrastination (Life Routine Procrastination) is another form of procrastination engaged in frequently (Lay, 1986). It referred to as difficulty in scheduling time of the recruiting life routines and doing them on schedule (Lay & Brokenshire, 1997; Sigall et al., 2000). Assessments of the prevalence of procrastination tendency as a "significant problem" by 25% of adults, and almost 40% of the participants reported to have personally experienced financial loss during the past years (Ferrari et al., 1995).

The final form that the researchers classified is decisional form of procrastination defined as inability to make timely decision (Effert & Ferrari, 1989) or as repeated postponement of major life decision (Ellis & Knaus, 1977). According to Janis and Mann (1977) procrastination is a means of dealing with conflict and indecision. They suggested that when a student habitually procrastinates he/she might be deeply conflicted about what topic to choose or might be undecided about what is required. By delaying the tasks, they manage to avoid testing their abilities and require others to make decisions in their place, allowing them to attribute any failure to someone else's poor planning or decision making (Ferrari, 1994).

2.3   Demographic Influence on Procrastination

Similar to all other psychological constructs, procrastination researchers have consistently studied the influence of three possible demographic moderators (Diaz-Morales, 2006; Ferrari, Uzun Özer, & Demir, 2009) on the student procrastination: gender, age and grade levels (Ferrari et al., 1995; Haycock, McCarthy, & Skay, 1998; Jackson, Weiss, Lundquist, & Hooper, 2003; Onwuegbuzie, Collins, & Elbedour, 2003; Pychyl, Coplan, & Reid, 2002; Uzun Özer, 2009). The influences of the gender, age and grade levels on procrastination are presented below.

The influence of gender on procrastination is difficult to predict (Steel, 2004). Previous investigations including sex differences have found mixed results. Although some studies reported significant gender differences (Balkıs & Duru, 2009; Milgram, Marshevsky, & Sadeh, 1994; Pychyl et al., 2002; Schouwenburg, 1992; Stead, Shanahan, & Neufeld, 2010; Uzun Özer, Demir, & Ferrari, 2009a) on the incidence of procrastination, other studies reported no such sex difference (Ferrari, 2001; Schouwenburg, 1992).

With regard to the influence of grade level on procrastination, not much study has been conducted. The results of the limited studies revealed that time in university grade are linearly related (Balkıs & Duru, 2009; Steel, 2004; Steel, 2007; Uzun Özer, 2005). Findings revealed that the tendency for students to procrastinate increase the longer students are in university. The results of the procrastination

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have also shown differences in different grades (Collins, Onwuegbuzie, & Jiao, 2008; Johnson, Green, & Kluever, 2000). In other words, Semb, et al. (1979) stated that freshmen procrastinate the least; seniors the most. The results regarding the grade difference have shown consistency with the studies carried out with Turkish students. For instance, the findings of the study conducted by Uzun Özer et. al. (2009a) supported to the view in that they found freshmen procrastinate less than do seniors. In a cross sectional study carried out with Turkish high school, undergraduate and graduate students, Uzun Özer (2008) also found that undergraduates procrastinated more than high school and graduate students.

In the line with the grade difference, Beswick et al. (1988) found that age is another demographic variable which has influence on procrastination. Steel (2007) suggested that people procrastinate less when they age and learn. The findings of the previous studies have shown that older students endorsed to procrastinate lesser than the younger students (Beswick et al., 1988). In a recent study, Stead et. al. (2010) also found that greater age predicted lower level of procrastination.

Procrastination in academic setting has been investigated in samples from different cultures such as Netherlands (Schouwenburg, 1992), South Australia (Beswick et al., 1988), and Canada (Senecal et al., 1995). The findings revealed that cultural difference has not an influence on the frequency of procrastination, but the influence on why students procrastinate (Collins et al., 2008). The findings

of the previous cross-cultural studies supported the view that it is encountered in almost every society and does not seem to be culturally bound (Ferrari, Diaz-Morales, O'Callaghan, Diaz, & Argumedo, 2007; Prohaska, Morill, Atiles, & Perez, 2001).

To conclude, as Steel (2007) suggested, 'it is unlikely that personality traits homogenously distributed through a population' (p. 71). Hence the researchers have consistently attempted to understand the demographic influence mostly including age, gender, grade levels and cultural effects on procrastination. Given above, the findings have shown that merely age could be mostly effect on procrastination in that people procrastinate less unless they age and learn. On the other side, the anticipated effect of gender on procrastination is difficult to predict. Similarly, research results have indicated that grade levels associated to procrastination is depending on the sample from which researchers gather the data. Finally, research findings conducted to find out the cultural effects on procrastination also demonstrated that ethnicity and cultural differences are not the indicators of procrastination tendency. Procrastination is a personality trait and whether or not they are traditional or nontraditional, students may procrastinate.

2.4 Factors Contributing to Procrastination

When the sources of procrastination are considered, many causal factors contributing to academic procrastination have been found by several researchers (Brown, 1983; Kachgal et al., 2001; Schowuenburg et al., 2004).

Early investigations for the reasons of procrastination done by such clinicians as Burka and Yuen (1983) and Ellis and Knaus (1977). They suggested the role of an individual's cognitive processes as causal factors. Subsequent research studies has revealed that a number of factors are related to procrastination including evaluation anxiety (Chabaud et al., 2010; Solomon & Rothblum, 1984), difficulty in making decisions (Effert & Ferrari, 1989; Ferrari & Olivette, 1993), rebellion against control (Effert & Ferrari, 1989; Ferrari & Olivette, 1993; Uzun Özer, Saçkes, & Tuckman, 2009b), lower level of self-esteem (Klassen et al., 2008), low self-regulation (Digdon & Howell, 2008), external locus of control (Deniz, Traş, & Aydoğan, 2009), self-oriented perfectionism (Seo, 2008), lack of assertion, fear of the consequences of success, perceived aversiveness of the tasks, and overly perfectionistic standards about competency (Burka & Yuen, 1983). Some other researchers suggested similar to self-handicapping form, on which individuals have low self-competence and high fear of failure regarding their capabilities on a certain task, people might procrastinate in order to protect their threatened self–esteem (Ferrari, 1991a; Lay, Knish, & Zanatta, 1992; Meyer, 2001).

2.5   Theoretical Models of Procrastination

Investigating the causes and consequences of procrastination has attracted the interest of researchers. This interest led to the development of several models to provide comprehensive understanding regarding the nature of procrastination. The models they suggested are based on the orientations developed by pre-scientific philosophers. Even though the researchers have not agreed the definition of procrastination yet, they have related it to several cognitive, behavioral, and affective constructs. The most popular theoretical explanations of procrastination, namely psychoanalytic approach, behavioral approach and cognitive behavioral approach are summarized in this section.

2.5.1   Psychoanalytic Approach

One of the earliest attempts to explain the dynamics of procrastination was made by psychoanalytic theorists. Freud (1953) was the first who explained the avoidance behaviors with the role of anxiety. He stated that tasks are avoided primarily because they are threatening to the ego. Through delaying, the ego is protected from the risk of possible failure. Similarly, recently, Birder (1993) suggested that procrastination is a defense against impulses and separation. It is a result of psychologically or physically dangerous maturation and growth process. Hence, procrastinators can be seen as passive children who are hesitate to assert themselves actively. Nevertheless, one of the obvious problems with the psychoanalytic theory is its difficulty to empirically test (Ferrari et al., 1995).

One of the most popular theories about the etiology of procrastination is that procrastination is a self-protection of fragile self-esteem (Burka & Yuen, 1983; Tice, 1991). The theory suggested that performance is reflection of ability which is also a reflection of self-worth. This assertion reveals an equation among performance, ability and self-worth. Hence, failure at a task becomes an indicator of lack of ability and a low self- worth. Consequently, the students develop a fear of failure due to the emphasis placed on success in defining self-worth and procrastination corrupts the equation. Since performance has been impaired by time constraints; performance does not equal ability and therefore does not equal self worth. In this way, procrastination serves as an ego defensive function. Hence, procrastination is used as a protective device by people with fragile self-esteem.

Beaedsworth (1999) explains procrastination as "the relation between action and time" with psychodynamic perspective. He suggested that "procrastinator procrastinates; because his or her effects are haunted by past relations; as a result, the present and the future in which the human being is apparently engaged are refused their temporal particularity" (p. 10). Another approach of psychodynamic theorists is based on the childhood experience regarding with procrastination. They give more emphasize on the primacy of early childhood emotions that can be expressed during the personality development. Missildine (1964) is one of the authors who attempted to explain the procrastination with childhood experiences. He argued that the "procrastination syndrome" is a caused of parenting style

including "overcoerced" achievement and setting unrealistic goal for their child. When the children are unable to meet the demands and expectation of parents, they develop anxiety and feel worthless. When confronting with a task involving evaluation of their personal worth or abilities, these feelings are re-experienced and reenact. Consequently, this brings about procrastinator adults (as cited in Ferrari et al., 1995). Similarly, Rothblum et al. (1986) suggested that the parents who overly critical and demanding may cause their children's avoidance of tasks rather than risking failure. Also Davis (1999) found positive relationship between parental criticism and frequency of procrastination.

An empirical study conducted by Ferrari and Olivette (1994) supported the role of authoritarian parenting on the development of procrastinators. Eighty four young women and their parents involved in the study were administered avoidant and decisional procrastination scales besides anger expression scale. The results yielded that young daughters used procrastination as a coping mechanism to be able to release their anger at their authoritarian fathers in a more socially acceptable way.

Another empirical study done by Pychyl et al. (2002) aimed at exploring the effect and interaction between gender, maternal and paternal parenting style, and global self-worth in the prediction of procrastination in adolescence. The study including 105 adolescence yielded significant interaction between parenting styles, adolescent, gender and self-worth. Their findings also suggested for females only that while father's parenting style have greater impact on the adolescents'

procrastination, the effect of maternal authoritarian parenting on procrastination are mediated through the self-system. The results are consistent with previous research that also verified the influence on parenting style on personality difference but not the gender.

2.5.2 Behavioral Approach

Behavioral theory includes reinforcement of behaviors. Skinner (1953) suggested that behavior exists since it has been reinforced (as cited in Ferrari, et. al., 1995). According to reinforcement theory, procrastination occurs as a result of a previous history of successful procrastination. Students who procrastinate may have found other tasks that are more reinforcing than studying (Bijou, Morris, & Parsons, 1976; Shu & Gneezy, 2010). Classical learning theory emphasizes the importance of rewards and punishment on behaviors. According to McCown (1986), "behaviorists believe that procrastination is a learned habit developing from a human preference for pleasurable activities and short term rewards" (as cited in Lamba, 1999, p. 5). Another view why particularly university students procrastinate is that probably they have done it before and it worked. Generally students look back on several years of high school in which they have done consistently well despite constantly procrastinating. Then they might discover that in high school they could do things well even at the last minute (Palmer, 1998).

According to learning theory, procrastination may occur for the reason that the students has been either rewarded or not punished sufficiently for it (Ferrari et al.,

1995). Ferrari and Tice (2000) directly and experimentally tested this hypothesis in laboratory setting by examining self-reported and actual behavioral procrastination. Fifty nine undergraduate psychology students (40 women and 19 men) were given the opportunity to practice before completing a measure of their cognitive ability. During the practice period they could choose to spent time on boring, unpleasant, but evaluative task that might improve their subsequent task performance. Alternatively, participants could choose to work on an enjoyable, non-evaluative task that was not directly related to the future. After the practicing period the General Procrastination Scale Lay (1986) were administered to the participants. The results of the study demonstrated that there were no significant gender differences in General procrastination scores. Specifically, participants spent an average of 9 minutes procrastinating; that is working on a task other than the practicing task. The results also revealed that the more participants identified they were procrastinators, the more they procrastinated by spending time on trivial, unimportant and unrelated tasks.

Regarding punishment which is another important issue for behavioral theorists, Solomon and Rothblum (1984) carried out a study with 342 university students to evaluate the frequency and the reasons of procrastination. After performing factor analysis, they found "aversiveness of task" as a mostly accounted (one-fourth) factor which showed that students procrastinate on the tasks which they found "unpleasant" (Kachgal et al., 2001).

In their experimental study Senecal et al. (1995) directly evaluated the factors of aversiveness of tasks on students' academic procrastination by examining the time

management of self-reported procrastinators in a laboratory setting. Participants who were 58 female undergraduate students from introductory psychology classes were selected randomly. Four tasks, varied in their levels of interest and difficulty (interesting/easy task, interesting/difficult task, boring/easy task, and boring/difficult task), were given to participants to complete on a computer. One half of participants were informed that they would receive feedback after working on the tasks, while the others were not. The former group was also told that the activities assessed the participants' abilities to become a professional psychologist; however the latter group was informed that these activities were related to their interests. The results of the study showed that putting off aversive task was a central aspect of academic procrastination. Students who described themselves as a procrastinator were more likely to delay engaging in the boring/difficult activity.

Overall, the results showed that procrastination is not a stable personality disposition; it is a dynamic behavior that may depend on the interaction of the tasks and contexts (Moon & Illingworth, 2005).

Contemporary learning theory has broadened the traditional rewards and punishment concepts of classical reinforcement theory. In procrastination, either escaping or avoiding condition can be seen. Escape conditioning occur when a students start to perform a task and then aborts it without completed. Avoidance condition can also occur when the task is never started or is completely avoided (Ferrari, 1991a; Ferrari et al., 1995).

The stimulus that controls the avoidance can be internal and external and Solomon and Rothblum (1984) suggested that one stimulus for procrastinators is anxiety. Students who have extreme anxiety have tendency to procrastinate the tasks which is reinforcing to avoid anxiety concerned with studying (Ferrari et al., 1995; Haycock et al., 1998). Whether or not the anxiety is a reason of procrastination is a controversial issue in that while some researcher postulated anxiety as a reason of putting the tasks off (Burka & Yuen, 1983; Ellis & Knaus, 1977; Milgram, Dangour, & Raviv, 2001; Solomon & Rothblum, 1984; Stainton, Lay, & Flett, 2000) some others claimed that anxiety has a weak connection to procrastination (Lay, 1986; Lay & Silverman, 1996; McCown, Petzel, & Rubert, 1987).

2.5.3   Cognitive-Behavioral Approaches

Cognitive behavioral theorists (e.g. Ellis & Knaus, 1977) emphasized the effect of irrational fears and self-criticism on procrastination. They argued that procrastinators procrastinate since they are frequently unsure of their ability to complete a task. Knaus (2002) also suggested that believing oneself inadequate and believing the world is difficult cause a student procrastinate. Procrastination is a maladaptive behavior that stem from interactive dysfunctional cognitive and behavioral avoidance process (Ellis & Knaus, 1977), and this mechanism includes "(a) decision to delay, (b) a promise to get it later (c) engagement in substitute diversionary activities, (d) excuse making to justify delays and to gain exoneration from blame" (Knaus, 2001, p. 155).

One of the common irrational fears among students is fear of failure which is also one of the main and important reasons of academic procrastination. Fear of failure was first systematically investigated in procrastination by Solomon and Rothblum (1984). They carried out a study with university students to examine the frequency and reasons of procrastination and they found that the fear of failure accounted for almost 50% of variance in factor analysis of reasons in why students procrastinate. Fear of failure was also significantly correlated with depression, irrational cognition and anxiety. Negative association was found with punctuality or organized study habits, self-esteem and assertion. The authors concluded that procrastination in students does not only represent poor study habits or poor time management, but rather involves a complex interaction of cognitive, affective and behavioral components.

As a follow-up study, Rothblum et al. (1986) investigated cognitive, affective, and behavioral components in low and high procrastinators. Finding revealed that more than 40% of the students reported to always or nearly always procrastinate on academic tasks to the point of experiencing distress. Moreover, academic procrastination was found to be correlated with behavioral outcomes in that students with high levels of procrastination scores tended to delay self-paced quizzes and academically performed less. High procrastinators also reported to have greater anxiety and experience physical symptoms of anxiety. High procrastinators were also found to be related to dysfunctional cognitive patterns, including negative appraisal, lower self-efficacy and less self control.

Thereafter, Beswick et al. (1988) conducted a further study to examine the psychological correlates of academic procrastination in college students. The authors investigated the relationship with self-esteem, irrational thinking and indecision along with assessing time taken to complete three separate assignments. They reported a small but significant correlation between self-reported procrastination and irrational beliefs. Procrastination was also found significantly negatively correlated with self-esteem but positively correlated with anxiety and depression.

In conclusion, based on the grounded theories presented above presented above, there is some evidence to suggest that procrastination is a phenomenon that includes more dimensions than those traditionally discussed in the specific approaches. The dimensionality of procrastination should be expanded beyond the specifically focusing on cognitive, affective, and behavioral parts. Therefore, procrastination should be investigated by based on an approach which covers possibly all related constructs. In this respect, the present study focused on the multiple predictor of procrastination by approaching cognitive, affective, and behavioral aspects to understand procrastination more comprehensively. Hence in the present study the rational emotive behavior approach has been adopted to explain procrastination. The theoretical detail of the approach is presented below.

2.6 Theoretical Framework of the Study: Rational Emotive Behavior Approach

Rational emotive behavior theory (REBT) is a central theory of cognitive behavioral approach. It is a comprehensive theory of human behavior (Froggat, 2005), and a humanistic psychotherapy (Ellis, 1973). The central tenet in rational emotive behavior theory is that people live in cognitively, emotively, and behaviorally. In this regard, they develop behaviors interactively or transitionally. Their thinking intertwines with their emotion and their behavior, so they rarely, feel, or act in a pure way (Ellis, 1979). In other words, people's cognitions, emotions and behaviors all affect one another (Ellis, 1991) and that change will often produce changes in the other (Ellis, 1962). Despite this interaction, individuals' thoughts have strong influence on their emotions (Ellis & Dryden, 1997).

There appear plenty of approaches to outline the defining features of rational emotive behavior theory; however, none of them have detailed the elements comprising the name of the theory as a) rational, b) emotive, and c) behavioral theory (Dryden, 2009; Ellis, 1994). This is in line with Ellis's ABC model.

When Ellis (1962) originally established rational emotive behavior theory, he devised a simple A-B-C Model to conceptualize individuals' psychological functioning. In this framework, 'A' represents the activating event, 'B' is the

individuals' belief about that event, and 'C' represents the individuals' emotional or behavioral responses.

In line with Ellis (1962), Meichenbaum and Butler (1980) emphasized the reciprocal relationships among the cognitive, affective, and behavioral dimensions. According to the authors, individual cognition has an important impact on both emotion and behavior. Meichenbaum and Butler stated that 'emotion may put stress upon ongoing cognitive activity and interfere with the adoption and maintenance of the needed problem problem-solving set. Cognitive activity becomes negative and non-facilitative, and escalates subjective and physiological arousal. A cycle is established whereby affect, cognition and behavior all interact and feed upon each other. Affect may lead to certain negative cognitions that result in inadequate performance, that in turn lead to further escalation of the content of the cognition that further interferes with performance and so forth' (p.155).

Rational emotive behavior theory says that people are born with self-defeating tendencies. They chose their feelings when something goes against their goals. Which emotion they choose mainly depends on their belief system. They sometimes have rational set of beliefs or they frequently have irrational beliefs (Ellis, 1979). These beliefs bring emotional, behavioral and cognitive consequences. If the individual belief system is a rational, the consequent behaviors are rational and feelings are appropriate. However, if the belief system

is irrational, the feelings are inappropriate which might bring to consequent inappropriate behavior.

The explanation of affect, cognition and behavior in rational emotive behavior theory are presented in detail below.

2.6.1   Affect in Rational Emotive Behavior Approach

'Affect refers to the feeling tone a person is experiencing at any particular point in time' (Larsen, 2004, p.40). Feeling tone differs primarily on hedonic valance, but they can also vary according to felt energy or arousal. If the feeling tone is strong and has a clear cause, besides focusing on conscious awareness, the term 'emotion' is used to refer to those feelings. However, when the feeling tone is mild, and if does not have a clear cause and it has in the background of awareness, the term 'mood' is used to describe (Greenberg & Safran, 1987b; Larsen, 2004).

In rational emotive behavior theory, the beliefs are categorized as rational and irrational. In language, the rational belief is verbally expressed as a desire, preference, wish or want which are already included in emotions (Dryden, 2002).

As aforementioned, Dryden (2010) categorizes the name of the theory as 'rational', 'emotive', and 'behavior' theory. In this regard he describes the 'emotive' as relevant to one's emotion. According to the author, rational emotive

behavior theory distinguishes the emotions as its constructive and unconstructive consequences. While the former are known as unhealthy negative emotions, the letter are healthy negative emotions. In rational emotive behavior theory, emotions experienced by people are based largely on the beliefs that they hold about themselves, others and the world. More specifically, Dryden (2010) states that people unhealthy negative emotions about life's difficulties are based largely on the irrational beliefs that they hold about.

Walen et al. (1992) suggested that an important principle of rational emotive behavior theory is that 'dysfunctional thinking is a major determinant of emotional distress'. Hence the belief system includes various forms of emotions.

2.6.2   Cognition in Rational Emotive Behavior Approach

Cognition refers to an observation or perception that a person has about the world around them (Walen et al., 1992). Cognitions are important elements in human behavior. Ellis and Dryden (1987) suggested that people did not frustrate the events instead they frustrate the thoughts about that event. Therefore, Ellis claimed that people may tend to get better when they change their ways of thinking.

Rational emotive behavior approach suggests that dysfunctional (irrational) beliefs are central to emotional and behavioral problems. It also suggests that these beliefs should be classified in two separate categories (Ellis & Dryden,

1987). Therefore, in rational emotive behavior approach the two categories of dysfunctional belief are clearly differentiated (Ellis, 1979). Whereas, the first category includes the intolerance of frustration and discomfort; the second category involves the global rating of self-worth, which represents the evaluation of self-worth based on meeting certain absolute condition. Although these two categories of belief interact, they are also assumed to have an independent and unique relationship with specific psychological problems (Ellis, 1979).

Rational emotive behavior approach suggests that psychological problems may derive from either category of belief (Dryden & Branch, 2008). For example, procrastination may be related to a sense of worthlessness or the belief that the task is intolerable difficult, anxiety to fear of failure or feel loss of approval, or intolerance of anxiety, or anger to threatened self-worth or intolerance of frustration (Ellis & Knaus, 1977).

People suffering from irrational beliefs may doubt their ability to do well (i.e., low self-efficacy) and believe that any failure to perform to standard suggests inadequacy as a person (i.e., low self-esteem).

2.6.3   Behavior in Rational Emotive Behavior Approach

The term 'behavior' in rational emotive behavior theory refers to both overt behavior and action tendency which means not translated into an overt behavior. It is also one of the best ways to check out or modify a belief (Froggat, 2005).

Rational emotive behavior theory model of behavior is similar to differentiation of emotions. In this regard, there appear two types of behavior in which (a) irrational belief tend to lead which is unconstructive in effect and (b) rational belief lead which is constructive in effect. While the former is associated with unhealthy negative emotions the letter is associated with healthy negative emotions (Koffler, 2005).

2.7 Antecedents of Procrastination Associated with Cognitive, Affective, and Behavioral Factors

As mentioned in the previous chapter, the approach to the present study of procrastination was influenced by rational emotive behavior approach which point out the importance of the relationships of cognitive, affective, and behavioral variables. In this regard, a reasonably comprehensive set of cognitive, affective, and behavioral variables that have been identified in the rational emotive behavior theory literature as predictors of procrastination were identified. In the literature, frustration intolerance beliefs and irrational beliefs have been suggested as core conditions to explain procrastination. Self-esteem and self-efficacy have also been argued to be cognitive mediators. Finally, self-regulation has been studies as behavioral component of rational emotive behavior approach to explain procrastination.

2.7.1 Frustration Intolerance and Procrastination

In the current study, two related subscales of Frustration Intolerance Scale namely; emotional intolerance and discomfort intolerance were studied as contributing factors to procrastination in academic setting. They were also exogenous variables of the study.

Frustration intolerance plays an important role in rational emotive behavior therapy. It represents the demand that reality should be as we wish it to be (Ko, Yen, Yen, Chen, & Wang, 2008). It is based on a refusal to accept the difference between desire and reality (Harrington, 2005b, 2006). Nicholson and Scharff (2007) suggested frustration tolerance is important element to feel happy. Whereas some of the researchers have seen frustration as a reason for procrastination (Harrington, 2005a); some of them argues that procrastination itself is frustrating (Andreou, 2007).

Dryden (2003) suggested that a high frustration tolerance is a type of rational beliefs. A person taking a high tolerance may think that a negative event or situation is difficult to tolerate but tolerable. This belief includes two parts. In the first part, the event or situation is felt as 'difficult to tolerate' but in the second, the event or situation is felt as tolerable. In this respect, the rational emotive behavior theory emphasized the importance of frustration tolerance since people experience adaptive negative emotions and they can solve the problem.

Frustration has been seen as an obstacle in the path of some goal-directed behavior (Butterfield, 1962). In a similar vein, Ellis and Knaus (1977) suggested that frustration intolerance 'constitute the main and most cause of procrastination' (p.19). In this vein, procrastinators believe that there will be enough time to complete a task, have low frustration tolerance, and they have tendency to label themselves 'lazy' or 'unmotivated' (Froehlich, 1987). Tuckman stated that 'procrastination tends to result from a combination of (a) disbelieving in one's own capability to perform a task (Bandura, 1986), (b) being unable to postpone gratification (c) and assigning blame for one's own 'predicament' to external sources (Ellis & Knaus, 1977).

The theory literature characterize the frustration intolerance into categories, namely; intolerance of emotional distress, the intolerance of frustrated goals and hassles, and demand for fairness and immediate gratification (Dryden & Gordon, 1993). In this line, Harrington (2005a) believed that frustration intolerance beliefs has shown multivariate construct and he suggested such dimensions as emotional intolerance, discomfort intolerance, entitlement and achievement. First two components have been found more associated with procrastination. Hence in the present study emotional intolerance and discomfort intolerance was selected to explain procrastination.

2.7.1.1 Emotional Intolerance and Procrastination

Emotional intolerance reflects the feelings regarding intolerance of some negative emotions. In involves uncertainty, controllability, and aversiveness of emotion (Harrington, 2005a). Regarding emotional intolerance, Tice and Baumeister (1997) argued that procrastinators attempt to gain immediate relief from negative effect by indulging it enjoyable distraction.

Harrington (2005a) conducted a study to investigate the relationship between subscales of frustration intolerance belief scale namely discomfort intolerance, emotional intolerance, entitlement and achievement, and procrastination. Participants endorsed Frustration Discomfort Scale along with Solomon and Rothblum (1986)'s Procrastination Assessment Scale-Student and Rosenberg Self-Esteem Scale. Findings demonstrated that the emotional intolerance dimension was significantly correlated with severity of procrastination and self-esteem. The emotional discomfort subscale was also found to be correlated with lower procrastination frequency. Results of the study revealed that students who were emotionally tolerable, they had tendency to procrastinate more.

2.7.1.2 Discomfort Intolerance and Procrastination

Discomfort intolerance refers to as 'can't stand-it-it is' is based on the idea that life should be easy, comfortable and free of hassle (Froggat, 2005). Such beliefs have central concept in rational emotive behavior approach regarding frustration

intolerance (Harrington, 2005a). Low discomfort tolerance arises from demands that one not experience emotional or physical discomfort (Froggat, 2005).

Regarding discomfort intolerance, evidence revealed that individuals are more likely to procrastinate on the tasks perceived as boring, difficult or unpleasant (Ferrari & Scher, 2000; Kachgal et al., 2001; Milgram, Sroloff, & Rosebaum, 1988).

The study conducted Harrinngton (2006) by aimed examining the relationship between frustration intolerance beliefs and procrastination besides validating the Frustration Discomfort Scale (FDS, Harrington, 2005a). The participants were administered to the Frustration Intolerance Belief Scale along with Solomon and Rothblum (1986)'s Procrastination scale and Rosenberg's Self-esteem scale. Findings validated the psychometric properties of the scale. Moreover, the results of the study revealed that the discomfort intolerance dimension was significantly correlated with severity of procrastination and self-esteem. Discomfort intolerance also found to be a predictor of procrastination besides self-esteem.

In another study conducted to investigate the reliability and validity of Turkish version of the Frustration Discomfort scale (Uzun Özer & Demir, 2010). The authors examined the relationship between procrastination and discomfort intolerance as one of the dimensions of the scale. They found high positive correlation ($r = .47$) between students' level of procrastination and discomfort intolerance.

Overall within the rational emotive behavior approach and research showing that frustration tolerance is important construct for what people do and decide. Feeling frustration and ability tolerate undesirable occasions is also vital in engaging procrastination especially in academic setting. In this vein, the research findings demonstrated that studying frustration intolerance associated with procrastination is an important construct for understanding procrastination comprehensively.

2.7.2 Irrational Beliefs and Procrastination

In the current study, two related subscales of Irrational Beliefs namely; emotional irresponsibility and anxious overconcern were studied as contributing factors to procrastination. They were also treated as exogenous variables of the study.

The Bs, beliefs are the most important in the rational emotive behavior approach. The beliefs are highly evaluative and consisted of interrelated and integrated cognitive, emotional and behavioral aspects and dimensions.

Person's belief system is comprised of rational or irrational beliefs (Ellis, 1962). They are evaluations of the reality, not descriptions or predictions (Walen, DiGuiseppe, & Wesler, 1980, as cited in). In contrast to rational beliefs which are expressions of desires, hopes, wants, or preferences; irrational beliefs are the expressions of demands (versus wishes), should (versus preferences), and needs (versus wants).

Irrational belief, cognition, or thought is a broad term including several dysfunctional worldviews (Steel, 2007). Ellis (1973) identifies them as: (a) hindering the pursuit of happiness and fulfillment of desires, and (b) arbitrary or unprovable.

Despite Ellis (1962) discussed eleven irrational beliefs, more recent developments in rational emotive behavior approach suggested four categories in which irrational beliefs fall. The categories include demandingness, awfulizing/catastrophizing (Crawford & Ellis, 1989), global evaluation/self-downing, and frustration intolerance (DiGiuseppe, 1996). In this respect, demandigness refers to absolutistic requirements that articulated in the various forms such as; 'must', 'shoulds', and 'oughts'. Awfulizing/catastrophizing refers to evaluate a situation as worse than it could be. Frustration intolerance refers to the beliefs that they cannot endure a given situation; also they cannot be happy at all if their demanding does not exist. Finally, global evaluation/self-downing refers to belief that the individuals tend to excessively critical both of themselves and others and life condition (Szentagotai et al., 2005).

Irrational beliefs have been reported to be central to emotional and behavioral problems based on rational emotive behavior theory (Ellis & Dryden, 1997). Ellis and Knaus (1977) view procrastination as an emotional disturbing resulting from irrational thoughts. According to Ellis and Knaus, the irrational idea underlying procrastination is 'I must do well' prove that 'I am a worthwhile person'. Hence, once the person fails to do well, the irrational belief lead to loss of self-esteem.

Inevitably students procrastinate to protect their fragile self-esteem. Based on the theory, a number of studies conducted to find out the relationship between irrational belief and procrastination. Similar to Bridges and Roig (1997)'s study, in Beswick et al. (1988)'s study, the explanation was proved with a significant correlation. However, Ferrari and Emmons (1994) have failed to find a significant correlation between these two variables.

Ellis (1973) argues that of all possible irrational beliefs, mainly two are closely related to procrastination: believing oneself to be inadequate, and believing the world is too difficult and demanding. Later researchers followed Ellis and Knaus view have investigated the prevalence of irrational beliefs among the procrastinators. Close attention particularly has been paid to fear of failure, perfectionism and evaluation anxiety (see in Steel, 2007). Through clinical work, irrational beliefs have been found to be the major source of procrastination (Burka & Yuen, 1983; Ellis & Knaus, 1977). However, empirical surveys results have been found to be irregular and somewhat weak. Through, perfectionism generates more consistent findings (Steel, 2007).

2.7.2.1 Emotional Irresponsibility and Procrastination

Emotional irresponsibility is another dimension of irrational belief (Ellis, 1962). Emotional Irresponsibility identifies the belief that persons have little control over their unhappiness or emotional disturbance since it is caused by other people or events. They also believe that everything would be all right if others would

change. In this irrational form, people distracted not for external events but for its interpretation. These kinds of thought results in individuals attribute all the responsibilities to others.

Meyer (2010) stated that how people feel well depends on their emotional responsibility. The rational way of interpreting 'People make me angry' is 'I am angry, because…' In this respect, Meyer emphasized the importance of rational explanation of feelings.

In their study Bridges and Roig (1997) categorize students as high, moderate, and low procrastinator by using Solomon and Rothblum's Procrastination Assessment Scale. Then they compare the high and low procrastinators' irrational belief scale scores by considering the subscales including emotional irresponsibility. They found no significant difference between high and low procrastinators' emotional irresponsibility scores but gender difference. Due to the occurrence of sex difference in emotional irresponsibility, they conducted additional correlational analysis among the students' procrastination scores and irrational belief subscales. They did not found significant correlation between the procrastination and emotional irresponsibility.

Overall results regarding the irrational beliefs on procrastination in academic setting have showed that developing irrational thoughts instead of rationales could make students procrastinate more. The findings of the previous studies some of which presented above revealed that various irrational beliefs have been the

important predictors of procrastination. The most related construct included in irrational beliefs could be emotional irresponsibility and anxious overconcern.

2.7.2.2 Anxiety and Procrastination

Following up emotional irresponsibility, the researchers have also explored anxiety as a source of procrastination (Solomon & Rothblum, 1984; Tuckman, 1991). In the present study, anxious overconcern which is one of the irrational beliefs to describe anxiety in the Ellis's framework was used as one of the affective variables. Ellis (1962) stated that overgeneralization may bring anxiety. Anxiety is one of the unhealthy negative emotions derived from irrational beliefs (Dryden & Branch, 2008). Whereas, some studies revealed a correlation between anxiety and procrastination, some others did not support anxiety as a source of procrastination. Some researchers (e.g., Cassady & Johnson, 2002; Milgram, et al., 1991), for example, reported that students with high anxiety procrastinated more than others. On the other hand, in the study conducted by Stöber and Joormann (2001), any significant correlation was found between procrastination and anxiety. In the study conducted by Onwuegbuzie (2004), anxiety was found to be a mediator between the research performance and some other variables including academic procrastination. In the other studies, on the contrary, the researchers found that procrastination has negatively linked with anxiety (Tuckman, 1991), where in some cases negative emotions, when it is at peak level, can lead to decrease in procrastination (Solomon et al., 1983).

Different forms of anxiety, namely state and trait anxiety (Lay, 1989), cognitive test anxiety (Cassady & Johnson, 2002; Rothblum et al., 1986), statistics anxiety (Onwuegbuzie, 2004) and social anxiety (Ferrari, 1991a) have been studies associated with procrastination and provide better understanding why students procrastinate. Some of the selected studies are presented below.

The study conducted by Onwuegbuzie (2004) aimed at examining the prevalence of procrastination and investigating the relationship between procrastination and six dimensions of statistic anxiety. Sample involved in the study were administered to Statistical Anxiety Rating Scale and Procrastination Assessment Scale-Students. The results of the study revealed that high percentage of students reported problems with procrastination on writing term papers, studying for exams, and completing weekly reading assignments. The findings also supported that academic procrastination resulting from fear of failure and task aversiveness was related to interpretation anxiety, test and class anxiety, and fear of asking for help.

Owens and Newbegin (2000) conducted a correlational study aimed to examine the relationship between academic procrastination, academic esteem, anxiety and academic achievement. The subjects involved in the study were male students attending a Catholic high school in Melbourne, Australia selected randomly. Results yielded that there was a positive relationship between anxiety and academic procrastination. Academic procrastination had also a direct relationship

with anxiety but was not directly related to esteem. The data supported also the negative relationship between academic procrastination and grade scores.

Another correlational study carried out by Cassady and Johnson (2002) aimed at two goals; establishing the reliability and validity of a new test anxiety measure and examining the relationships among cognitive test anxiety and gender, procrastination, emotionality and student performance. One hundred and sixty eight students participated in the study and they were administered Procrastination Questionnaire, Cognitive Test Anxiety Scale, and self-reported sheet that requested their age, sex, and Scholastic Aptitude Test (SAT) scores. The participants' test performance was evaluated by the scores obtaining from three multiple-choice exams. Test 1 was administered 5 weeks before the test anxiety and procrastination scale, Test 2 was given participants 2 days after the completion of study instruments and finally test 3 was taken during the university finals week. The results of the study revealed that high test anxiety caused students to perform poorly on a test. It was also found that as high test anxiety is causative determinant of test performance and this is a consequence of poor performance, procrastination occurs. The results also demonstrated that although female reported higher levels of test anxiety, there were no observed gender differences in course examination performance.

Overall within the research result regarding the role of anxiety on procrastination in academic setting, each forms of anxiety has strong influence on frequency of

procrastination. Various forms of anxiety could be cause to engage in procrastination or could be the results from postponing academic tasks.

2.7.3   Self-Esteem and Procrastination

In the present study, self-esteem was studied as cognitive contributing factors to procrastination in academic setting. It was also one of the endogenous variables of the study.

Self-esteem is a term that has various meanings. It refers to global judgments of self-worth, self-respect, or self acceptance or to domain specific (selective; evaluations of aspects of the self (Roseberg, 1965). Global and domain specific self-esteem may also be trait, which is generally stable over time or state which fluctuates in terms of the immediate circumstances or situation (Crocker & Wolfe, 2001).

In a broad term, self-esteem is used to a personality variable that represents the way people generally feel about themselves. As its enduring time and situation, researchers classified self-esteem as global self-esteem and trait-self-esteem (Kernis, 2006). Depiction of global self-esteem is range widely. Some researchers take a cognitive approach and assume that global self-esteem is a decision people make about their worth as a person (Coopersmith, 1967; Crocker & Park, 2004; Crocker & Wolfe, 2001). In a different view Dweck (1999) described self-esteem as how people feel when they are striving wholeheartedly for worthwhile

thinking, how they experience themselves when they are using abilities to the fullest in the service of what they deeply value (p. 128).

Crocker and Park (2004) suggested that when people want to validate their worth, they may feel particularly challenge to succeed but react to treats in ways they are destructive or self-destructive. They interpret the events and feedback to obtain meaning about the self, they challenge to negative information about the self, and they are preoccupied with themselves at the expense of others. They feel anxious when success is uncertain, then they do things to decrease the probability of success but create excuses for failure, such as self-handicapping or procrastination (Crocker & Park, 2004; Ferrari, 1991b; Urdan & Midgley, 2001).

Guindon (2010) suggested that what individuals choose to do and the way they do it depend on their self-esteem. The conceptualizations of self-esteem have been inconsistent. Countless of studies (Beck et al., 2000; Eggens, van der Werf, & Bosker, 2008; Klassen et al., 2008), for example, suggested self-esteem as the antecedent of performance; while others view it as consequent component. Some of the recent studies, on the other hand, suggested that self-esteem is a mediator between the emotions and behaviors.

Self-esteem has been considered an important contributing factor to the explanation of procrastination. It refers to judgments of global self-worth (Roseberg, 1965). Burka and Yuen (1983) suggested that individuals procrastinate to protect their fragile sense of self-esteem. In the study conducted by Beswick et

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al. (1988), self-esteem was one of the three possible explanations for procrastination along with irrational beliefs. In this sense, another key to understanding procrastination in academic settings may be self-esteem (Klassen et al., 2008). Flett, Blankstein, and Martin (1995) suggested that procrastinators suffer from lower level of self-esteem which cause to a general tendency to turn it in behavior like task delay or avoidance that protect self-presentation by providing an excuse for poor performance and negative outcomes. In this respect, numerous studies have found a significant inverse relationship between academic procrastination and self-esteem (e.g., Ferrari, 1994; Ferrari, 2001), whereby feelings of worthlessness cause to task avoidance that might results in failure (Ferrari, 2000).

The relationship between procrastination and self-esteem has received considerable attention in the procrastination literature (Beck et al., 2000; Effert & Ferrari, 1989; Ferrari, 2000; Solomon & Rothblum, 1984), with the results showing negative correlation with procrastination. On the contrary to general findings, Beck, et al. (2000) did not find significant correlation between self-esteem and procrastination. Some of the selected empirical studies are presented below.

Lekich (2006) conducted a correlation study aimed at examining relationship between academic motivation, self-esteem and procrastination in college students. Results of the study revealed that intrinsically motivated students with high self-esteem had low score on measure of procrastination. On the contrary, student with

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extrinsically motivated students with low self-esteem had highest score on procrastination.

Beck et al. (2000) carried out two experimental studies to assess the predictors of academic procrastination and the impact of this behavior on university students' exam performance. In the first experiment, 411 undergraduate students (282 female, 129 male) from a medium size, rural, public university were participated. After completing Procrastination Assessment Scale-Student (PASS), Self Handicapping Scale-Short form (SHS) and Self-Consciousness Scale (SCS), the subjects took part in an experiment entitled "Personality Factors and Test-Taking Behaviors." The results showed that Self-Handicapping was significantly correlated with Public Self-Consciousness and Social Anxiety but not with Private Self-Consciousness. Procrastination was not significantly correlated with any of the Self-Consciousness subscales. Also, the results demonstrated that high academic procrastinators evidenced more delays on exam preparation than low academic procrastinators, and significant main effects were found for the procrastination and self-handicapping on participant's test performance. In the second experiment, similar to Experiment 1 Procrastination Assessment Scale-Student (PASS), Self Handicapping Scale-Short form (SHS), Self-Consciousness Scale (SCS) and "Personality Factors and Test-Taking Behaviors" were administered to students recruited from the same medium size, rural, state university. The result showed that there were significant main effects for each independent variable with participants scoring high on academic procrastination, self-handicapping and self-esteem delaying more on exam preparation than their

counterparts. The main effects were qualified by a significant interaction between self-handicapping and self-esteem.

Ferrari (2001) carried out a correlational study with the participants of undergraduate students enrolled in introductory psychology courses at medium size, private Midwestern University. The study aimed to examine whether behavioral (arousal and avoidance) and cognitive (indecision) forms of procrastination were related to attention deficit, boredom proneness, self-esteem and intelligence. The results revealed that different forms of procrastination were related positively with external stimulation, affective responses, and perception of time; and negatively with internal stimulation. Furthermore, all three forms of (decisional, arousal, and behavioral) procrastination was significantly correlated with attention deficit, namely: inattention, impulsivity, underactivity, disorganization, moodiness, and emotional difficulty.

Overall within the self-esteem theory and research showing that everything humans think, behave and feel relates to their perceptions of self-worth. In this vein, the findings of the previous research demonstrated that the student self-esteem has been a strong predictor of procrastination besides its possible mediating role between procrastination and other variables.

2.7.4 Self-Efficacy and Procrastination

Academic self-efficacy was studied as another cognitive contributing factor to procrastination for the present study. It was also the other endogenous variables of the study. Since the procrastination was examined particularly in academic setting, in the present study, academic self-efficacy was purposefully selected to use to assess students' self-efficacy regarding their academic environment.

Some researchers (e.g. Ferrari, et al., 1992; Klassen & Kuzucu, 2009; Tuckman, 1991) suggested that another key to understanding procrastination might be self-efficacy. Self-efficacy reflects beliefs about individuals' ability to successfully achieve a desired outcome (Bandura, 1977). Bandura (1977, 1986, 1997) consistently suggested self-efficacy beliefs as the most powerful mediator of behavior. It usually affects cognitive functioning (Bandura, 1989, 1997; Rothman, Baldwin, & Hertel, 2004). Bandura (1986) argues that when one's self-efficacy is weak, it reduces expectancy about success, damages motivation, and ultimately hinders task initiation and persistence which may cause procrastination. A person's belief of competence in a particular behavior provides an important link between his/her self-beliefs about his/her academic competencies and procrastination. In a similar vein, research findings revealed that procrastinators tend to have a lower level of self-efficacy than non-procrastinators (Tuckman, 2007).

Bandura (1997) explain self-efficacy as a cognitive construct. He argues that since most courses of action are initially shaped in thought, people's beliefs about their self-efficacy influence how they construe the situations and how they behave.

Despite self-efficacy seems to be similar to self-esteem; Bandura (1986) has argued that they are very different construct. Self-efficacy is personal judgment of how well one can perform certain behavior in a specific situation (Bandura, 1997).

According to Bandura (1977) efficacy expectations should be distinguished from outcome expectation. An efficacy expectation is the belief that one can successfully accomplish the behavior required to produce the outcomes, whereas outcome expectation is estimation of a given behavior which will lead to certain outcomes. Bandura argued that efficacy expectations determine amount of effort people will spend and endurance in the face of obstacles and aversive experiences. He believed that strong efficacy expectation bring more active effort. While a successful performance experience improves self-efficacy; a failure weakens it. Failure negatively effects efficacy expectation which in turn negatively affect motivation to perform the target activity. Before doing something, people need to believe that they will accomplish it. If they expect to fail, they will avoid it. Therefore, according to Bandura, an individual's self of self-efficacy determines how to approach a task. If a person believes that they can perform a task satisfactorily, they then will be more likely to begin work and less likely to procrastinate. Self-efficacy has been studied in such previous procrastination studies, with results showing inverse relationship with procrastination (e.g.,

Aydoğan, 2008; Ferrari, et al., 1992; Haycock, et al., 1998; Klassen, et al., 2008; Lamba, 1999; Sirois, et al., 2003; Sirois, 2004; Steel, 2007). Selected empirical studies are presented below.

Klassen et al. (2010) stated that a number of theoretical links have been postulated about the process by which procrastination operates. Self-efficacy has been shown to be associated with procrastination in particularly academic setting. Hence procrastination has been called as "quintessential self regulatory failure" (Steel, 2007, p.65). Klassen et al. (2008) suggested that self-efficacy for self-regulation may be a key construct in explaining procrastination.

Klassen et al. (2008) conducted two studies to explore the academic procrastination among undergraduate students. In the study 1, they explored the relationships among academic procrastination, self-regulation, academic self-efficacy, and self-esteem. Results revealed that all the variables are related to procrastination, most predictor of which was found to be self-efficacy for self-regulation. In the study 2, they examined academic and motivation characteristics of negative procrastinators who were the students influence the procrastination most. The students participated in the second study reported to have lower GPAs, higher level of daily and task procrastination, lower self-efficacy for self-regulation.

Haycock et al. (1998) conducted a study to examine the relationships among procrastination, efficacy expectation and anxiety on university students. They also

assessed the age and sex difference for possible connection to procrastination. They asked participants to think about a major project and to rate their efficacy their skills to successfully complete the project. Findings revealed a significant correlation between efficacy expectation and anxiety. They also found that students with strong efficacy expectation tended to report less procrastination.

In Sirois (2004b)'s study, the author aimed at examining the role of self-efficacy on the relationship between procrastination and intention to perform health behaviors. For the aim of the study, the sample of university students filled out the questionnaire including general procrastination measure, positive and negative affect scale, health efficacy scale, and consideration of future consideration scale. Their health statuses were also obtained by using medical history questionnaire and by asking them to briefly describe an actual physical illness they had experienced. The author tested the proposing mediation models of the effect of procrastination on health behavior by using a process analysis. After some of the revision in the model, the author found the relationship between procrastination and health behavior intentions mediated by self-efficacy.

Overall within the self-efficacy theory and research everything humans think, behave and feel relates to their perceptions of self-efficacy. Moreover, the findings validated the self-efficacy as a strong mediating variable affecting every aspects of life.

2.7.5   Self-Regulation and Procrastination

Self-regulation was studied as behavioral contributing factor to procrastination for the present study. It was also treated as endogenous variables of the study.

Self-regulation is to restrain the impulses to engage in behaviors that have known cost to the self (e.g. smoking, binge eating, purchasing behavior, breaking laws or procrastinating; (Faber & Vohs, 2004; Metcalfe & Mischel, 1999). Self-regulation includes the people regulating their thoughts, emotions, impulses, and task performances (Vohs, 2004). Self-regulation and self-control are used interchangeably by different authors (Anderson, 2001). It has generally been seen as an essential behavioral mediating variable (Bandura, 1986; Fitzsimons & Bargh, 2004; Howell & Watson, 2007).

Researchers (e.g., Anderson, 2001; Ferrari & Tice, 2000; Wolters, 2003) exploring procrastinator's relationship to self-regulation argued that self-regulation is one of the strongest behavioral predictor of procrastination. Ferrari (2001) suggested that procrastination is a 'self-regulation failure of performance' (p. 391) in which procrastinators fail to regulate their performance in situation of stress and high cognitive load. The process of self-regulation is making comparison of one's behavioral state to some ideal or standard of behavior (Duval & Wicklund, 1972). Although every individual engages in self regulated thinking, not every individual can do with the amount of success (Faber & Vohs, 2004). Baumeister, Heatherton, and Tice (1993) categorize self-regulation failure as

underregulation and misregulation. Underregulation has been described as the failure to exert control over oneself. Misregulation, on the other hand, refers to exerting control in a way that fails to bring about the desired or alternative results.

The researchers (e.g., Klassen, et al., 2008; Senecal, et al., 1995; Van Eerde, 2000; Howell & Watson, 2007) believed that procrastinators have problems in regulating their behaviors and they are engaging in underregulation. In other words, they do not have self-awareness and they may not know their ways of behavior are not beneficial. In the literature, self-regulation is generally measured by Rosenbaum learned resourcefulness scale (Davids, Smith, & Martin, 1991; Kennett, Worth, & Forbes, 2009; Milgram et al., 1991).

Rosenbaum (1983) described learned resourcefulness as an acquired repertoire of self control skills. Hence it can be called as self-control. Rosenbaum (1990) suggested that an individual undergoes certain cognitive process before engaging in self-control behavior. In self-control theory, the cognitive processes leading to self-control behavior are called the process regulating conditions (PRCs). As Rosenbaum (1990) whenever individuals monitor their actions, they assign meaning to events, attribute causality to what happened, develop expectancies for future, they engage in PRC. After engaging in PRCs they regulate their environment (cognition, emotion, and sensation) and they determine a target behavior to perform.

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Individuals with high self-control level are more likely to delay immediate gratification for the sake of future consequences and they are likely to tolerate for frustration for deferred outcomes (Rosenbaum & Smira, 1986). Hence, low resourceful individuals have difficulty in delaying immediate gratifications and are likely to procrastinate (Milgram et al., 1988). In this respect, the results of the research studies have provided evidence regarding an inverse relationship between self-control and procrastination. Milgram, et al. (1988), for example, found that low resourceful/poor self-control individuals procrastinate more since they have difficulties in delaying immediate gratifications.

Nevertheless, studies of procrastination associated with self control presents somewhat mixed picture. One study demonstrated that procrastinators tend to overestimate their control over their plans (Lay & Burns, 1991). On the contrary, in another study, Lay and Schouwenburg (1993) found that procrastinators showed a low perception of control at the end of the summer courses in a summer school. Whereas in Howell et al. (2006)'s study, any consistent relationship between academic procrastination and self-control was found. Milgram et al. (1991) found that students with low self-regulation procrastinated more than others.

Digdon and Howell (2008) aimed at examining the relationship between eveningness-morningness on university students' self-regulation tendencies which lead to procrastination. They used Rosenbaum (1980)' Self control schedule and Tuckman (1991)'s Procrastination scale on psychology students. Findings

demonstrated that an eveningness preference causes difficulties in self-regulation due to the person's delayed sleep schedule. In this line, results of the study showed that students who preferred eveningness reported to have low self-regulation and greater procrastination than those students who preferred morningness.

In Senecal et al. (1995)'s correlational study, students' self-regulation levels were assessed in terms of their academic procrastination. The authors administered Academic motivation scale and academic procrastination scale besides other measures including anxiety, self-esteem and depression to 498 college students. Results of the hierarchical regression revealed that the measures of depression, self-esteem and anxiety accounted for 14% of the variance in academic procrastination. However, self-regulation variables were explained 25% of the variables in academic procrastination.

Howell and Buro (2009) conducted a correlational study to examine the relationship between goal orientation and procrastination. Their second purpose was to test mediator effect of the achievement goal orientation related to implicit theories and procrastination. They administered the achievement goal questionnaire, Tuckman procrastination scale and four item entity scales to assess participants' attribution to be stable or enduring and to be malleable. Among participants, the researchers found that entity beliefs and mastery-avoidance goals positively predicted procrastination; while incremental beliefs and mastery approach and performance approach goals predicted procrastination negatively.

The results also revealed that the prediction of procrastination by entity beliefs was mediated by mastery-avoidance goals. Findings demonstrated a self-regulatory model of procrastination.

In sum, there is a strong body of evidence that lower levels of self-regulation behaviors are related to higher levels of procrastination, and in turns, self-regulation is come out to be one of the keys to understanding procrastination.

2.8   Procrastination Studies in Turkey

A few studies conducted in Turkey regarding procrastination and its related constructs. The limited studies carried out with Turkish students have focused such constructs on motivation, decision making style, parental attitudes etc (Çapan, 2010; Deniz, 2006; Ferrari et al., 2009; Klassen & Kuzucu, 2009; Sari, 2007). Below, procrastination studies carried out with Turkish students are presented.

The latest procrastination study was published by Çapan (2010). The researcher aimed at examining the relationships among perfectionism, academic procrastination and life satisfaction in a group of university students. Solomon and Rothblum (1986)'s Procrastination Assessment Scale-Student, Hewitt and Flett (1989)'s Multidimensional Perfectionism Scale and Life satisfaction scale were administered to university students. Result of the regression analysis demonstrated

that self-oriented perfectionism is a stronger predictor of academic procrastination.

Deniz et al. (2009) conducted a study aimed at examining the effect of emotional intelligence on academic procrastination tendencies. They administered Emotional intelligence scale, Academic procrastination scale and Locus of control scale to university students. The results of the study revealed that a dimension of emotional intelligence including adaptability and coping with stress significantly predicted students' academic procrastination tendencies. However, they reported a negative relationship between emotional intelligence skill and academic procrastination.

The study conducted by Uzun Özer et al. (2009) carried out with university students to examine the prevalence and reasons/excuses for academic procrastination as a function of gender and academic-grade level. In Study1, factor analysis of responses by undergraduate students to an academic procrastination measure provided evidence of reliability and validity for the revised scale. In Study two, 784 students completed the validated Turkish-PASS. Yielding results that 52% of students self-reported frequent academic procrastination, with males reporting more frequent procrastination on academic tasks than females. Additionally, significantly more females than males reported greater academic procrastination because of reason of fear of failure and laziness. Males reported more academic procrastination as a result of risk taking and rebellion against control than females.

In another study, Uzun Özer (2008) examined the effect of parent attitude on adolescents' academic procrastination level. She performed 2 (gender) X 4 (parent attitude) ANOVA and 2 (gender) X 4 (parent attitude) MANOVA to investigate the effect of parent attitude on academic procrastination and reasons of academic procrastination. Results revealed that males engage in procrastination academic tasks more than do females because of the reasons of risk taking. Moreover, participants whose parents have authoritarian attitude reported to procrastinate academic tasks more than the other groups for the reasons of perfectionism and rebellion against control.

Klassen and Kuzucu (2009) conducted another procrastination study carried out with adolescents. They administered Tuckman Procrastination scale and three subscales of Motivated Strategies for Learning Questionnaire, namely; academic self-efficacy, self-efficacy for self-regulation, and self-esteem. Results of the study revealed a gender difference on self-efficacy for self-regulation associated with procrastination. Academic self-efficacy was also found the stronger predictor of procrastination for girls than boys, but for both group they reported to be self-efficacy for self-regulation as the strongest predictor of procrastination.

In the study conducted by Balkıs and Duru (2009), the aim was to investigate the prevalence of academic procrastination along with its relationship with demographic and individual preferences. The sample of the study included students enrolled in various field at the Faculty of Education. The students' procrastination levels were assessed by Aitken's Procrastination Inventory. After

the analysis conducted, they found that 23% of the pre-service teachers procrastination at high level. They also found that there was a negative relationship between procrastination level and academic achievement besides gender differences. Specifically, they reported that male students procrastinate more than female students.

The cross-sectional study conducted by Uzun Özer (2008) aimed at investigating and comparing the levels, prevalence and the reasons of academic procrastination on high school, undergraduate and graduate students. In this respect, Procrastination Assessment Scale-Student (PASS) was administered to a total of 447 students. Results showed a significant difference among the academic levels of the students. Specifically, undergraduate students claimed to procrastinate more than graduate and high school students. High school students reported to engage in procrastination due to the reason of perfectionism, difficulty in making decision, laziness and risk taking; whereas undergraduates procrastinated due to the reasons of lack of assertion and aversiveness of tasks. Graduate students procrastinate due to the reasons of fear of failure, rebellion against control and laziness.

In Balkıs (2006)'s study, the students' procrastination level was investigated associated with their thinking and decision making styles. In this respect, Lay's General Procrastination Scale, Aitken Academic Procrastination Inventory, and Mann's Decisional Procrastination Scale were administered to university students to measure different forms of procrastination. The students were also assessed in

terms of their thinking and decision making styles in terms of procrastination tendencies. The results of the analysis demonstrated that procrastination tendencies of the participants were negatively associated with their rational thinking and decision making style. Findings also showed significant differences of procrastinators and non procrastinators in terms of their gender, age and grade.

CHAPTER III

METHOD

In this chapter, methodological details of the study are presented. The chapter includes four sections. The first section contains the characteristics of the students participated in the study. The data collection instruments and Turkish adaptation procedures of one of the instruments explained in the second section. The third section provides an explanation of the data collection procedures. Finally, data analyses procedures are given in the fourth section of this chapter.

3.1   Participants

The data of the present study was collected from undergraduate students enrolled in 37 departments of Middle East Technical University during the spring semester of 2009-2010 academic year. To sample selection, proportional sampling method was used. In this regard, five subgroups from the five faculties were selected for the sample in the same proportion, as they existed in the population. In order to select the number and the proportion of the students (METU, 2008) reporting the number of the students each academic year was used. Accordingly, the population of this study consisted of 11460 undergraduate students after excluding 1150 international students registered at Middle East Technical University. In determining the sample size to represent the population, the researcher selected

one thousand one hundred and forty six students, which generated 10% of the population. Finally, proportional sampling was used and five subgroups from the five different faculties were selected for the sample in the same proportion, as they exist in the population In other words, the approximate number of the students in each faculty that would be used as a representative sample was determined by having 10% of the population of each faculty. The researcher collected data from 1278 METU students from five different faculties. After employing data screening methods including missing value analysis and outlier check 1218 cases remained. Results of the data screening are explained in the result section.

The present research was carried out with a sample of 1218 undergraduate students who were 623 female (51.1%) and 595 male students (48.9%). The participants consisted of 320 first year students (26.3%), 211 sophomore (17.3%), 405 junior (33.3%), and 282 senior (23.2%) students. Participants represented the five faculties of the METU. Specifically, 75 students (6.2%) were from the Faculty of Architecture, 268 students (22%) were from the Faculty of Art and Science, 155 students (12.7%) were from the Faculty of Economics and Administrative Sciences, 157 students (12.9%) were from the Faculty of Education, and 563 students (46.2%) were from the Faculty of Engineering. The mean age of the participants was 21.45 ($SD = 1.84$) with an age range between 17 and 33. Regarding the academic achievement of the participants, mean of the cumulative general point average was found 2.60 ($SD = .66$) ranging from .02 to 4.00.

3.2   Data Collection Instruments

In the present study, cognitive, affective and behavioral factors were assessed by utilizing several questionnaires besides Demographic Information Form. Specifically, Demographic Information Form was used to gather information about participants' characteristics. Turkish version of Tuckman Procrastination Scale (Tuckman, 1991) was used to obtain data for the dependent variable of the present study. Moreover, the data for the independent variables were obtained by using Irrational Belief Test (IBS;Jones, 1969), Academic Self-Efficacy Scale (ASE; Jerusalem & Schwarzer, 1981) Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965), Frustration Discomfort Scale (FDS; Harrington, 2005a), and Self-Control Schedule (SCS; Rosenbaum, 1980).

The reliability and validity studies were conducted for each scales used in the study. In this respect, Cronbach Alphas were calculated for the evidence of reliability for the scales. In addition, Pearson product moment correlation coefficient scores were calculated for some of the study scales to obtain divergent or convergent validity evidence.

3.2.1   Demographic Information Form

Demographic Information Form including the questions regarding the participants' gender, age, department, and Cumulative General Point Average (CGPA) was developed by the researcher to gather information on the participant

characteristics. The form also included a brief paragraph explaining the aim of the study.

3.2.2   Tuckman Procrastination Scale (TPS)

Tuckman procrastination scale (TPS) is one of the most commonly used instruments to measure procrastination tendency. The scale was developed specifically to detect whether undergraduates tend to procrastinate at starting and completing the college requirements (Tuckman, 1991). It also provides a general index of academic procrastination caused from students' ability to self regulate or control task schedules (Ferrari et al., 1995). Tuckman (1991) proposed that procrastination is caused by a combination of one's irrational beliefs in that he/she is unable to perform a tasks well, unable to postpone gratification, and blaming for one's own 'predicaments' to external sources.

The original TPS (Tuckman, 1991) consists of 16 items embedded from 35 items concerning academic behaviors. The 16-items TPS on a 4 point scale (*1 = strongly agree, 4 = strongly disagree*) was normed on college students (Tuckman, 1991). To gather the procrastination tendency, responded items are totaled for an overall procrastination scores. Scores range from 16 to 64 with higher scores reflecting higher level of procrastination. The Instrument includes four negatively stated items (items number 7, 12, 14, and 16) that require reverse coding before calculating a total score.

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In the original study (Tuckman, 1991), TPS produced single factor structure. The 16- item scale accounted for 30% of the common variance and described a student procrastinator who wastes time, delays, and avoids unpleasant tasks.

There are a number of studies indicating that the TPS has adequate reliability and validity. In the original study, Cronbach's alpha was .86 and in a more recent study a Cronbach alpha coefficient of .89 was reported (Tuckman, 2007). Concurrent validity was supported by correlation of TPS with General Self-Efficacy Scale ($r = -.47$) and behavioral measure of homework completion ($r = -.54$; Tuckman, 1991). Moreover, recent studies have used Tuckman's measure, with results showing high reliability and validity evidence. The studies have also shown the positive correlation with other procrastination measure (with PASS, $r = .68$; Howell & Watson, 2007), and significant negative correlation with behavioral measure (Klassen et al., 2008).

Turkish translation and adaptation of Tuckman Procrastination Scale was conducted by (Uzun Özer et al., 2009b). In the present study a five-point scale was used by adding a middle "unsure" response to the instrument to increase the variability of the scores and reliability estimate (Masters, 1974). In this respect, Turkish version of TPS with a new scoring system with a 5-point Likert scale (*1 = strongly agree, 2 = agree, 3 = unsure, 4 = disagree, 5 = strongly disagree*) was used. In this vein, the responded items are totaled to obtain the procrastination score. Scores range from 14 to 70 with higher scores reflecting higher level of procrastination. The item number 7, 10, 12, and 14 are reverse scored. Scores

range from 14 to 70 and high scores are indicative of high procrastination tendencies. The semantic equivalence of the instrument was established through translation-back-translation procedure. The construct validity of the instrument was established using exploratory (the first sample, $n = 236$) and confirmatory factor analysis (the second sample, $n = 622$). After conducting exploratory factor analysis two items (item number 4 and 10) were decided to remove from the Turkish version of Tuckman Procrastination Scale (TVTPS). Removing two items provided univariate factor structure as it is in the original. A subsequent confirmatory factor analysis yielded fit index values demonstrating a viability of unidimensional solution ($\chi^2 = 225.98$, $df = 77$, $p < 0.001$; RMSEA = 0.056; 90% CI: 0.047-0.064; GFI = 0.99, CFI = 0.98). The Cronbach alpha for the Turkish version of Tuckman Procrastination Scale was found to be .90. The coefficient of stability was calculated using the data obtained from 22 participants who completed the TVTPS-S twice within a 4-week interval. The Pearson correlation was $r = 0.80$, again indicating a high reliability for the measurement. However, given the very small sample size this value should be evaluated with caution. The divergent and convergent validities were established by calculating the Pearson correlation coefficients between the Academic Self-efficacy which was adapted to Turkish by Yılmaz et. al. (2007; $r = -.22$) and scores from Rosenberg Self-Esteem Scale adapted by Çuhadaroğlu (1985; $r = .23$), and the TVTPS-S scores (Uzun Özer et al., 2009b).

3.2.3 Irrational Belief Test (IBT)

The Irrational Beliefs Test (Jones, 1969) is the most widely used instrument available to assess irrational beliefs. It has been believed that the absolutistic irrational beliefs sabotage the person's life goals (Crawford & Ellis, 1989); hence, the scale was developed based on Ellis's rational emotive behavior theory.

IBT has originally 100 items on a 5 point Likert Scale (*1 = strongly disagree, 5 = strongly agree*). In the scale, every 10 items assess an irrational belief. Each of the belief is assessed by subscale score and full scale score indicates total belief irrationality. Scores range from 10 to 50 for subscales with higher scores reflecting higher level of irrationals on that belief.

The scale was constructed to measure Ellis's 10 beliefs that named as 1) demand for approval, 2) high self expectations, 3) blame proneness, 4) frustration reactive, 5) emotional irresponsibility, 6) anxious overconcern, 7) problem avoidance, 8) dependency, 9) helpless, and 10) perfectionism. According to Woods (1990), the irrational belief subscales explore the following beliefs: *Demand for Approval*: individuals believe that they must be loved and approved from everyone. *High Self Expectations*: In this belief, individuals judge their worthiness on their success and accomplishment. Hence they believed that they must be successful and competent in all tasks. *Blame proneness*: Individuals with this belief believe to be blamed and punished for their mistakes or wrongdoing. *Emotional irresponsibility*: Individuals believe to have little control over their unhappiness or

emotional disturbance since it is caused by other people or events. They also believe that everything would be all right if others would change. *Anxious overconcern*: People with this belief believe that if something bad or dangerous might happen, they should worry and dwell upon it constantly. *Dependency*: People in this belief must have someone stronger than themselves to depend and care of them. *Helplessness for Change*: Individuals believe that since the influence of past events can never be changed or removed, they are helpless to change. *Perfectionism*: People with this belief believe that there is always a perfect solution for every problem so they have to accomplish it.

The internal consistency of IBT changed between .67 and .87 for subscales and .92 for the full scale (Jones, 1969). Trexler and Karst (1972) reported subscale stabilities to be .48 to .95 and full scale stability to be .88. Concurrent validity was derived from correlations with 16 PF scales (i.e., *C-*, *H-*, *L+*, *Q+*, *Q$_3$-*, and *Q$_4$+*); multiple Rs changed between .43 and .63. Smith and Zurawski (1983) also reported that the scale was discriminantly valid for use in the studies. Recently, in Terjesen, Salhany, and Sciutto (2009)'s study, IBT was found highly reliable and valid among other 14 scales for use in irrational beliefs and cognitive distortion research.

The Turkish adaptation study of IBT was conducted by Yurtal (1999). After performing exploratory factor analysis, Yurtal decreased the scale items to 45 with 8 subscales. The items score on a 5 point Likert scale (*1 = strongly disagree, 5 = strongly agree*). Higher scores for each subscales reflects higher level of that

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belief. The names of the factors were assigned the names as in the original. In this respect, the Turkish version of IBT has 8 subscales named as 1) demand for approval 2) high self expectations, 3) blame proneness, 4) emotional irresponsibility, 5) anxious overconcern, 6) dependency, 7) helpless, and 8) perfectionism. Three week test-retest reliability coefficient of the Turkish IBT was found to be .71. Cronbach Alpha coefficient obtained for the total scale was .74; for subscales alpha ranged from .46 to .82. For the validity of the scale Yurtal (1999) found that Turkish version of IBT correlated with 16 PF subscales (i.e., *C-*, *H-*, *L+*, $Q+$, Q_3-, and Q_4+); scores ranged from .31 to .63. The results of the adaptation study conducted for Turkish version of IBT revealed that the scale was valid and reliable for use in Turkish students.

3.2.3.1 Reliability and Divergent Validity of Turkish Version of IBT for the Present Study

Evidence for the reliability of the scale for the present sample was provided by calculating internal consistency estimate. The reliability coefficient alpha was found as .71. To provide further evidence for the validity of the IBS for the present study, divergent validity was established by calculating Pearson correlation coefficient between the participants' scores from the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) and IBS scores. In this study, there was a negative correlation between RSES and IBS scores ($r = -.24$, $p < .01$) suggesting participants with a high irrational belief score tended to obtain low scores on the RSES.

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3.2.4 Academic Self-Efficacy (ASE)

Academic self-efficacy scale was developed by Jerusalem and Schwarzer (1981) to assess students' sense of perceived self-efficacy in academic setting. Its German version was developed first and later revised and adapted to other languages by various co-authors (Yılmaz, Gürçay, & Ekici, 2007).

The ASE is a unidimensional, 4 point Likert type (*1 = true for me, 4 = false for me*) self-report measure including 7 items. The scale has 6 positively and 1 negatively worded items. The responded items are totaled to obtain the academic self-efficacy score. The 7th item is reverse scored. Scores range from 7 to 35 and high scores are indicative of high self-efficacy in academic setting.

The construct validity of the scale was provided by performing exploratory factor analysis. The results revealed that the 7 items of the ASE loaded on single factor.

The internal consistency of the ASE was provided using Cronbach Alpha coefficient. Jerusalem and Schwarzer (1981) reported its Cronbach Alpha as .87. The divergent validity of the scale was assessed by calculating Pearson product correlation of ASE scores with the Rosenberg Self-Esteem scale scores. They found the correlation score to be to be .37 (*p* < .01).

Turkish adaptation of the ASE was conducted by Yılmaz, et al. (2007). The authors used the 4-point Likert type for 7 items. The higher score obtained from

the scale reflects the higher level of academic self-efficacy. The result of the exploratory factor analysis showed that Turkish version of ASE has also univariate factor structured explained 45% of the total variance. The Cronbach alpha estimation calculated internal consistency of the scale revealed that 7-item Turkish version of ASE was found internally consistent (α = .79). The authors reported a correlation coefficient of .44 between the ASE and the Rosenberg Self-Esteem scale. The results of the analyses provided that the Turkish ASE was reliable and valid instrument for use in Turkish culture.

3.2.4.1 Reliability and Convergent Validity of Turkish Version of ASE for the Present Study

For the present study, 7 item Turkish version of ASE was used. After getting permission from the authors of the original ASE, the researcher used a five-point scale by adding a middle "unsure" response to the instrument to increase the variability of the scores and reliability estimate (Masters, 1974).

Evidence for the reliability of the scale for the present sample was provided by calculating internal consistency estimate. The Cronbach alpha coefficient was found to be .82 for the 7 item Turkish version of ASE. To provide further evidence for the validity of the ASE for the present study, convergent validity was established by calculating a Pearson correlation coefficient between the participants' scores obtained from the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) and ASE scores. In this study there was a positive correlation

between RSES and ASE scores (*r* = .31, *p* < .01) suggesting participants with a high academic self-efficacy score tended to obtain high scores on the RSES.

3.2.5 Rosenberg Self-Esteem Scale (RSES)

Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) was used to assess participants' global self-esteem or self-worth. The scale was originally designed for use with measuring adolescents' self-esteem levels. Then it has also been deemed appropriate for use with adults with various occupations (Farran, 2004). RSES assesses to what extend a person generally satisfied with life, considers him/herself worthy, holds a positive attitude toward him/herself.

RSES consists of 10 items on a 4-point Likert type scale (*1 = strongly agree, 4 = strongly disagree*). The scale has five positively worded and five negatively worded items. The responded items are totaled to obtain the self-esteem score. The item number 1, 2, 4, 6, and 7 are reverse scored. Scores range from 10 to 40 and high scores are indicative of high self-esteem.

Although the scale was developed to be unidimensional, both single factor and two factor structures of the scale has been reported. Whereas, Rosenberg (1965) reported the scale to be univariate; Shahani, Dipboye, and Philips (1990) found two independent dimensions namely self-enhancement and self-derogation for the Rosenberg Self-esteem Scale. The authors also reported that the identified

separate dimensions were formed by negatively and positively worded items (Shahani et al., 1990).

Rosenberg reported that the scale has high internal consistency ($\alpha = .80$). Two week interval test-retest reliability also found high ($\alpha = .85$; N = 28). In a more recent study, Ferrari (1994) found internal reliability coefficient of .85. Evidence for convergent validity was provided by positive correlations with Copersmith Self-Esteem Inventory ($\alpha = .60$) and Health Self Image Questionnaire ($\alpha = .83$).

Turkish adaptation of RSES study was conducted by Çuhadaroğlu (1985). In order to obtain criterion related evidence for the scale, Çuhadaroğlu conducted psychiatric interviews with the high school students. The correlation between the interviews and the scale scores was reported as .71. The test-retest reliability of the scale was found to be .75 for high school sample. In another study conducted by Çelik (2004) for use in Turkish University sample, the scale was found internally consistent ($\alpha = .87$). The overall results showed that the Turkish version of Rosenberg Self-Esteem Scale is reliable and valid instrument use in both Turkish high school and university student sample.

3.2.5.1 Reliability and Convergent Validity of Turkish Version of RSES for the Present Study

In order to provide evidence for the reliability of the RSES for the present sample, internal consistency estimation was calculated. The Cronbach alpha coefficient

was found as .85 for the Turkish version of RSES. Further evidence for the validity of the RSES was provided by convergent validity. Pearson correlation coefficient was calculated between the participants' scores from the RSES and ASE scores. In this study there was a positive correlation between RSES and ASE scores ($\alpha = .31$, $p < .01$) suggesting participants with a high academic self-efficacy score tended to obtain high scores on the RSES.

3.2.6   Frustration Discomfort Scale (FDS)

Frustration Discomfort Scale (FDS) was developed by Harrington (2005a) to assess absolute intolerance. Development of the scale involved two studies for both students and clinical populations. In the first study, Harrington (2003) constructed a preliminary scale derived from a pool of belief based on the theoretical domains described in the rational emotive behavior theory (REBT) literature. Then a series of reliability and factor analysis were conducted to construct the last form of the scale, yielding four factors. In the second study, the scale was revised by simplifying the statement wording whilst retaining the same item content. A confirmatory factor analysis supported the initial four factor solution. The revised scale was used in the present study, after conducting the reliability and validity studies with Turkish university student sample.

The original Frustration Discomfort Scale (Harrington, 2005a) consists of 28 items. In the scale, the participants are asked to rate the strength to which they held certain beliefs on a 5 point Likert type scale (*1 = Absent, 2 = Mild, 3 =*

Moderate, 4 = Strong, 5 = very strong). Respondents' scores are totaled to get a frustration intolerance score ranging from 28 to 140. In the scale, obtaining high score is indicative of higher level of frustration intolerance belief.

In order to examine the factor structure of the scale, Harrington (2005a) used exploratory factor analysis on the FDS items with oblique rotation. After considering the scree plot and interpretability of the factors, a four-factor solution accounting the 42.58 % of the total variance was decided to best represent the data. Each factor included 7 items and the names were assigned based on the rational emotive behavior theory concepts. The four factors were labeled as emotional intolerance, entitlement, discomfort intolerance, and achievement.

Harrington (2005a) conducted the reliability and validity studies on both the student (Harrington, 2005a) and clinical samples (Harrington, 2006). Corrected item total correlations were computed to highlight those items with poor reliability. All items showed correlations above .45 with own subscales and above .30 with the full scale. Cronbach Alpha value was found to be .94 for the full scale. The alphas' of subscales were also found to be .88 for discomfort intolerance, .85 for entitlement, .87 for emotional intolerance, and .84 for achievement subscales. In order to obtain the convergent and divergent validity evidence for the scale, Harrington performed a Pearson product correlation coefficient between Frustration Discomfort subscales and Rosenberg Self-Esteem scale. The discomfort (r = -.43) and emotional intolerance (r = -.49) subscales were found strongly correlated with self-esteem; whereas, correlations were found

with the entitlement ($r = -.20$) and achievement ($r = -.29$) subscales. The full FDS was also found correlated with the Rosenberg Self-Esteem scale ($r = -.43$).

In study two, Harrington (2005a) conducted a confirmatory factor analysis for the results obtained from the first study. He tested five alternative models and compared. In the first tested model, the FDS scale treated as unidimensional. In the second two-factor model, he used only discomfort intolerance and emotional intolerance subscales. In the third and in the fourth model, the FDS scale was accepted as four and five-factors, respectively. Besides the other fit indices, the CFI and TLI values indicated better fit for four-factor model. In this respect, he found χ^2 to be 758.46 and df to be 344. He also found CFI value to be .98, TLI value to be .98, and RMSEA value to be .06.

3.2.6.1 Turkish Version of Frustration Discomfort Scale (TVFDS)

The adaptation process of Frustration Discomfort Scale was conducted by the researcher. A stepwise validation procedure was followed to establish a cross-cultural equivalence of the instruments (Flaherty et al., 1988; Paunonen & Ashton, 1998). The semantic equivalence of the instrument was established through translation-back translation procedure (Canino & Bravo, 1999). In order to establish content equivalence of the Turkish version of the scale, experts in procrastination were consulted. After establishing the construct validity of the instrument, criterion equivalence was examined. After establishing the construct

validity of the instrument, criterion equivalence was examined. The details of the validation procedure are provided below.

As a first step, three Turkish psychological counselors who were fluent in English and two English instructors translated the Frustration Discomfort Scale (FDS) items into Turkish, independently. These translated items then were given to an English literature expert to translate the Turkish FDS items back into English. As the second step, back-translated items were given to three psychology experts. Each expert who had strong psychology backgrounds were asked to review and compare the Turkish FDS items to the originals. Then, they suggested the best representative items among the back translated item pool for each FDS item. These two steps provided the construction of the first draft of a Turkish Version of Frustration Discomfort Scale (TVFDS). As the third step, TVFDS was given to three counseling professors who had at least PhD degree to evaluate the scale critically in terms of its content equivalency and appropriateness for Turkish culture. Based on the three experts' suggestions, wordings in the several items in the first draft of TVFDS were revised to better communicate the ideas that were intended in the original FDS.

The final draft of TVFDS was constructed based on the revisions recommended by the three field experts. As the last step, the final form of TVFDS was administered to 171 (95 females, 70 males, 6 did not indicated) college students to establish validity (construct and divergent) and reliability of the TVFDS in the Turkish sample. The participants involved in the pilot study were not included in

the actual study. The sample was recruited from various departments and grade levels from Middle East Technical University. The mean age of the participants was 20.88 (*SD* = 1.62). The participants filled out the demographic information form, Turkish Form of Frustration Discomfort Scale, Rosenberg Self-Esteem Scale, and Procrastination Assessment Scale-Students in the classroom settings. The data was collected in winter semester of 2009-2010 academic year by the researcher.

A series of preliminary analyses were performed before conducting reliability and validity studies of TVFDS. Frequency analysis was first examined for the distribution of responses across the rating scale for each item. Screening of the data was also performed by considering the analysis including the normality of each variable (skewness and curtosis), outlier and missing data analysis. Normality of each data was ensured with the accepted level (± 3.29) of skewness and curtosis values. The statistical procedure permits to replace the missing value with mean if each variable has at least 5% missing value (Tabachnick & Fidel, 2001). In the present data, the missing values were detected less than 5% of the given responses. Thus, each variable was replaced with mean. Thereafter, a reliability analysis with 28 TVFDS items was performed. Corrected item-total correlations were also computed to highlight those items with poor reliability. As suggested in the in the original FDS study, the corrected item-total correlation score higher than .30 was accepted as the criterion for excluding item from the analysis. The item number 1, 5, 12 and 13 were detected as the lowest corrected

item-total correlation (corrected item-total correlations = .22, .13, .29, and .12, respectively).

The confirmatory factor analysis was conducted employing the maximum likelihood method by using the AMOS 18 program (Arbuckle & Wothke, 1999) on two alternative models. The first model was the four factor-*twenty eight*-item model derived from original theory of the scale. The second tested model was four factor-*twenty four*-item model derived from the analysis by excluding the items found lower corrected item total correlation score and by employing the suggestions given in the modification indices. The adequacy of the competing models was evaluated using five different fit indices: (1) the model chi-square, a measure of overall fit, with non-significant χ^2 indicating good fit; (2) the χ^2 divided by the degrees of freedom, with a ratio of between two and three suggesting a good fit; (3) the comparative fit index (CFI; Bentler, 1990), with values above .90 indicating a good fit; (4) the root mean square of approximation (RMSEA; Browne & Cudeck, 1993), with value over 0.10 leading to reject of the model, those from 0.05 to 0.08 acceptable, and values below 0.05 indicating a good fit; (5) the Tucker-Lewis Index (TLI; Tucker & Lewis, 1973) , which takes into account the degree of parsimony, with scores of above 0.90 regarded as a reasonable fit.

The results of the confirmatory factor analysis tested for the first model showed that the chi-square test was significant indicating poor fit (χ^2 = 537.8, df = 406). Because the χ^2 statistic is easily influenced by the large sample size, multiple

goodness of fit indices was used to evaluate the fit between the model and the sample data (Bentler & Bonett, 1980). The indices interpreted in the present study were the goodness-of-fit index (GFI) the comparative fit index (CFI), and the root mean square error approximation (RMSEA). GFI and CFI values above .90 and RMSEA values smaller than .10 are suggested as criteria for acceptable fit (Browne & Cudeck, 1993; Schumacker & Lomax, 1996).

Since the values of fit indexes (CFI = 0.76; GFI = 0.81; TLI = 0.73; RMSEA = 0.65) had not an acceptable level, necessary revisions were decided to make. In this respect, the items with poor reliability and lower correlation with the other items were reexamined as the first step. Then the modification indices were assessed to obtain better fit.

The reliability analysis performed to highlight those items with poor reliability and low corrected item-total correlation value showed that 4 items (1, 5, 12 and 13) had lower value corrected item-total correlations = .22, .13, .29, and .12, respectively) than .30. Hence the model was tested after removing these items.

Evaluation of the modification indices suggested a correlated error residual between item 22 and item 07 (maximum modification index = 14.52, expected parameter change = .14). A closer examination of these two adjacent items (item 22 and 07) revealed that the content of the items overlap substantially and both items include similar terms (e.g. tahammül edemem). Research literature on measurement error suggests that items with similar wordings might cause

correlated errors, that is, an individual might respond to the items based on his/her response to the prior items with similar wordings (Buckley, Cote, & Comstock, 1990; Green & Hershberger, 2000). Because individuals might be more likely to retrieve their response to previous item from their working memory in answering the next item, the magnitude of the correlated error might be more substantial when items are adjacent (Green & Hershberger, 2000). Due to this possible method effect, residuals of item 27 and 28 were allowed to be correlated.

Moreover, in the recent literature, it has been indicated that in confirmatory factor analysis and structural equation modeling, item parceling are preferred over single items since they indicate the latent construct of several important reason. First, they are more probably distributed normally than normal items. Second, 'the resulting reduction in the complexity of measurement models should lead to more parameter estimates' (p. 730). Finally, since the parcels reduce the number of indicators in the modeling, researchers can use more realistic models (Nasser & Wisenbaker, 2003). In the light of the information above, item parceling was used to obtain better result for the model.

Removing the items, freeing the residual errors, and parceling the items resulted in a significant improvement in the model fit ($\chi^2 = 44.635$, $df = 28$, $\chi^2 / df = 1.59$; GFI = 0.95, CFI = 0.97; RMSEA = 0.059); thus this model was retained as the final model (See Figure 1 for the illustration of the final model specification).
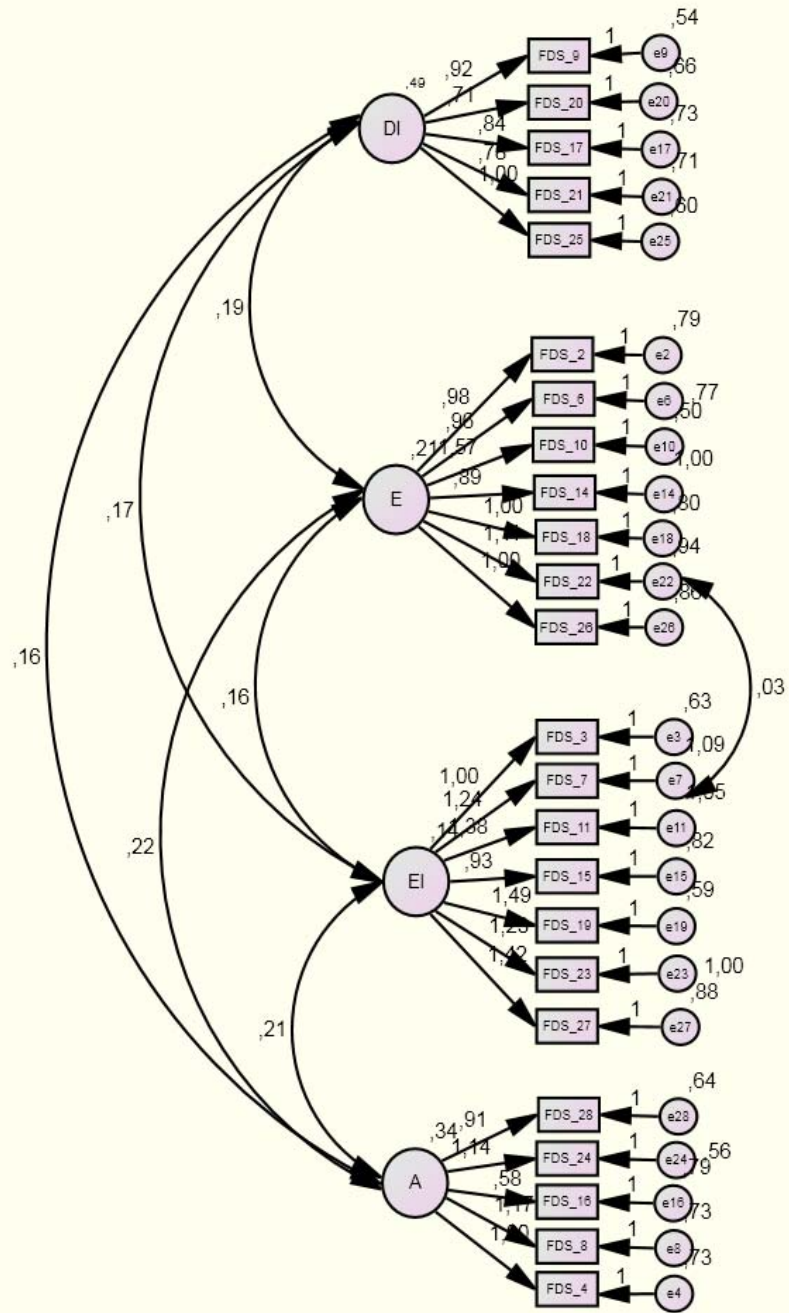
Figure 3. 1 Model specification of Turkish version of Frustration Discomfort

Scale (TVFDS)

To provide further evidence for the validity of the TVFDS, divergent and convergent validities were established by calculating a Pearson correlation coefficient between the participants' Rosenberg Self-esteem (RSES) scores, scores from PASS and TVFDS scores. Research literature reports a negative relationship between self-esteem and frustration intolerance (Harrington, 2005a). Research studies suggest that students who low frustration tolerance tend to display a pattern of helpless behaviors when facing a difficult learning task (Harrington, 2005a). In this study there was a negative correlation between RSES and entire TVFDS scores ($r = -.27$, $p < .01$) suggesting participants with a high frustration intolerance score tended to obtain low scores on the RSES. The relationship between the subscales of FDS and RSES were also found. Specifically the results of the analyses showed that there was a negative correlation between the RSES scores and Discomfort Intolerance ($r = -.29$); Entitlement ($r = -.17$) and Emotional Intolerance ($r = -.27$) subscales. Likewise, there was a positive correlation between the PASS and entire TVFDS scores ($r = .35$) indicating participants with higher frustration discomfort scores tended to obtain higher scores on the PASS. There were also correlations between the TVFDS subscale scores and PASS found. The results showed that the PASS scores was highly correlated with Discomfort Intolerance subscale ($r = .47$), moderately correlated with Entitlement subscale ($r = .22$), and correlated with Emotional Intolerance subscale ($r = .19$). However, any significant correlation was found between neither PASS nor RSES scores with Achievement subscale scores.

In order to provide evidence for the reliability of the scale, internal consistency estimation of the TVFDS was computed. It was revealed that TVFDS had good internal consistency ($\alpha = 86$). Test-retest reliability of the scale was found to be .70. The results of the reliability analyses showed that the subscales had also adequate internal consistency. Specifically, Cronbach Alpha estimation was found to be .73 for the Discomfort Intolerance subscale, the items total correlation ranged from .33 to .52. Cronbach Alpha was .68 for the Entitlement subscale and the item-total correlation ranged from .35 to .53. Similarly, internal consistency estimation was found to be .63 for the Emotional Intolerance subscale and the item-total correlation ranged from .22 to .44. Finally, Cronbach alpha estimation was .68 for the Achievement subscale and the item-total correlation ranged from .27 to .48.

3.2.7   Self Control Schedule (SCS)

Self Control Schedule (SCS) developed by Rosenbaum (1980) was used to assess students' tendencies to exert self control methods to resolve behavioral problems. The SCS is a self-report instrument covering several content areas such as (a) use of cognitions and self-instructions to cope with emotional and physiological responses, (b) use of problem solving strategies (e.g. planning, problem definition, evaluating alternatives, and preparing for consequences), (c) ability to postpone immediate gratification, and (d) inability belief to self-regulate internal events (Rosebaum, 1980).

The original version of SCS consists of 36 items on a 6 point Likert Type. For each item participants indicate the degree to which the statement describes their behavior (-3 very uncharacteristic of me; +3 very characteristic of me), ranging from extremely descriptive to extremely non-descriptive with no neutral response alternative. A higher composite score indicates greater resourcefulness (Rosenbaum, 1980). The possible score range of the original scale is between +108 and -108 where 11 items are scored in a reverse order (Rosenbaum & Palmon, 1984). The item number 4, 6, 8, 9, 14, 16, 18, 19, 21, 29 and 35 are reverse scored.

Redden, Tucker, and Young (1983) conducted exploratory factor analysis for examining factor structure of the SCS. They found six factors corresponded to the content areas that were previously pointed out by Rosenbaum (1980). In this regard, the six factors were named as planful behavior, mood control and control of unwanted thoughts, pain control, impulse control and delay of immediate gratification.

The reliability of the SCS was established in a number of studies involving more than 600 subjects (Redden et al., 1983; Rosenbaum, 1980). In the Rosenbaum's study, test-retest reliability with 4 weeks interval indicated that the SCS was fairly stable over time ($r = .96$). An alpha coefficient computed on six different samples ranged from .78 to .86, indicating a high internal consistency among items. In another study (Redden et al., 1983) the Cronbach alpha coefficient score was found to be .82. The SCS's evidence for validity was provided by correlations

with Croskey's Measure of Communication Apprehension ($r = -.37$; Rosenbaum, 1980). Moreover, SCS was found to be negatively correlated with Rotter's Locus of Control Scale ($r = -.37$), and Manifest Anxiety Scale ($r = -.56$; Richards, 1985).

The Turkish adaptation study for the SCS was conducted by (Siva, 1991). In the Turkish version of SCS, a new scoring system with a 5-point Likert scale (*1 = very uncharacteristic of me, 5 = very characteristic of me*) was used. In this vein, the responded items are totaled to obtain the resourcefulness score. The item number 4, 6, 8, 9, 14, 16, 18, 19, 21, 29, and 35 are reverse scored. Scores range from 36 to 180 and high scores are indicative of high resourcefulness. Dağ (1991) and Siva (1991) carried out the reliability and validity studies for use in Turkish population. Siva (1991) found Cronbach alpha reliability of SCS to be .79 and a test-retest correlation of .80. Dağ (1991) also reported two types of validity evidence for the Turkish version of SCS. He reported a criterion related validity coefficient of -.29 between the SCS and Rotter's Locus of Control Scale. In order to obtain evidence for the construct related validity, Dağ (1991) performed principal component analysis. Varimax rotation of factor analysis produced 12 factors explained 58.2% of the total variance. Dağ named the factors as 1) planful behavior, 2) mood control, 3) control of unwanted thoughts, 4) impulse control, 5) competency and easing oneself, 6) pain control, 7) procrastination, 8) help seeking, 9) take positive, 10) impulse control, 11) flexible planning, 12) supervised seeking. None of the study carried out with Turkish study to examine the internal consistencies of the factors derived from SCS was found. However,

(Türkel & Tezer, 2008) reported the scale to be reliable and valid for use in Turkish population.

3.2.7.1 Reliability and Divergent Validity of Turkish Version of SCS for the Present Study

Evidence for the reliability of the scale for the present sample was provided by calculating internal consistency estimate. The reliability coefficient alpha was found to be .80. To provide further evidence for the validity of the SCS for the present study, divergent validity was established by calculating a Pearson correlation coefficient between the participants' scores from the Tuckman Procrastination Scale (TPS) and SCS scores. In this study there was a negative correlation between TPS and SCS scores ($r = -.47$, $p < .01$) suggesting participants with a high procrastination score tended to obtain low scores on the SCS.

3.3 Data Collection Procedures

Demographic questionnaires including the explanation of the present study and set of scales previously mentioned self report measures were administered to the participants during regular classroom hours. Data were collected by the researcher during the spring semester of 2009-2010 academic year in a 5 week duration. After obtaining the permissions from Human Research Ethical Committee (see the APPENDIX A) and instructor of each class, the data was collected from the volunteer students.

Although the detailed information in terms of the scale, the researcher was present in the classroom in case any questions arise. The scales were administered in the two separate formats to be able control the internal treats of validity. The first set of scales was in the following order: Tuckman Procrastination Scale, Irrational Beliefs Test, Academic Self-Efficacy Scale, Rosenberg Self-Esteem Scale, Frustration Discomfort Scale, and Self Control Schedule. In the second set of scale, the researcher changed the order of the scales as follows: Tuckman Procrastination Scale, Self Control Schedule; Frustration Discomfort Scale, Irrational Beliefs Test, Academic Self-Efficacy, and Rosenberg Self-Esteem Scale. It took the participants approximately 30 minutes to complete the questionnaires.

3.4   Data Analysis Procedure

In the present study, in order to examine the role of cognitive, affective, and behavioral variables in predicting procrastination, theoretical relationships among dependent, independent, and mediating variables were investigated by using AMOS 18 (Byrne, 2001) software program. This section introduces a brief explanation of the path analysis that was employed for the present study.

3.4.1   Path Analysis

Path analysis is a method of testing causal patterns among a set of variables with the aim of providing estimates of the magnitude and significance of the

hypothesized causal connections among a set of variables (Martinussen, 2010; Stage, Carter, & Nora, 2004). Although it has been considered closely related to multiple regression, Garson (2008) argued that path analysis is an extension of the regression model which provides use of testing the fit of correlation matrix with a causal model to test.

In order to better understanding, some useful terms regarding path analysis are explained below.

Path Model is a diagram used to illustrate the identification of the variables. Arrows drawn from one another indicate theoretically based causal relationships. In the model, a single-headed arrow points from cause to effect. A double-headed or curved arrow indicates the correlated variables wherein no causal relationships are assumed (Stage et al., 2004).

Exogenous variable is an independent variable in a path model with no explicit causes where in no arrow goes to, other than the measurement error term. When exogenous variables are correlated with each other, this is indicated by a double headed arrow connection (Garson, 2008).

Mediator is an intervening endogenous or process variable. These variables account for the relationship between predictor and criterion variable(s). In a meditational model, the predictor/exogenous variable has a direct effect on

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mediator that in turn affects the criterion/endogenous variable (Baron, 1986). In a path diagram, mediator has both incoming and outgoing arrows (Garson, 2008).

Endogenous variable is a dependent variable which has incoming arrows. These variables may include mediating causal variables and dependents. In the path diagram, mediating endogenous variables have both incoming and outgoing arrows(Garson, 2008).

Path coefficient/Path weight is a standardized regression coefficient can be called as beta. In a path model, path coefficient shows the direct effect of an independent variable on a dependent variable. Thus when the model has more than two causal variables, path coefficients are partial coefficients measuring the extent of the effect of one variable on another in the path model which control for other prior variables, using standardized data or a correlation matrix is input (Garson, 2008).

Direct and Indirect Effects: In the path analysis, when the exogenous variable has an arrow directed towards the endogenous variable that indicates the direct effect of independent variable on dependent variable. However, when an exogenous variable has an effect on the dependent variable, through the other exogenous variable that indicates the indirect effect of independent variable on the dependent variable (Kline, 1998).

Multiple Goodness-of-fit indices: Jöreskog and Sorbom (1993) suggested that a covariance matrix should be used in to obtain parameter estimations using the maximum likelihood method to test the path in the proposed model. Since no

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single indicator has been demonstrated as superior in the path analysis the researchers have suggested rely on multiple goodness-of-fit indices (Bentler & Bonett, 1980). The indices interpreted in the present study were chi-square statistics, ratio of chi-squares to degrees of freedom, root means of error of approximation, goodness of fit and adjusted goodness of fit indices, and Bentler and Bonett form fit index (Kelloway, 1998). The explanations of these indices are presented below.

Chi-Square (χ^2) is a measure of overall fit of the model. A significant χ^2 value indicated the difference between the observed and estimated parameters. The statistical significance show the probability of the difference between the matrices which is related to the sampling variation. A non-significant χ^2 value shows that the two matrices are not statistically different (Schumacker & Lomax, 1996). Corresponding to the path model, while a small chi-square value indicates to good fit; a large χ^2 indicates a bad fit. A non-significant χ^2 indicates that the model fits the data. A value of zero indicates a perfect fit. However, it is known that χ^2 is sensitive to a sample size(Bentler & Bonett, 1980). When the sample size increases, generally above 200, χ^2 criterion has a tendency to indicate a significant probability level (Schumacker & Lomax, 1996). In this regard, with large samples, trivial discrepancies can lead to rejection of highly satisfactory model; with small samples it can be non-significant even in the face of misfits (Loehlin, 2004).

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Ratio of Chi-Square to Degrees of Freedom (χ^2 / *df*): χ^2 obtained from the analysis is not an adequate indicator for model fitting. Usually, χ^2 is interpreted with its degrees of freedom (*df*) which refers to the difference between known values and unknown value estimates. The ratio of χ^2 / *df* determines the identification of a model. As a general rule of thumb, a ratio less than 5 is considered to be acceptable fit, as the ratio is closer to 1, the model is accepted to be fitting model.

Root mean Square Error of Approximation (RMSEA): RMSEA is computed on the basis of the analysis of residual. It is relatively intensive to sample size and it is related to the error of the approximation in the population. RMSEA values smaller than 10 are suggested as criteria for acceptable fit (Browne & Cudeck, 1993; Schumacker & Lomax, 1996). Steiger (1989) suggested the values below .10 as 'good' and below .05 to be 'very good'.

Goodness of Fit Index (GFI): GFI is based on the ratio of the sum of squared differences between the observed and reproduced matrices(Schumacker & Lomax, 1996). The value of GFI range from 0 (poor fit) to 1 (good fit), and values exceeding .90 indicate a good fit to the data (Kelloway, 1998).

Adjusted Goodness-of-Fit Index (AGFI): The AGFI is the adjusted GFI for the degrees of freedom of a model relative to the number of variables (Schumacker & Lomax, 1996). Similar to GFI, the value of AGFI range from 0 to 1 where the values exceeding .90 indicate a good fit to the data (Kelloway, 1998).

Bentler-Bonet Normed Fit Index (NFI): NFI assess the estimated value by comparing Chi-square value of the model to the Chi-square value of the independence model. Similar to values of GFI and AGFI, the value of NFI range from 0 to 1. High NFI values, ideally exceeding .90, indicate the good fitting model (Loehlin, 2004).

With the all indexes, Cohen (1988) suggested that on the standardized path coefficient, if the absolute value is less than .10, this indicate a small affect, if values are around .30 that indicates medium effect, and values above .50 indicate large effect.

CHAPTER IV

RESULTS

In this chapter, the results of the study are presented in four sections. The first section consists of preliminary analyses. The second section involves the descriptive statistics and gender differences in terms of the study variables. In the third section correlation analyses including intercorrelations among the study variables are presented. The final, fourth, section presents the main analysis of the study, namely path analysis conducted to test the proposed causal model.

4.1   Preliminary Analyses

In order to conduct the data analysis, first preliminary analyses which specifically include missing value and outlier analysis, and normality analysis were conducted. Moreover, the assumptions of the path analysis were also checked. The preliminary analysis results are presented in detail below.

4.1.1   Missing Value and Outlier Analysis

Before conducting the main analyses, all of the major variables were checked for missing data. Since the pattern of missing values was random for the present data, cases with missing values more than 5% were deleted (Tabachnick & Fidel,

2001). Among 1278 participants, 46 data were detected with missing values more than 5% of the total endorsement. Hence, 1232 data were left for the main analyses after this deletion. In order to prevent additional subject loss, cases with missing data less than 5% were replaced with mean of the given variable.

Second for the preliminary analyses, outlier analyses over the data were conducted. In this respect, in order to check the univariate outlier, the data was converted into z-score and 14 problematic outlier values higher or smaller than ± 3.29 (Tabachnick & Fidel, 2001) was detected. As a result of outlier analysis 14 cases were treated as outlier and excluded from the data set. Hence, the analyses were performed with data obtained from 1218 cases.

4.1.2   Test of Normality

Given that the statistical analyses that were employed in the present investigation rely on assumptions that variables have normal distribution, data were first assessed to determine the degree of distribution normality by using SPSS 18. More specifically, indices of Skewness and Kurtosis for study variables were computed. The results of the normality test are presented in the Table 4.1.

Table 4. 1 *Indices of Normality for Study Variables*

Variable	Skewness	Kurtosis
Procrastination	.02	-.44
Frustration Discomfort		
Discomfort Intolerance	-.08	-.25
Emotional Intolerance	.23	.17
Irrational Beliefs		
Emotional irresponsibility	.23	.17
Anxious Overconcern	-.24	-.12
Academic Self-Efficacy	-.30	.08
Self-Esteem	-.39	-.12
Self-Regulation	.15	.25

As seen in the Table 4.1., each of the study variables manifested a normal distribution, since none of the values higher or lower than ± 3 (Stevens, 2002).

4.1.3 Assumptions of Path Analysis

Given that the path analyses that were employed in the present investigation rely on assumptions including linearity, causal closure and unitary variable. Overall the assumption checks were conducted in the frame of preliminary analysis. In this respect, linearity assumption was controlled by conducting the correlation analysis. As suggested by Wright (1968) all relationships between variables should be linear. In order to perform a path analysis he also suggested causal closure in that all direct influences of one variable on another must be included in the path diagram. Final specific assumption for conducting path analysis includes

unitary variables for which variables should not be composed of components that behave in different ways with different variables .

4.2   Descriptive Statistics

The means and standard deviations of the study variables by gender for the total sample were computed. The results of the descriptive statistics are presented in Table 4.2.

Table 4. 2 *Means and Standard Deviations for the Study Variables*

	Female (N = 623)		Male (N = 595)		Total (N = 1218)	
Variable	M	SD	M	SD	M	SD
Procrastination	41.33	9.84	41.41	9.20	41.37	9.53
Frustration Discomfort						
Discomfort Intolerance	16.44	4.03	15.61	3.98	16.03	4.03
Emotional Intolerance	24.15	4.25	22.39	4.46	23.29	4.44
Irrational Beliefs						
Emotional irresponsibility	20.62	4.88	20.75	4.98	20.68	4.93
Anxious Overconcern	17.31	3.62	16.18	3.44	16.75	3.58
Academic Self-Efficacy	23.11	5.01	24.25	5.42	23.66	5.74
Self-Esteem	31.61	5.28	31.48	5.45	31.55	5.36
Self-Regulation	118.11	5.90	117.79	13.79	117.95	14.91

As seen in the Table 4.2., the means obtained from procrastination levels of the participants which was the dependent variable of the study was 41.33 for females and 41.41 for males. The scores obtained from the scale change between 14 and 70. The higher score obtained from the scale shows higher procrastination in academic setting. The median score for the present sample was calculated as 41.00 for the whole group.

In terms of the other study variables, the means of the females and males obtained from the discomfort intolerance subscale of Frustration Discomfort were found to

be 16.44 for females and 15.61 for males. Their mean scores were 24.15 for females and 22.40 for males for emotional intolerance subscale. As for the irrational belief levels of the participants, means of emotional irresponsibility level were found to be 20.62 for females and 20.75 for males. For anxious overconcern subscale, mean scores were 17.31 and 16.18 for females and males, respectively. The means obtained from academic self-efficacy level of the participant was 23.11 and 24.25 for females and males, respectively. Similarly, their mean of self-esteem levels were 31.61 for females and 31.48 for males. Finally, the self-regulation level of the participants was found 118.11 for female students and 117.79 for male students.

4.2.1 Gender Difference

Gender difference was conducted as the primary analysis. The main reason of performing gender difference particularly on the dependent variable was to decide the model testing. In other words, if gender difference on the procrastination was found, the model would have been tested for each gender independently.

In order to see the gender difference on each measure of the participants, a series of independent sample t-test was employed. Results of the analyses revealed that scores on procrastination ($t = -.14$; $p = .89$), emotional irresponsibility ($t = -.45$; $p = .65$), self-esteem ($t = .42$; $p = .68$), and self-regulation ($t = .35$; $p = .73$) did not show any significant difference between female and male participants.

On the other hand, significant differences between female and male participants'
discomfort intolerance (t = 3.66; p = .00), emotional intolerance (t = 7.04; p =
.00), and anxious overconcern (t = 5.43; p = .00), and academic self-efficacy (t = -
3.87; p = .00) scores were found. Results of the analyses specifically revealed a
significant difference between female and male participants' discomfort
intolerance scores (M_{female} = 16.44; SD = 4.03; M_{male} = 15.61; SD = 3.98),
emotional intolerance scores (M_{female} = 24.15; SD = 4.25; M_{male} = 22.39; SD =
4.46), anxious overconcern scores (M_{female} = 17.31; SD = 3.62; M_{male} = 16.18; SD
= 3.44), and academic self-efficacy (M_{female} = 23.11; SD = 5.01; M_{male} = 24.25; SD
= 5.42).

4.3 Correlational Analyses

Given that the primary analysis in this investigation was path analysis, bivariate
correlations were computed to depict the interrelationships among all of the study
variables. In this respect, Pearson product-moment correlation coefficients were
computed to assess relationships among the exogenous variables of facilitating
emotional intolerance, discomfort intolerance, emotional irresponsibility, and
anxious overconcern; mediator variables of academic self-efficacy and self-
esteem, and self-regulation; and endogenous variables of procrastination. To
control for family wise error, a Bonferoni correction (α = .01) was employed
(Miller, 1991). The correlation matrix showing the correlations among the study
variables for the entire sample is presented in the Table 4.3.

Table 4. 3 *Intercorrelations among Study Variables for the Entire Sample*

Variable	1	2	3	4	5	6	7	8
1. TPS	-							
2. DI	.44**	-						
3. EIN	.12**	.49**	-					
4. EIR	.01	.01	-.12**	-				
5. AO	.11**	.21**	.29**	.08**	-			
6. ASES	-.22**	-.14**	-.01	-.18**	.09**	-		
7. RSES	-.24**	-.16**	-.10**	-.14**	-.20**	.31**	-	
8. SCS	-.47**	-.30**	-.01	-.32**	-.13**	.26**	.33**	-

Note. TPS = Tuckman Procrastination Scale, DI = Discomfort Intolerance, EIN =

Emotional Intolerance, EIR = Emotional irresponsibility, AO = Anxious Overconcern,

ASE = Academic Self-Efficacy Scale, RSES = Rosenberg Self-Esteem Scale, SCS = Self-

Control Schedule.

** $p < .001$, * $p < .01$

The correlation matrix on the Table 4.3 showed the relationships among the predictors, mediator and criterion variables. The relationships also assess the presence of multicollinearity. The results showed that none of the partial coefficients exceeded .50 that the multicollinearity among the study variables was not severe (Tabachnick & Fidel, 2001).

As can be seen in the Table 4.3, several patterns emerged. Theoretically expected results revealed associations of dependent variables, procrastination levels, with

some other study variables such as discomfort ($r = .44$; $p < .001$) and emotional intolerance ($r = .12$; $p < .001$), anxious overconcern ($r = .11$; $p < .001$), academic self-efficacy ($r = -.22$; $p < .001$), self-esteem ($r = -.24$; $p < .001$), and self-regulation ($r = -.47$; $p < .001$). Correlation matrix also showed the significant correlations among the study variables were small to moderate in magnitude ranging from .09 to .47.

Consistent with the expectations, while discomfort intolerance and emotional intolerance dimensions of frustration discomfort, anxious overconcern dimension of irrational beliefs were positively related to procrastination; academic self-efficacy, self-esteem and self-regulation were negatively associated with procrastination. These results indicated that the higher the participants' emotional and discomfort intolerance levels the higher their engaging in procrastination level. Similarly results revealed that the higher the participants anxious overconcern; the higher their procrastination level. On the other hand, findings indicated that the lower the participants' academic self-efficacy, self-esteem and self-regulation level; the higher their engaging in procrastination.

Inconsistent with the expectation, no significant relationship was obtained between procrastination and emotional irresponsibility ($r = .01$; $p > .001$) dimensions of irrational beliefs.

Although no propositions have been made regarding the relations among exogenous variables, the correlation matrix showed a significant positive

relationship between anxious overconcern and dimensions of frustration discomfort namely discomfort intolerance ($r = .21$; $p < .001$) and emotional intolerance ($r = .29$; $p < .001$), and academic self-efficacy ($r = .09$; $p < .001$). However, academic self-efficacy was found to be negatively associated with discomfort intolerance ($r = -.14$; $p < .001$), emotional irresponsibility ($r = -.18$; $p < .001$). Similarly, participants' sense of self-esteem was found negatively associated with their discomfort ($r = -.16$; $p < .001$) and emotional intolerance ($r = -.10$; $p < .001$), emotional irresponsibility ($r = -.14$; $p < .001$), anxious overconcern ($r = -.20$; $p < .001$). Finally, participants' self-regulation levels were negatively associated with their discomfort intolerance ($r = -.30$; $p < .001$), emotional irresponsibility ($r = -.32$; $p < .001$) and their anxious overconcern ($r = -.13$; $p < .001$) levels.

4.4   Path Analyses for Model Testing

In order to test the proposed path model depicted in the Figure 1.1 (see p.14), three separate path analysis were employed using AMOS 18 (Byrne, 2001). Path analysis examines the whole model simultaneously by assessing both direct and indirect effects among the variables.

Within the context of the path analysis, first, AMOS 18 was used to examine the direct effects of frustration discomfort, irrational beliefs, academic self-efficacy, self-esteem, and self-regulation on procrastination; the direct effects of frustration discomfort, irrational beliefs on both academic self-efficacy and self-esteem; the

direct effect on self-esteem on academic self-efficacy; the direct effect of academic self-efficacy and self-esteem on self-regulation. Moreover in the path analysis, the indirect effect of frustration discomfort and irrational beliefs on academic self-efficacy and self-regulation; the indirect effect of frustration discomfort, irrational beliefs, self-esteem and self-regulation were tested. This model is partially mediated since it includes direct path from exogenous variables to the dependent variables, and mediated paths through mediators.

As the variables used in the path model were showed multidimensional construct, the related dimensions were selected. The selected dimensions for inclusion in the path model have been identified in the literature as the most relevant factors to explain the exogenous variable. As the most relevant dimensions, emotional intolerance and discomfort intolerance subscales were selected from the dimensions of frustration discomfort variable. Moreover, emotional irresponsibility and anxious overconcern were selected among the dimensions of irrational belief variable.

In the second model, AMOS 18 was used to examine the direct effects of emotional intolerance, discomfort intolerance, emotional irresponsibility, anxious overconcern, academic self-efficacy, self-esteem, and self-regulation on procrastination; the direct effects of emotional intolerance, discomfort intolerance, emotional irresponsibility, anxious overconcern on both academic self-efficacy and self-esteem; the direct effect on self-esteem on academic self-efficacy; the direct effect of academic self-efficacy and self-esteem on self-regulation.

Moreover in the path analysis, the indirect effect of emotional intolerance, discomfort intolerance, emotional irresponsibility, and anxious overconcern on academic self-efficacy and self-regulation; the indirect effect of emotional intolerance, discomfort intolerance, emotional irresponsibility, anxious overconcern, self-esteem and self-regulation were tested. The model is partially mediated since it includes direct path from exogenous variables to the dependent variables, and mediated paths through mediators.

The initial path analyses were conducted with academic self-efficacy, self-esteem and self-regulation as mediators between procrastination and exogenous variables namely, discomfort intolerance, emotional intolerance, emotional irresponsibility and anxious overconcern. The hypothesized model was tested, first, to see how well the data fitted the model that represented the rational emotive behavior approach. Then in order to simplify the hypothesized model, a modified model was created after the non-significant path eliminated and modifications added. Consequently the modified model was tested by the second path analysis.

The path model presented in Figure 4.1 was fit using Amos 18. A set of criteria and standards for the model fit were calculated to see if the proposed model fit the data. Specifically, chi-square (χ^2), the ration of chi-square to its degrees of freedom (χ^2 / df), root means square of approximation (RMSEA), goodness of fit index (GFI), adjusted goodness of fit index (AGFI), and normed fit index (NFI) which were explained in the data analysis section in method chapter were used as criteria for model fit. Table 4.6 is presented the criterion of fit indices.

Table 4. 4 *The criterion of fit indices*

Fit Index	Acceptable Threshold Levels
Chi-square	Low X^2 relative to degrees of freedom with an insignificant p value (p > 0.05)
Chi-Square/df	X^2/df < 3 (Kline, 1998)
	X^2/df < 2 (Tabachnick & Fidell, 2007)
GFI	0.90 < GFI, acceptable (Maruyama, 1998; Schumacker & Lomax, 1996)
	.095 ≤ CFI (Hu & Bentler, 1999)
RMSEA	RMSEA < 0.05, close fit; 0.05 < RMSEA < 0.10, mediocre fit; RMSEA > 1, poor fit (Browne & Cudeck, 1993)
	RMSEA < 0.08, adequate fit (Jaccard & Wan, 1996)
	0.08 < RMSEA < 0.05mediocre fit; RMSEA > 0.10, poor fit (MacCallum, Browne, & Sugawara, 1996)
	RMSEA < 0.06 (Hu & Bentler, 1999)
	RMSEA < 0.07 (Steiger, 2007)
AGFI	0 (No fit) to 1 (Perfect Fit)
NFI (TLI)	0.90 < NNFI, acceptable (Maruyama, 1998; Schumacker & Lomax, 1996)
	0.95 ≤ NNFI (Hu & Bentler, 1999)

Note: RMSEA: Root mean Square Error of Approximation; GFI: Goodness of Fit Index;

AGFI: Adjusted Goodness-of-Fit Index; NFI: Bentler-Bonet Normed Fit Index

After assessing overall goodness-of-fit, individual paths were tested for significance. That is, for the test of the hypothesized relationship of the variables, the emphasis moved from the model-data fit to inspection parameter estimates and decomposition of the total effects for each exogenous variable into direct and indirect effects.

4.4.1 Results of the Fit Statistics for Hypothesized Path Model

The hypothesized model (Figure 4.1) of the present study was initially tested for the data. This analysis was conducted to determine the goodness of the model fit to the data. The initial fit statistics obtained from the path analysis are summarized in Table 4.7.
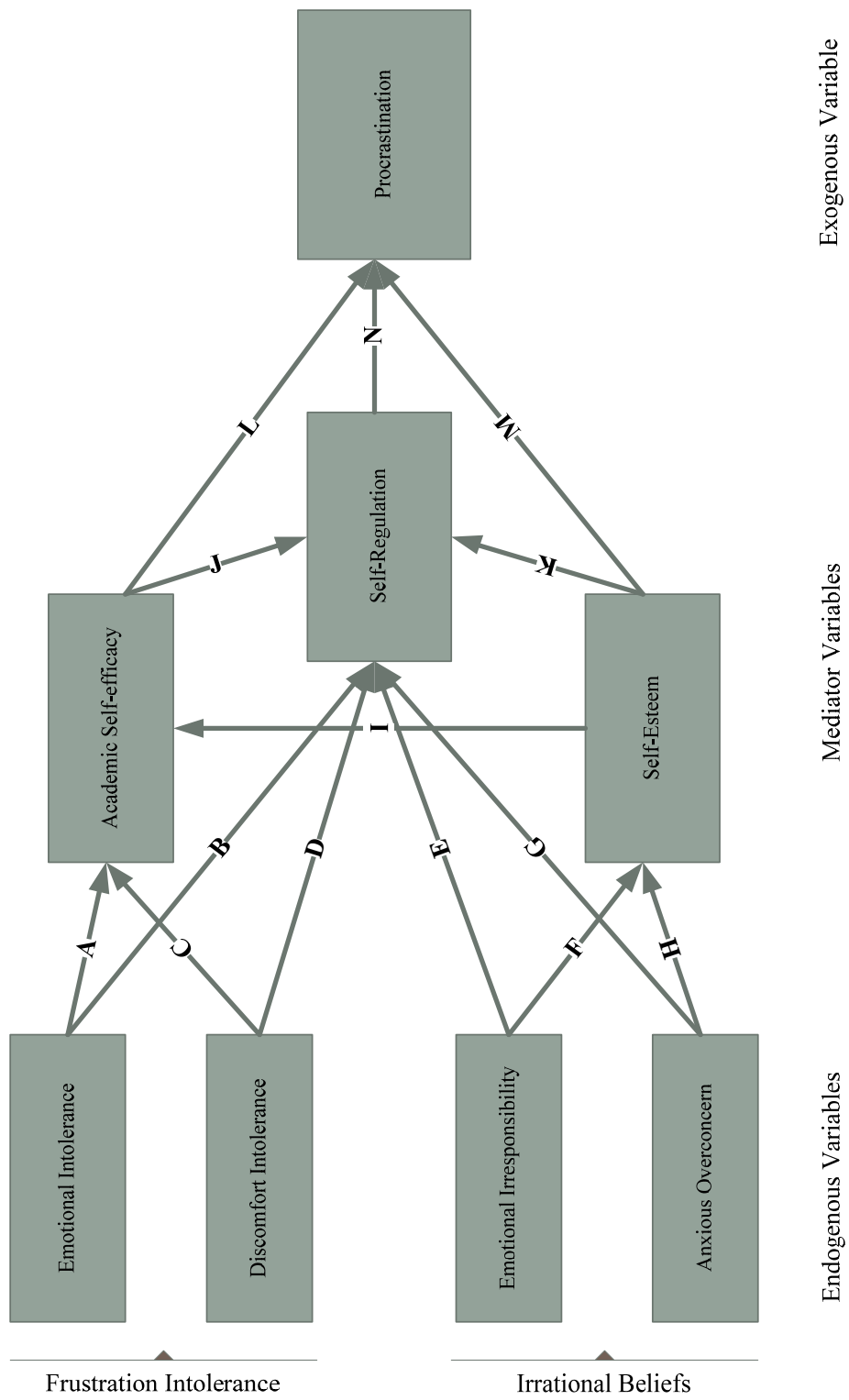
Figure 4. 1 Hypothesized Path Model

Table 4. 5 *Summary of Goodness of Fit Statistics for the Hypothesized Model (n = 1218)*

	χ^2	df	χ^2 / df	RMSEA	GFI	AGFI	NFI
Hypothesized Model	244.37	8	30.55	16	96	80	85

Note: RMSEA: Root mean Square Error of Approximation; GFI: Goodness of Fit Index; AGFI: Adjusted Goodness-of-Fit Index; NFI: Bentler-Bonet Normed Fit Index

As seen on the table, the hypothesized model that did not meet the criteria (see Table 3.2). In other words, the goodness of fit indexes were evaluated and found to be χ^2 / df ratio was higher than 5.0; AGFI, and NFI values were smaller than .90; and RMSEA value was found to be higher than .08.

The Table 4.7 shows the values of fit indices. Results indicated that model fit indices were not within the acceptable scores. However, our review of the modification indices indicated that the fit of the model can be substantially improved if some of the pathways were added and some were eliminated. In this respect, some of the suggested pathways were added to the hypothesized model besides removing non-significant paths from the model. The suggested path model is depicted in Figure 4.2, with non-significant paths in red arrows and suggested paths in green.
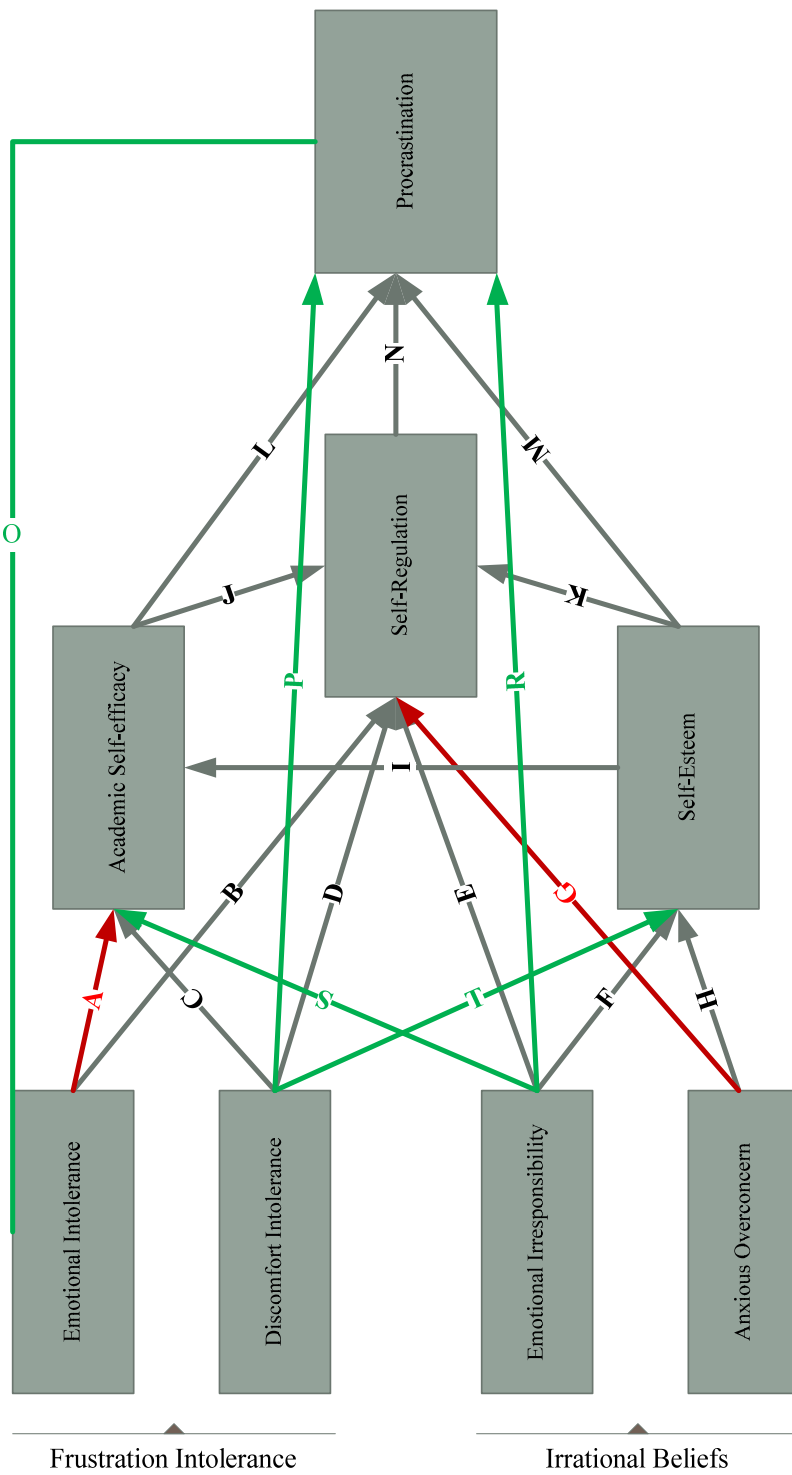
Figure 4. 2 Suggested Path Model

In the figure 4.2, the arrows are used to show the direction of causation. Table 4.8 summarized the results of path analysis among the model's variables with direct effects of the causal variables. As seen in the figure 4.2, the modification indices suggested to remove the *Path A* and *Path G*; while suggesting to add the *Path O*, *Path P*, *Path R*, *Path S*, and *Path T*.

Table 4. 6 *Path Weights, Standard Errors, t and p Values for Direct Paths for the Hypothesized Model*

Path	Weight	SE	*p*
Procrastination from:			
(O) Emotional Intolerance	-.08	.06	.00
(P) Discomfort Intolerance	.35	.07	.01
(R) Emotional Irresponsibility	-.14	.05	.00
(L) Academic Self-Efficacy	-.07	.05	.00
(M) Self-Esteem	-.07	.05	.01
(N) Self-Regulation	-.38	.02	.00
Academic Self-Efficacy from:			
(A) Emotional Intolerance	.07	.04	Ns
(C) Discomfort Intolerance	-.13	.04	.00
(S) Emotional Irresponsibility	-.13	.03	.00
(I) Self-Esteem	.28	.03	.00

Table 4.6 *Continued*

Self-Esteem from:			
(T) Discomfort Intolerance	-.13	.04	.00
(F) Emotional Irresponsibility	-.13	.03	.00
(H) Anxious Overconcern	-.17	.04	.00
Self-Regulation from:			
(B) Emotional Intolerance	.11	.09	.00
(D) Discomfort Intolerance	-.30	.11	.00
(E) Emotional Irresponsibility	-.26	.08	.00
(G) Anxious Overconcern	-.03	.11	Ns
(J) Academic Self-Efficacy	.11	.08	.00
(K) Self-Esteem	.22	.07	.00

Note. Ns = Non-significant; Letters in parentheses show direction of the paths.

Table 4.8 presents both significant and non-significant direct paths to academic self-efficacy, self-esteem, self-regulation and procrastination with beta weights, standard errors, and *p* values. As seen in the table, the significant beta weights ranged from .07 to -.38.

4.4.2   Results of the Fit Statistics for Modified Path Model

In line with the results obtained from the initial analysis for hypothesized model, the suggested model modifications identified in the path modification indices were made to obtain better fitting model. In this respect, model modification was

performed based on removing non-significant parameter estimates and adding non-hypothesized pathways.

As indicated in the Figure 4.2, the results of the initial analysis suggested some model trimming. Specifically, initial path analysis suggested two pathways (*Path A* and *Path G*) to be removed since they were found to be statistically non-significant. These relationships were the relationship from emotional intolerance to academic self-efficacy (*Path A*) and the relationship from anxious overconcern to self-regulation (*Path G*).

As seen in the Figure 4.2., the results of the initial analysis also suggested some model modifications. Specifically, the analysis conducted for the hypothesized model suggested five pathways (*Path O*, *P*, *R*, *S*, and T) to add to strength the model fit. The suggested relationships were; relationship from emotional intolerance to procrastination (*Path O*), relationship from discomfort intolerance to procrastination (*Path P*), relationship from emotional irresponsibility to procrastination (*Path R*), relationship from emotional irresponsibility to academic self-efficacy (*Path S*), and relationship from discomfort intolerance to self-esteem (*Path T*).

In this respect, while the two pathways eliminated from the model; five pathways were added. After making the modification to the path model, the analysis was performed. The fit statistics obtained from the second path analysis are summarized in Table 4.9.

Table 4. 7 *Summary of Goodness of Fit Statistics for the Modified Model (n =*

1218)

	χ^2	df	χ^2/df	RMSEA	GFI	AGFI	NFI
Modified Model	6.52	5	1.30	.02	.99	.99	.99

Note: RMSEA: Root mean Square Error of Approximation; GFI: Goodness of Fit Index;

AGFI: Adjusted Goodness-of-Fit Index; NFI: Bentler-Bonet Normed Fit Index

Overall, the analysis indicated that the data fit the model. In this respect, first, the

chi-square ($\chi 2$) was calculated. Because the χ^2 statistic is easily influenced by the

large sample size, multiple goodness of fit indices was used to evaluate the fit

between the model and the sample data (Bentler & Bonett, 1980). As mentioned

in the data analysis section, χ^2 is a badness of fit measure in the sense that while a

small chi-square represents the good fit and a large chi-square shows the bad fit; a

zero chi-square corresponds to almost perfect fit (Jöreskog & Sorbom, 1993). The

results showed that the value of χ^2 was 6.52, p > .05 which indicated a good fit.

Besides the χ^2 value, its ratio to degrees of freedom was also calculated. The value

of this ratio was χ^2/df = 6.52 / 5 = 1.30 which implied a good fit given that

generally values less than 2 are accepted to be good fit (Tabachnick & Fidell,

2007).

The other important goodness of fit statistics that were calculated for the present

study was RMSEA, GFI, AGFI, and NFI. The results of the present analysis

showed that RMSEA value was .02 (*p* < .05), GFI values was .99, AGFI was .99

and NFI was found to be .99. These multiple indices also confirmed the adequacy of the model fit. In order to provide a good fit, ideally, the RMSEA value is expected to be less than .08; values of GFI and AGFI should be greater than .90; and value of NFI should be greater than .90. Thus, based on the acceptable interval of goodness of fit statistics, the present model cannot be rejected.

4.4.2.1 Relationships among Endogenous Variables

The direct and indirect paths regarding the relationships among academic self-efficacy, self-esteem, self-regulation, and procrastination with beta weights, standard errors, and p values are summarized in Table 4.8. Figure 4.2 also depicts the significant and non-significant paths. Figure 4.3 displays the latest path model with beta weights.
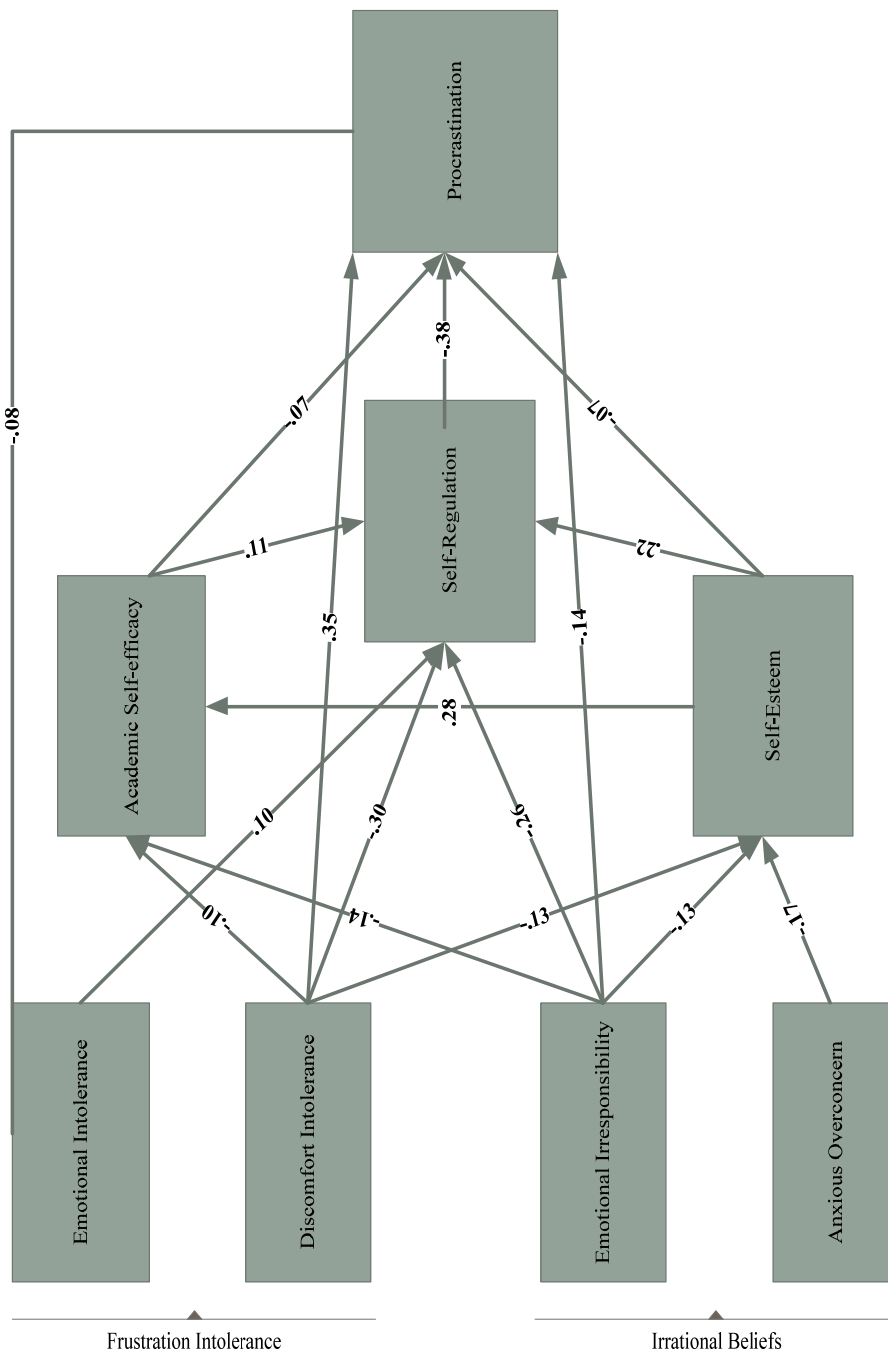
Figure 4. 3 Latest Path Model

The results of the path analysis showed that academic self-efficacy predicted procrastination (*Path L;* β = -.07, *p* < .01), indicating that lower level of academic self-efficacy results in higher level of procrastination. Self-esteem was also found to have a significant direct effect on procrastination with beta weight of -.07, *p* < .01 (*Path M*); suggesting that decreased self-esteem leads to increase in procrastination. Findings also showed that self-regulation is the strongest predictor of procrastination (*Path N*; β = -.38, *p* < .01), indicating that lower level of self-regulation cause to higher level of procrastination. In addition, findings also revealed that self-esteem is a significant predictor of both academic self-efficacy (*Path I*; β = .28, *p* < .01) and self-regulation (*Path K*; β = .22, *p* < .01) suggesting indirect effect of self-esteem on procrastination via both academic self-efficacy and self-regulation. The indirect effect has a beta weight of -.11, *p* < .01 for academic self-efficacy and self-regulation.

These findings indicated that self-esteem not only related to procrastination but also related to academic self-efficacy and self-regulation.

4.4.2.2 Relationships among Endogenous Variables and Frustration Intolerance

The paths regarding the relationships among dimensions of frustration intolerance (FI) namely emotional intolerance, and discomfort intolerance, academic self-efficacy, self-regulation, and procrastination are displayed in Figure 4.3. The

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direct paths with standardized beta weights, standard errors, and *p* values are also summarized in Table 4.8.

As seen in Figure 4.3, emotional intolerance predicted self-regulation with a beta weight of .10, $p < .01$ (*Path B*), indicating that high emotional intolerance leads to greater self-regulation. Emotional intolerance also produced a significant prediction of procrastination (*Path O*; $\beta = -.08$, $p < .01$). Specifically, increased emotional intolerance leads to decreased procrastination. The result of the path analysis yielded non-significant association between emotional intolerance and academic self-efficacy (*Path A*, see on the Figure 4.2) and no significant relationship between emotional intolerance and self-esteem. This finding showed that emotional intolerance was not a significant predictor of academic self-efficacy. The indirect effect of emotional intolerance on procrastination through self-regulation was rather small ($\beta = -.04$, $p < .01$).

Results of the path analysis revealed that discomfort intolerance predicted academic self-efficacy (*Path C*; $\beta = -.10$, $p < .01$), self-esteem (*Path T*; $\beta = -.13$, $p < .01$), and self-regulation (*Path D*; $\beta = -.30$, $p < .01$). Specifically, findings showed that decreased in discomfort intolerance leads to increase in academic self-efficacy; self-esteem, and self-regulation. Another significant effect was the direct effect of discomfort intolerance on procrastination (*Path P*; $\beta = .35$, $p < .01$). The correlation indicated that greater discomfort intolerance results in higher level of procrastination.

The results also yielded the indirect effect of discomfort intolerance on academic self-efficacy through self-esteem. The beta weight of the indirect effect was rather small ($\beta = -.04$, $p < .01$).

4.4.2.3 Relationships among Endogenous Variables and Irrational Belief

The paths regarding the relationships among dimensions of irrational beliefs (Pychyl et al., 2000) namely emotional irresponsibility, and anxious overconcern, academic self-efficacy, self-regulation, and are displayed in Figure 4.3. The direct paths with standardized beta weights, standard errors, and p values are also summarized in Table 4.8.

As can be seen in Figure 4.3, emotional irresponsibility significantly predicted academic self-efficacy (*Path S*; $\beta = -.14$, $p < .01$), indicating that greater emotional irresponsibility bring to lower academic self-efficacy. Similarly, emotional irresponsibility predicted self-esteem (*Path F*; $\beta = -.13$, $p < .01$) and self-regulation (*Path E*; $\beta = -.26$, $p < .01$), suggesting that increased in emotional irresponsibility leads to decrease in self-esteem and self-regulation. Another important significant direct effect of the findings was that emotional irresponsibility predicted procrastination (*Path R*; $\beta = -.14$, $p < .01$) showing that lower level of emotional irresponsibility results in higher level of procrastination.

Results of the path analysis also showed the small indirect effects of emotional irresponsibility on academic self-efficacy through self-esteem ($\beta = -.04$, $p < .01$).

Findings also demonstrated the indirect effect of emotional irresponsibility on self-regulation via academic self-efficacy ($\beta = -.05, p < .01$) and via self-esteem ($\beta = -.05, p < .01$).

Results of the path analysis revealed that anxious overconcern predicted self-esteem (*Path H*; $\beta = -.17, p < .01$) suggesting that increase in anxious leads to decrease self-efficacy. Another result of the path analysis in terms of anxious overconcern was its indirect effect on procrastination. Findings validated that anxious overconcern had indirect effect on procrastination through self-esteem. The beta weigh of this indirect effect was found to be .04 ($p < .01$). Similarly, there was an indirect effect of anxious overconcern on self-regulation through ($\beta = -.04, p < .01$) self-esteem.

4.4.3   Regression Equation for the Direct Paths

Table 4.10 displays the regression equations computed in testing the direct paths to procrastination, academic self-efficacy, self-esteem, self-regulation, and related Squared Multiple Correlation Coefficient (R^2) for the modified causal model.

Table 4. 8 *Regression Equations and Squared Multiple Correlation Coefficients (R2) for the Modified Model*

Regression Equation	R^2
Procrastination = (-.08) Emotional Intolerance + (.35) Discomfort Intolerance + (-.14) Emotional Irresponsibility + (-.07) Academic Self-Efficacy + (-.07) Self-Esteem + (-.38) Self-Regulation + e*	.35
Academic Self-Efficacy = (.28) Self-Esteem + (-.10) Discomfort Intolerance + (-.14) Emotional Irresponsibility + e*	.13
Self-Esteem = (-.13) Discomfort Intolerance + (-.13) Emotional Irresponsibility + (-.17) Anxious Overconcern + e*	.07
Self-Regulation = (.10) Emotional Intolerance + (-.30) Discomfort Intolerance + (-.26) Emotional Irresponsibility + (.11) Academic Self-Efficacy + (.22) Self-Esteem + e*	27

*e = error variance

As seen in the regression equations given in Table 4.10, procrastination was directly predicted from emotional intolerance, discomfort intolerance, emotional irresponsibility, academic self-efficacy, self-esteem, and self-regulation. These six variables explained 35% of the total variance in procrastination. Table also displayed academic self-efficacy was predicted from self-esteem, discomfort intolerance, and emotional irresponsibility. These variables explained 13% of the total variance in academic self-efficacy. In terms of the predictors of self-esteem, findings demonstrated that self-esteem was predicted from discomfort intolerance, emotional irresponsibility, and anxious overconcern. The total variance explained

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in self-esteem by these variables was 7%. Finally, self-regulation was predicted from emotional intolerance, discomfort intolerance, emotional irresponsibility, academic self-efficacy, and self-esteem. These variables explained 27% of the total variance in self-regulation.

4.4.4   Summary of the Results

The hypothesized path model depicted in the Figure 1.1 (on page number 10) consisted of some variables including cognitive, affective, and behavioral components to predict procrastination. The cognitive and behavioral variables including self-efficacy, self-esteem and self-regulation were hypothesized to be mediated by the some emotional factors when predicting procrastination. Since the descriptive statistics did not reveal a sex difference on procrastination level, the model was not tested for female and male students independently.

Overall, the results of the analysis revealed that the variables included in the model were significantly related to procrastination among METU students. Moreover, as hypothesized self-efficacy, self-esteem and self-regulation were mediated by emotional factors for predicting procrastination. Considering the acceptable values obtained from the multiple fit indices along with statistically significant parameters, the hypothesized model of procrastination was supported by the data.

CHAPTER V

DISCUSSION

The present chapter includes four sections. The first section consists of general discussion. The second section involves the findings and conclusions that can be drawn from the analysis of the data. In the third section implication for practice are presented. The final, fourth, section presents the recommendations for further research.

5.1   General Discussion

The aim of the present study was to investigate the predictors of procrastination within a model including cognitive, affective, and behavioral components among Turkish university students. Specifically, the present study examined to what extend the various variables cognitive, affective, and behavioral components predict procrastination; and how combination of these variables operated to lead to engage in procrastination in Turkish university students. Using a broad rational emotive behavior approach, a meditational model was tested in which frustration intolerance beliefs and irrational beliefs were proposed to interact with self-efficacy and self-esteem and self-regulation to predict procrastination. The hypothesized model depicted in the Figure 4.1 was tested by using path analysis and the result was presented in the previous section.

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Multiple factors are involved in the causes and consequences of procrastination in university students, including frustration intolerance, irrational beliefs, self-efficacy, self-esteem, and self-regulation. Whilst, there appear several studies conducted on the influence of some cognitive, affective, and behavioral variables, no study has been found to investigate the multiple relationships among these variables based on a conceptual model.

The lack of literature regarding procrastination in Turkey and none of the study conducted on a theoretical multifaceted model neither in Turkey nor in other countries made it difficult to compare the findings with previous findings. Hence the findings were compared with the original study besides limited parts of the previous studies done on this field in Europe or U.S.

Gender difference was one of the investigated construct on procrastination for the present study. Descriptive results revealed no significant difference on the female and male students' procrastination level. Hence, the model merely tested for the entire sample. The present findings regarding the gender difference were found inconsistent with previous procrastination study carried out with METU students. However, such differences should not be unexpected. Milgram, Batori, and Mowrer (1993) and Watson (2001) clarified that data having to do with procrastination are effected by population used and the methods employed for collecting data. Although the methods used and the population is basically the same in the present study and Uzun Özer et. al. (2009a)'s study, procrastination instrument which was Tuckman Procrastination Scale (1991) was different from

the previous one in which the authors utilized Procrastination Assessment Scale-Student (Solomon and Rothblum, 1984). Moreover, the inconsistency in two studies might be result in the difference of the study variables used. In addition, the present data gathering approximately five years later with sample of students might be another effect of this difference. In this regard, the findings may support (Steel, 2004) influence of gender on academic procrastination is difficult to predict.

The purposed model of procrastination in the present study was a multiple causal pattern effecting student procrastination based on Ellis (1962)'s rational emotive behavior approach. The hypothesized model was tested using Path analysis. The result of the analysis revealed that hypothesized relationship was not well supported by the data. The analysis suggested some modifications including adding some significant pathways to the model and removing some of the relationships from the model. After performing the suggested paths, the model was tested by running the analysis for the proposed model. Results of the path analysis for modified model showed that the proposed model perfectly described the data.

The findings derived from the present study both statistically and theoretically supported the importance of affect, cognition and behavior in problem behaviors. The rational emotive behavior approach proposes that the people's psychological process of cognitions, emotions and behaviors interact with each other and that changes in one will produce change in another. In this regard, they develop

behaviors interactively or transitionally. Their thinking intertwines with their emotion and their behavior (Ellis 1979). The tenet of the theory is that present and past events may contribute to the emotions but not directly cause people to good or bad. Instead, internal thoughts, perceptions and evaluations more directly determine the people's emotion. Hence, when individual change the manner for an event they will likely feel differently about it and may change the way they behaviorally react to it (Ellis & Dryden, 1997).

The present study might also support the view that affection and cognition are inseparable although they are distinct (Greenberg & Safran, 1987a; Piaget, 1967). Behavior includes both emotion and affection. One aspect does not cause to another aspects. They are all complementary because neither can function well without the other. Affective states have influence on cognition and behavior, especially in terms of social consequences (Larsen, 2004). According to Milgram (1991) four components are necessary for procrastination. In this regard, procrastination is primarily 1) a behavior sequence of postponement, 2) result from a substantial behavioral product, 3) involving a task perceived as important to perform, and 4) resulting in a state of emotional upset. That might be seen as another form of the interactions among affect, cognitions and behavior on procrastination.

The findings of the current study might be seen as somewhat illustration of ABC model of rational emotive behavior approach. The findings demonstrated that when student have either an appropriate or inappropriate emotional reaction or

consequence (C) to some activating experience or activating event (A), this event alone does not result in their emotional consequence. Instead, the belief system (B) they develop stimulate to react emotionally at C and often they act on their emotions. In other words, the belief system (thought) stimulates the feelings and students actions. That means they direct the actions by thoughts. The direct and indirect effects of the affective components to procrastination may interpret accordingly. Specifically, the findings demonstrated that emotional components influenced the mediator factors which included the cognitive components that in turn the influence on the behavioral components.

This study was based on the premise that procrastination is multifaceted (Schraw, Wadkins, & Olafson, 2007). The present finding, in conclusion, largely support this view as cognitive, affective, and behavioral factors highly influence people to engage in procrastination.

In summary, the findings obtained from the present study revealed the strongest association between the exogenous and endogenous set of variables. In this respect, it can be suggested the influence of emotional, cognitive and behavioral factors on procrastination. More specifically, self-regulation was the most salient components within the set of predictor variables for engaging in procrastination. Academic self-efficacy and self-esteem was the weaker predictor of procrastination as mediator variables. As expected, the emotional factors derived from frustration intolerance and irrational beliefs were the second strong predictors of procrastination.

5.2   Discussion Regarding the Relationships among Endogenous Variables

In the present study, first, it was predicted that the paths among endogenous variables including *Path J*, *Path J*, *Path K*, *Path L*, *Path M*, and *Path N* depicted in the Figure 4.1 (on page number 131) would be statistically significant. Results of the analysis validated the hypotheses and demonstrated the significant relationships of these variables.

The present findings revealed that individuals' cognitions about themselves lead to their behavior control which in turn directly predicted procrastination. Specifically, findings revealed that students' high academic self-efficacy, self-esteem lead to high self-regulation which resulted in decreased in procrastination. The general findings, in line with the research showing that the role of academic self-efficacy and self-esteem on self-regulation are consistent with the previous studies (Steel, Brothen, & Wambach, 2001; Tice & Bratslavsky, 2000; Tice, Bratslavsky, & Baumeister, 2001). There also possible to come up with contrary relationships among the self-regulation, self-efficacy and self-esteem in that students sometimes regulate their behavior to achieve success which enhances their self-esteem and self-efficacy (as cited in Crocker & Park, 2004). On the other hand, the previous findings demonstrated that the more self-efficacious students at each ability level managed their work times better (Bouffard-Bouchard, Parent, & Larivee, 1991) which result in decreased in procrastination in academic setting. Similarly, Valkyrie (2006) found that students with varying degrees of academic self-efficacy and low levels of self-esteem had a greater

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tendency to procrastinate than students with high levels of self-efficacy for self-regulation. Elsworth (2009) concluded the findings as stated that at particularly college level, students must assume major responsibility for their own learning. Those who have a high sense of efficacy are more successful in regulating their own learning and do better (as cited in Bandura, 1997).

Consistent with the previous findings (e.g., Rothman, et al., 2004), the results of the current study demonstrated that self-efficacy is seen as a valuable predictor of behavior at all. Similarly, the findings revealed that contingencies of self-worth may serve a self-regulatory function. Increased self-worth in academic setting may serve as improver of self-regulation which in turn decreased in academic procrastination (Anderson, 2001; Rothman et al., 2004). In a similar way, the researchers (e.g., Baumeister, et al., 1993) found that self-esteem is a good predictor of self-regulation. The results of their study revealed that high self-esteem show superior self-regulation.

Another important finding of the present study may be behavioral control features of self-regulation. As suggested earlier (e.g., Fitzsimons & Bargh, 2004) self-esteem mechanism may provide students with controlling thoughts, feelings and behavior. In line with the self-regulation theory, it has been seen a willpower or effortful control in cognitive-affective processing system which is the dynamics of delay of gratification (Mischel & Ayduk, 2004).

To conclude, the present findings demonstrated the relationships among the mediator and endogenous variables. In the present model, endogenous variables were selected somewhat reflections of emotional components namely emotional and discomfort intolerance besides irrational beliefs including emotional irresponsibility and anxious overconcern. The significant relationships among the endogenous and mediator variables and the prediction of endogenous variables to mediator variables might support the view that affective components have a great influence on cognitive components in terms of procrastination.

5.3   Discussion Regarding the Relationships among Endogenous Variables and Frustration Intolerance

Findings demonstrated that both subscales of frustration intolerance predicted self-regulation significantly; indicating that high emotional intolerance and low discomfort intolerance leads to greater self-regulation. That also showed that the results validated the hypothesized path (*Path B* and *Path D*). The findings of the present study supported the view that emotions have an important effect on people's behaviors. The affect is what pulls the out-of-awareness into awareness (Carves, 2004, as cited in (Greenberg & Safran, 1987b). Simon (1967) pointed out the role of emotions in self-regulation process. He suggested that emotions arising with respect to a goal induce people to interrupt their behavior and give that goal a higher priority than it had. Similarly, Rosenbaum and Smira (1986) argued that the ability to delay immediate gratification and tolerate frustration for future consequences is a major aspects of the self-regulatory process.

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As Hypothesized in the *Path A*, *Path B*, *Path C,* and *Path D* frustration intolerance including discomfort intolerance predicted academic self-efficacy, self-esteem, and self-regulation. Specifically, findings showed that decreased in discomfort intolerance leads to increase in academic self-efficacy; self-esteem, and self-regulation.

As suggested in the self-esteem literature (see in Guindon, 2010 and Lekich, 2006), the present findings validated the view that self-esteem is powerful control of emotion. When self-esteem is threatened, people often indulge in immediate impulses to make themselves feel better, giving short term affect regulation priority over other self-regulatory goals (Tesser, Millar, & Moore, 1988; Tice & Bratslavsky, 2000). Procrastination and self-handicapping, for example, protect their self-esteem by creating excuses for failure but decrease the chances of success (Tice, 1991).

The early researchers assess the contributing factors to engage in procrastination (e.g., Burka & Yuen, 1983; Ellis & Knaus, 1977). They argued that their clinical experiences related to procrastination reason for irrational fears and self-criticism. Procrastinators, they argued, are frequently unsure about their ability to complete a task. Consequently they delay starting or completing the tasks. This early explanation depicted the self-efficacy (unsure about one's ability) and self-esteem (unsure about one's self-worth). In this regard, the findings may indicate that after 30 years, people procrastinate due to the similar reasons.

The current findings were also seen as validation of the model of procrastination in terms of rational emotive behavior approach in that low frustration tolerance was one of the main causes of procrastination (Ellis & Knaus, 1979). Both direct and indirect effects of the variables demonstrated that frustration intolerance has strong effect on students procrastinating. Similarly, in Wedeman (1985)'s study, low frustration tolerance was found to be the most significant predictor of procrastination. In this regard, those students who had low frustration tolerance reported not to stand present pain or future gain. According to Burka and Yuen (1983) and Ellis and Knaus (1977), those people who have low frustration tolerance convince them as intolerable to the unpleasantness associated with completing a given task; hence they procrastinate to avoid unpleasant tasks. In the present study, consistent with the related literature, findings showed that when students cannot tolerate the present pain (i.e. difficult assignment) for future gain (i.e., completion of the assignment), they procrastinate. Specifically the affective subscale of the frustration discomfort beliefs namely emotional and discomfort intolerance were found to be significantly predictors of procrastination both directly and indirectly. This could also be seen the validation of previous study conducted by Harrington (2005a) in that he found emotional discomfort subscale be correlated with lower procrastination frequency. In a similar vein, discomfort intolerance was found to be strongly correlated with procrastination.

5.4   Discussion Regarding the Relationships among Endogenous Variables and Irrational Belief

In contrast to hypothesis (*Path S*), the results of the path analysis revealed that emotional irresponsibility significantly predicted academic self-efficacy, indicating that greater emotional irresponsibility and anxious overconcern bring to lower academic self-efficacy. In a similar vein, as hypothesized in the *Path E* and *Path F*, emotional irresponsibility predicted self-esteem and self-regulation, suggesting that increased in emotional irresponsibility leads to decrease in self-esteem and self-regulation. As mentioned earlier, the term emotional irresponsibility refers to peoples attributing their own unhappiness to other people. The lack of literature regarding the relationship between emotional irresponsibility and procrastination and related components make it difficult to compare the findings with the earlier results. However, it can be speculated that students who have higher level of emotional irresponsibility tend to attribute the results of their unhappiness and they may procrastinate more due to feelings of helplessness. This might be the same for self-esteem and self-regulation. That the finding validated the previous research results in that emotional irresponsibility was one of the predictors of self-esteem (Daly & Burton, 1983; McLennan, 1987).

On the contrary, no significant relationship between anxiety overconcern and self-regulation was found (*Path G*). This non significant relationship meant that students' level of anxious concern does not affect their self-regulation tendencies. Similar to previous study (Daly & Burton, 1983) in which a negative significant

correlation found between the anxious overconcern and self-esteem, in the present a significant relationship was found between these two construct.

5.5   Discussion Regarding the Regression Equation for the Direct and Indirect Paths

When considering the explained variance in procrastination; the factors in the modified model accounted for 35% of the variance in procrastination. The results of the current study revealed that the most salient endogenous predictor of procrastination was self-regulation. As the term self-regulation was described in the previous chapter, includes people controlling/regulating their thoughts, emotions, impulses. Therefore the findings validated the influence of emotions and beliefs since in the model self-regulation was treated as behavioral mediator. It is surprising that the most strong predictor variable for procrastination was a behavioral factor in the current study since the recent studies have more focused on cognitive, affective or personality variables when explaining procrastination. Different from the previous study, in the present results showed that cognitive variables such as self-efficacy and self-regulation predicted procrastination in a lower level. However, the mediator characteristics of these variables on procrastination give them more importance in the proposed model.

When considered the results as a whole, findings revealed that emotional and discomfort intolerance, emotional irresponsibility, academic self-efficacy, self-esteem and self-regulation were direct cause of procrastination in academic

setting. Moreover, as expected the mediator effects of academic self-efficacy, self-esteem and self-regulation among the other variables was found besides their direct effects. In this respect, discomfort intolerance and emotional irresponsibility lowered the students' academic self-efficacy which leads to increase in academic procrastination. Similarly, discomfort intolerance, emotional irresponsibility and anxiety overconcern cause to decrease in self-esteem which results in increase in students' engaging in procrastination. In a similar way, students' discomfort and emotional intolerance with anxious overconcern cause to decrease in their self-regulation which leads to increase in their procrastination.

In conclusion, whilst the findings of the study have shown the greater impact on behavioral factor on procrastination, the results have also shown the value of jointly considering cognitive, affective, and behavioral variables as suggested by the theoretical writing Ellis (1962) and Ellis and Knaus (1977), specific to procrastinators.

5.6   Implications for Practice

Several implications may be drawn from the findings of the present study for counselors and the educators. The present study explored the relationships between affective factors including the parts of frustration intolerance and irrational beliefs via mediating personal cognitive and behavioral factors among a large and representative sample of university students enrolled in various departments at a major state funded university, Middle East Technical University.

Therefore, the present study has the potential to generate meaningful information for understanding the student procrastination associated with factors contributing affective, cognitive and behavioral ways. Hence the results of the present study may provide valuable cues for both university counselors and university staff to develop new programs that may reduce the negative effects of procrastination. In this regard, the results of the present study have the potential to inform future interventions aiming at overcoming procrastination in this population. In this regard, in order to change in procrastination behavior, the helper should take into account that people 1) act differently, 2) think in some manner other than the way thought in general, and 3) have feelings or affects about changing it.

Theoretically, the present study supported and the extended the premise that procrastination is not merely behavioral phenomenon but involves the interplay of cognitive, affective, and behavioral aspects (Ellis & Knaus, 1977; Ferrari, 1991a; Rothblum et al., 1986; Solomon & Rothblum, 1984). In this respect, the helper should notice that the change in a behavior is only possible by changing the emotion and beliefs. Hence the present findings may be valuable for prevention of procrastination used possibly by the counseling units to help students.

When consider the strongest predictor of the procrastination in terms of the model proposed in the present study which was self-regulation, it seems reasonable to suggest students improve study habits. It could also be useful for the counselors or university staff would help student by encouraging 'get organized' or advice using time management strategies. Identifying optimal goals to reach (Jain, 2009;

Noordzij & Van Hooft, 2008) or using a daily diary regarding task completion may also work (Claessens, van Eerde, Rutte, & Roe, 2010).

In the present study, by means of descriptive statistics and path analysis, the relative importance of the cognitive, affective, and behavioral factors was clarified. Therefore, when developing prevention program, researchers and counselors should keep the cognitive, affective, and behavioral factors in mind and the plan the program accordingly. For instance, the present findings suggested that increasing self-efficacy and self-esteem could be good way to control students' regulation which in turn helps to decrease in procrastination levels. It is also evident that a reasonable starting point for intervention programs is to focus on affective factors and cognitive behavioral mediators as in the model.

5.7   Recommendations for Further Research

The present study was one of the first attempts to investigate the role of cognitive and behavioral mediators in the relationship between affective factors and procrastination among the university students in Turkey. Therefore the results are clearly preliminary. Using the framework of the problem behavior, based on the rational emotive behavior approach, a model was hypothesized and tested to understand the reciprocal effects of cognitive, affective, and behavioral factors on student procrastination. Unfortunately, however, merely selected factors were included in the present study. As explained in the previous chapters, the selected factors included some of the dimensions of frustration intolerance such as

emotional and discomfort intolerance and some selected dimensions of irrational belief such as emotional irresponsibility and anxious overconcern as affective factors. The cognitive factors included in the present study were self-esteem and academic self-efficacy belief as mediators. The behavioral mediator part of the study included self-regulation of students. There is no doubt that other cognitive, affective, and behavioral factors may have influences on engaging in procrastination among university students.

Furthermore, some personality characteristics and family factors might have strong effect on procrastination in academic setting. Therefore, developing new theoretical models or testing existed models including different variables could be especially fruitful in explaining procrastination in university student population.

Moreover, the present study only included procrastination as an outcome variable. That is to say, in the current study we tried to understand the dynamics explaining procrastination, which is general means of delaying the task off to the another time. Other forms of procrastination such as decisional, avoidance, arousal or chronic procrastination also deserve further investigations like the current study.

In the present study, self-report data were used to assess procrastination. This might skew the collected data if the respondents replied the questions in a socially desirable manner. Hence, future direction for research with university students may include studies that investigate the actual behavioral procrastination. There are plenty of research utilized employing a multi-informant strategy used to assess

behavioral procrastination besides self-reporting (e.g., Lay, 1986; Moon & Illingworth, 2005; Senecal, Lavoie, Koestner, 1997; Tice & Baumeister, 1997). Although it seems it could not be much more applicable for university students in Turkey, It is widely recognized that a multi-informant strategy is the best way to demonstrate the validity of students' procrastination measure (Wadkins, 1999; Schraw, Wadkins, & Olafson, 2007). Therefore, the further studies may consider the teacher, parent, or peer ratings for assessment of procrastination. Moreover, using teacher report data for comparison between data reported by the teacher and students would be particularly useful for assessing their actual procrastination.

Certainly, further research with larger and more demographically diverse populations would strengthen the findings of the study. Therefore, it is suggested to conduct future studies with samples from different universities, different regions of Turkey. In addition carrying out future studies with different age groups with different subcultures might also provide fruitful findings to better understand procrastination.

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APPENDICES

APPENDIX A

PERMISSON FROM ETHIC COMMITTEE

Eğitim Bilimleri
05.03.2010
SBE/2010 – 206

Orta Doğu Teknik Üniversitesi
Middle East Technical University

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04/03/2010

SOSYAL BİLİMLER ENSTİTÜSÜ MÜDÜRLÜĞÜNE

Üniversitemiz Eğitim Bilimleri Anabilim Dalı Doktora Programı öğrencisi R. Bilge Uzun Özer'in Mart 2010- Haziran 2010 tarihleri arasında *"Akademik Erteleme Davranışının Çokyönlü Çalışması: Duygusal, Bilişsel ve Davranışsal Faktörlerin Akademik Erteleme Davranışını Açıklama Gücü"* başlıklı doktora tez çalışmasına ilişkin olarak Üniversitemizde öğrenim gören yaklaşık 1300 lisans öğrencisine uygulama yapması için öğrencinin isteği doğrultusunda görevlendirilmesi Etik Komite onayı ile uygun görülmüştür.

Uygulamanın yapılabilmesi için gereğini izninize sunarım.

Saygılarımla.

Nesrin Ünsal
Öğrenci İşleri Daire Başkanı

EKLER:
1- Öğrenci Dilekçesi
2- Danışman Dilekçesi
3- Çalışmanın Özeti
4- Çalışma Kapsamında Kullanılacak Ölçekler

HA

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DEMOGRAPHIC INFORMATION FORM

(DEMOGRAFİK BİLGİ TOPLAMA FORMU)

Sevgili Öğrenciler,

Üniversite öğrencilerinin akademik erteleme davranışlarını anlamaya yönelik olarak yürütülen bu çalışmada sizden istenilen, verilen yönergeleri dikkatle okuyarak tüm soruları yanıtlamanızdır. Sorulara vereceğiniz yanıtlar gizli tutulacaktır. Bu nedenle kimliğinizi belirleyecek bilgilere gerek yoktur. Bu ölçeğe vereceğiniz yanıtlar, çalışmanın amacına ulaşması açısından büyük önem taşımaktadır. Çalışma için ayıracağınız zaman ve katkılarınızdan dolayı şimdiden teşekkür ederim

Araş. Gör. Bilge Uzun Özer

Eğitim Fakültesi, Eğitim Bilimleri Bölümü

Tel: 2104034, e-posta: ozbilge@metu.edu.tr

Cinsiyetiniz   :   K ( )   E ( )

Yaşınız   :   …………………..

Bölümünüz   :   …………………..

Sınıfınız   :   1. Sınıf ( )   2. Sınıf ( )   3. Sınıf ( )   4. Sınıf ( )

Genel Akademik Ortalamanız   :   …………………………...

TUCKMAN PROCRASTINATION SCALE

(TUCKMAN ERTELEME DAVRANIŞI ÖLÇEĞİ)

Bu ölçek, aşağıda belirtilen ifadelerin sizi ne kadar tanımladığını belirtmeniz için hazırlanmıştır. Lütfen, Her bir ifadeyi okuduktan sonra, ifadelerin sizi ne kadar tanımladığını aşağıdaki 5'li derecelendirme ölçeğini kullanarak belirtiniz.

1 = Kesinlikle Katılıyorum   **2** = Katılıyorum   **3** = Kararsızım

4 = Katıl**mı**yorum   **5** = Kesinlikle Katıl**mı**yorum

1. Önemli olsalar bile, işleri bitirmeyi gereksizce ertelerim.	①	②	③	④	⑤
2. Yapmaktan hoşlanmadığım şeylere başlamayı ertelerim.	①	②	③	④	⑤
3. İşlerin teslim edilmesi gereken bir tarih olduğunda, son dakikaya kadar beklerim.	①	②	③	④	⑤
4. Çalışma alışkanlıklarımı geliştirmeyi ertelerim.	①	②	③	④	⑤
5. Bir şeyi yapmamak için bahane bulmayı başarırım.	①	②	③	④	⑤
6. Ben iflah olmaz bir zaman savurganıyım.	①	②	③	④	⑤
7. Ders çalışmak gibi sıkıcı işlere dahi gerekli zamanı ayırırım.	①	②	③	④	⑤
8. Ben bir zaman savurganıyım ve bunu düzeltmek için hiç bir çaba gösteremiyorum.	①	②	③	④	⑤
9. Bir şeyi yapacağıma dair önce kendime söz verir, sonra kararımı uygulamayı ağırdan alırım.	①	②	③	④	⑤

10. Bir eylem planı yaptığımda, onu takip ederim.	①	②	③	④	⑤
11. Bir işi yapmaya başlayamadığımda kendimden nefret ederim, ama bu şekilde hissetmem bile beni harekete geçirmez.	①	②	③	④	⑤
12. Önemli işleri her zaman vaktinden önce tamamlarım.	①	②	③	④	⑤
13. Bir işe başlamanın ne kadar önemli olduğunu bilsem de başlayamadan tıkanır kalırım.	①	②	③	④	⑤
14. Bugünün işini yarına bırakmak benim tarzım değildir.	①	②	③	④	⑤

IRRATIONAL BELIEFS TEST

(AKILCI OLMAYAN İNANÇLAR ÖLÇEĞİ)

Aşağıda, duygu ve inançlarınızla ilgili 45 madde verilmiştir. Lütfen her bir maddeyi okuyarak bu maddelerin yaşantılarınıza ve inançlarınıza uygunluk durumunu verilen 5'li derecelendirme ölçeğini kullanarak yanıtlayınız.

1 = Hiç Katıl**mı**yorum   **2** = Katıl**mı**yorum   **3** = Kararsızım

4 = Katılıyorum   **5** = Tamamen Katılıyorum

1. Başkaları tarafından onaylanmak benim için önemlidir.	①	②	③	④	⑤
2. Herhangi bir konuda başarısız olmaktan nefret ederim.	①	②	③	④	⑤
3. Hata yapan insanlar başlarına geleni hak eder.	①	②	③	④	⑤
4. Eğer insan isterse, hemen her durumda mutlu olabilir.	①	②	③	④	⑤
5. Olabildiğim kadar mükemmel olmaya çalışırım.	①	②	③	④	⑤
6. İyi yapamadığım şeylerden uzak dururum.	①	②	③	④	⑤
7. İnsanlar olaylardan değil kendilerine verdiği görüntüsünden rahatsız olurlar.	①	②	③	④	⑤
8. Beklenmeyen tehlikeler veya gelecekteki olaylar karşısında biraz kaygılanırım.	①	②	③	④	⑤
9. Önemli bir karar alırken bilen birine danışmaya çalışırım.	①	②	③	④	⑤
10. Geçmişin etkilerini silmek hemen hemen imkansızdır.	①	②	③	④	⑤
11. Hiçbir şeyin mükemmel bir çözümü yoktur.	①	②	③	④	⑤

12. Herkesin beni sevmesini isterim.	①	②	③	④	⑤
13. Başkalarının benden daha iyi olduğu işlerde yarışmaktan rahatsız olmam.	①	②	③	④	⑤
14. Hata yapanlar suçlanmayı hak eder.	①	②	③	④	⑤
15. Ruhsal durumumun nedeni benim.	①	②	③	④	⑤
16. Kafama takılan bazı şeyleri, genellikle kafamdan atamıyorum.	①	②	③	④	⑤
17. İnsanlar kendileri dışında bir dayanağa ihtiyaç duyarlar.	①	②	③	④	⑤
18. Bazı şeyleri başarmaktan hoşlanırım, ama kendimi başarılı olmak zorunda hissetmem.	①	②	③	④	⑤
19. Ahlaksızlık kesinlikle cezalandırılmalıdır.	①	②	③	④	⑤
20. Sefil insanlar genellikle o duruma kendileri gelirler.	①	②	③	④	⑤
21. İnsanlar geçmişin etkilerine fazla değer verirler.	①	②	③	④	⑤
22. Yaptığım her şeyde başarılı olmak benim için oldukça önemlidir.	①	②	③	④	⑤
23. Yaptıkları yanlışları için insanları nadiren suçlarım.	①	②	③	④	⑤
24. Kişi kendisi istemedikçe uzun süre kızgın ve kederli bir şekilde kalamaz.	①	②	③	④	⑤
25. Değişik tecrübeler yaşamış olsaydım, olmak istediğime daha çok benzerdim.	①	②	③	④	⑤
26. Aktiviteleri aktivite olsun diye yaparım, onları ne kadar iyi yaptığım önemli değil.	①	②	③	④	⑤
27. Ceza korkusu insanların iyi olmalarına yardım eder.	①	②	③	④	⑤
28. Kimin ne kadar çok problemi varsa o kadar az mutlu olur.	①	②	③	④	⑤
29. Gelecek konusunda nadiren endişelenirim.	①	②	③	④	⑤

30. Geçmiş yaşantıların şimdi beni etkilediğini pek düşünmem.	①	②	③	④	⑤
31. Onaylanmaktan hoşlanmama rağmen benim için önemli bir ihtiyaç değildir.	①	②	③	④	⑤
32. Hiçbir şeyin kendisi üzücü değildir, sadece sizin yorumlarınız onu üzücü hale getirir.	①	②	③	④	⑤
33. Gelecekteki bazı şeyler hakkında çok endişeliyim.	①	②	③	④	⑤
34. Hepimiz geçmişimizin tutsağıyız.	①	②	③	④	⑤
35. Bir şeyin mükemmel çözümü nadiren vardır.	①	②	③	④	⑤
36. İnsanların beni ne kadar onayladığı ve kabullendiği hakkında sık sık endişelenirim.	①	②	③	④	⑤
37. Pek çok insan hayatın kötü yanlarını cesaretle karşılamalıdır.	①	②	③	④	⑤
38. Pratik bir çözüm aramak mükemmeli aramaktan daha iyidir.	①	②	③	④	⑤
39. İnsanların benim hakkımda ne düşündüklerine çok önem veririm.	①	②	③	④	⑤
40. Uzun süre çok üzgün kalmak için hiçbir neden yoktur.	①	②	③	④	⑤
41. Ölümü veya nükleer savaş gibi şeyleri hemen hemen hiç düşünmem.	①	②	③	④	⑤
42. İyi yapamayacağım şeyleri yapmaktan korkmam.	①	②	③	④	⑤
43. İnsan kendi cehennemini kendi yaratır.	①	②	③	④	⑤
44. Kendimi sık sık çeşitli tehlikeli durumlarda ne yapacağımı planlıyor olarak bulurum.	①	②	③	④	⑤
45. Şartların ideal olarak bir araya gelmesi düşünülemez.	①	②	③	④	⑤

ACADEMIC SELF-EFFICACY SCALE

(AKADEMİK ÖZ-YETKİNLİK ÖLÇEĞİ)

Aşağıda, duygu ve düşüncelerinize yönelik 7 madde verilmiştir. Lütfen her bir maddeyi dikkatlice okuyarak, sizin için doğruluk derecesini verilen 5'li derecelendirme ölçeğini kullanarak yanıtlayınız.

1 = Kesinlikle Katıl**mı**yorum   **2** = Katıl**mı**yorum   **3** = Kararsızım

4 = Katılıyorum   **5** = Kesinlikle Katılıyorum

1. Üniversite öğrenimimde her zaman yapılması gereken işleri başarabilecek durumdayım.	①	②	③	④	⑤
2. Yeterince hazırlandığım zaman sınavlarda daima yüksek başarı elde ederim.	①	②	③	④	⑤
3. İyi not almak için ne yapmam gerektiğini çok iyi biliyorum.	①	②	③	④	⑤
4. Bir yazılı sınav çok zor olsa bile, onu başaracağımı biliyorum.	①	②	③	④	⑤
5. Başarısız olacağım herhangi bir sınav düşünemiyorum.	①	②	③	④	⑤
6. Sınav ortamlarımda rahat bir tavır sergilerim, çünkü zekama güveniyorum.	①	②	③	④	⑤
7. Sınavlara hazırlanırken öğrenmem gereken konularla nasıl başa çıkmam gerektiğini genellikle bilemem.	①	②	③	④	⑤

SELF-ESTEEM SCALE

(ÖZ-SAYGI ÖLÇEĞİ)

Aşağıda, genel olarak kendinizle ilgili duygu ve düşüncelerinize yönelik 10 madde verilmiştir. Lütfen her bir maddeyi dikkatlice okuyarak, sizin için doğruluk derecesini verilen **4'lü** derecelendirme ölçeğini kullanarak yanıtlayınız.

1 = Çok Doğru   **2** = Doğru   **3** = Yanlış   **4** = Çok Yanlış

	①	②	③	④
1. Kendimi en az diğer insanlar kadar değerli buluyorum.	①	②	③	④
2. Bazı olumlu özelliklerimin olduğunu düşünüyorum.	①	②	③	④
3. Genelde kendimi başarısız bir kişi olarak görme eğilimindeyim.	①	②	③	④
4. Ben de diğer insanların birçoğunun yapabildiği kadar bir şeyler yapabilirim.	①	②	③	④
5. Kendimde gurur duyacak fazla bir şey bulamıyorum.	①	②	③	④
6. Kendime karşı olumlu bir tutum içindeyim.	①	②	③	④
7. Genel olarak kendimden memnunum.	①	②	③	④
8. Kendime karşı daha fazla saygı duyabilmeyi isterdim.	①	②	③	④
9. Bazen, kesinlikle kendimin bir işe yaramadığını düşünüyorum.	①	②	③	④
10. Bazen kendimin hiç de yeterli bir insan olmadığını düşünüyorum.	①	②	③	④

FRUSTRATION DISCOMFORT SCALE

(ENGELLENMEYE TAHAMMÜLSÜZLÜK ÖLÇEĞİ)

Aşağıda, insanların sıkıntılı oldukları ya da engellendikleri zaman sahip olabilecekleri düşünce ve inançları içeren bazı ifadeler bulunmaktadır. Lütfen, her bir ifadeyi okuyarak, bu ifadenin düşüncenizin gücünü ne ölçüde yansıttığını, 5'li derecelendirme ölçeğini kullanarak yanıtlayınız.

1 = Hiç   **2** = Az   **3** = Biraz   **4** = Güçlü   **5** = Çok Güçlü

1. Hemen olmasını istediğim şeyler için beklemek zorunda olmaya tahammül edemem.	①	②	③	④	⑤
2. Rahatsız edici duygulardan mümkün olduğunca kısa sürede ve tamamen kurtulmalıyım, bu duyguların devam etmesine katlanamam.	①	②	③	④	⑤
3. Kapasitemin tümünü gerçekleştirmekten alıkonulmaya dayanamam.	①	②	③	④	⑤
4. İnsanların benim isteklerimin aksine davranmalarına dayanamam.	①	②	③	④	⑤
5. Aklımı kaçırıyorum duygusuna katlanamam.	①	②	③	④	⑤
6. Amaçlarıma ulaşamamanın yaşattığı hayal kırıklığına katlanamam.	①	②	③	④	⑤
7. Keyfim yerinde olmadığında, görevlerimi yapmaya tahammül edemem.	①	②	③	④	⑤
8. İstediğim yolda diğer insanların engel çıkarmasına dayanamam.	①	②	③	④	⑤

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9. Bazı düşünceleri aklımdan geçirmeye katlanamam.	①	②	③	④	⑤
10. Çantada keklik gibi görülmeyi hoş karşılamam.	①	②	③	④	⑤
11. Bir işi tamamen içime sinmeden bırakmaya dayanamam.	①	②	③	④	⑤
12. Beni tam olarak tatmin etmeyen işlere devam etmeye katlanamam.	①	②	③	④	⑤
13. İşleri hemen yapmak zorunda olmanın sıkıntısına tahammül edemem.	①	②	③	④	⑤
14. Kendimi kontrolde herhangi bir aksamayı hoş göremem.	①	②	③	④	⑤
15. Rahatsız edici duygulara katlanamam.	①	②	③	④	⑤
16. Bir işi iyi yapamıyorsam, o işi yapmaya tahammül edemem	①	②	③	④	⑤
17. Çok fazla sıkıntı içeren şeyleri yapmaya tahammül edemem.	①	②	③	④	⑤
18. Başkaları hatalı olduğunda değişmek zorunda olmaya tahammül edemem.	①	②	③	④	⑤
19. Bir şeyler değişmedikçe hayatımı yoluna koyamam ya da mutlu olamam.	①	②	③	④	⑤
20. İşlerime hakim olamadığım duygusuna katlamam.	①	②	③	④	⑤
21. Hoşlanmadığım işleri sonuna kadar sürdürmek zorunda olmaya tahammül edemem.	①	②	③	④	⑤
22. Özellikle haklı olduğumu bildiğim zamanlarda eleştiriyi hoş göremem.	①	②	③	④	⑤
23. Duygularımın kontrolünü kaybetmeye tahammül edemem.	①	②	③	④	⑤
24. Başka insanların taleplerine boyun eğmek zorunda olmaya tahammül edemem.	①	②	③	④	⑤

SELF CONTROL SCHEDULE

(ÖZ-KONTROL ÖLÇEĞİ)

Aşağıda, kötü bir durum ya da olayla karşılaşıldığında kişilerin neler yapabileceğini anlatan 36 ifade vardır. Lütfen, her maddeyi dikkatle okuyarak o maddede yer alan ifadenin sizi ne derece tanımladığını 5'li derecelendirme ölçeğini kullanarak belirtiniz.

1 = Hiç tanımla**mı**yor   **2** = Biraz Tanımla**mı**yor   **3** = İyi Tanımlıyor

4 = Oldukça iyi Tanımlıyor   **5** = Çok İyi Tanımlıyor

1. Sıkıcı bir iş yaparken işin en az sıkıcı olan yanını ve bitirdiğimde elde edeceğim kazancı düşünürüm.	①	②	③	④	⑤
2. Beni bunaltan bir iş yapmak zorunda olduğumda, bunaltımı nasıl yenebileceğimi hayal eder, düşünürüm.	①	②	③	④	⑤
3. Duygularımı düşüncelerime göre değiştirebilirim.	①	②	③	④	⑤
4. Sinirlilik ve gerginliğimi yardım almadan yenmek bana güç gelir.	①	②	③	④	⑤
5. Kendimi bedbin (üzüntülü) hissettiğimde hoş olayları düşünmeye çalışırım.	①	②	③	④	⑤
6. Geçmişte yaptığım hataları düşünmekten kendimi alamam.	①	②	③	④	⑤
7. Güç bir sorunla karşılaştığımda düzenli bir biçimde çözüm yolları ararım.	①	②	③	④	⑤
8. Birisi beni zorlarsa işimi daha çabuk yaparım.	①	②	③	④	⑤
9. Zor bir karar vereceksem bütün bilgiler elimde olsa bile bu kararı ertelerim.	①	②	③	④	⑤

10. Okuduğum şeye kendimi veremediğimi fark ettiğim zaman, dikkatimi toplamak için yollar ararım.	①	②	③	④	⑤
11. Çalışmayı planladığımda, işimle ilgili olmayan her şeyi ortadan kaldırırım.	①	②	③	④	⑤
12. Kötü bir huyumdan vazgeçmek istediğimde, bu huyumu devam ettiren nedir diye araştırırım.	①	②	③	④	⑤
13. Beni sıkan bir düşünce karşısında, güzel şeyler düşünmeye çalışırım.	①	②	③	④	⑤
14. Günde iki paket sigara içiyor olsam, sigarayı bırakmak için muhtemelen başkasının yardımına ihtiyaç duyarım.	①	②	③	④	⑤
15. Kendimi kötü hissettiğimde neşeli görünmeye çalışarak ruh halimi değiştiririm.	①	②	③	④	⑤
16. Kendimi sinirli ve gergin hissettiğimde, sakinleştirici ilacım varsa bir tane alırım.	①	②	③	④	⑤
17. Bedbin (üzüntülü) olduğumda, kendimi hoşlandığım şeylerle uğraşmaya zorlarım.	①	②	③	④	⑤
18. Hemen yapabilecek durumda bile olsam, hoşlanmadığım işleri geciktiririm.	①	②	③	④	⑤
19. Bazı kötü huylarımdan vazgeçebilmem için başkalarının yardımına ihtiyaç duyarım.	①	②	③	④	⑤
20. Oturup belli bir işi yapmam güç geldiğinde, başlayabilmek için değişik yollar ararım.	①	②	③	④	⑤
21. Beni kötümser yapsa da, gelecekte olabilecek bütün felaketleri düşünmekten kendimi alamam.	①	②	③	④	⑤
22. Önce yapmam gereken işi bitirip, daha sonra gerçekten hoşlandığım işlere başlamayı tercih ederim.	①	②	③	④	⑤
23. Bedenimin herhangi bir yerinde, ağrı hissettiğimde, bunu dert etmemeye çalışırım.	①	②	③	④	⑤
24. Kötü bir huyumu yendiğimde kendime olan güvenim artar.	①	②	③	④	⑤
25. Başarısızlıkla birlikte gelen kötü duyguları yenmek için,	①	②	③	④	⑤

sık sık kendime bunun bir felaket olmadığını ve bir şeyler yapabileceğimi telkin ederim.					
26. Kendimi patlayacakmış gibi hissettiğimde, "dur, bir şey yapmadan önce düşün" derim.	①	②	③	④	⑤
27. Birine çok öfkelensem bile davranışlarımı kontrol ederim.	①	②	③	④	⑤
28. Genellikle bir karar vereceğim zaman, ani kararlar yerine, bütün ihtimalleri göz önüne alarak sonuca varmaya çalışırım.	①	②	③	④	⑤
29. Acilen yapılması gereken şeyler olsa bile, önce yapmaktan hoşlandığım şeyleri yaparım.	①	②	③	④	⑤
30. Önemli bir işi elimde olmayan nedenlerle geciktirdiğimde, kendi kendime sakin olmayı telkin ederim.	①	②	③	④	⑤
31. Bedenimde bir ağrı hissettiğim zaman, ağrıdan başka şeyler düşünmeye çalışırım.	①	②	③	④	⑤
32. Yapılacak çok şey olduğunda genellikle bir plan yaparım.	①	②	③	④	⑤
33. Kısıtlı param olduğunda kendime bir bütçe yaparım.	①	②	③	④	⑤
34. Bir iş yaparken dikkatim dağılırsa işi küçük bölümlere ayırırım.	①	②	③	④	⑤
35. Sık sık beni rahatsız eden nahoş düşünceleri yenemediğim olur.	①	②	③	④	⑤
36. Aç olduğum halde, yemek yeme imkanım yoksa ya açlığımı unutmaya ya da tok olduğumu düşünmeye çalışırım.	①	②	③	④	⑤

TÜRKÇE ÖZET

ERTELEME DAVRANIŞININ ÇOKLU YORDAYICILARI: AKILCI DUYGUSAL DAVRANIŞ MODELİ ÖNERİSİ

GİRİŞ

Erteleme davranışını düşündüğümüzde aklımıza farklı örnekler gelebilir. Yeni yıl kutlamalarından hemen önce, 31 Aralıkta, insanların birkaç saat sonra vermeyi planladıkları hediyeleri almak için ya da bayram arifesi bayram hazırlıklarını tamamlamak için insanların mağazaları doldurduğunu görebiliriz. Akademik alanlarda en belirgin örnek olarak, dönem başında verilen ödevin teslim tarihinden veya sınav tarihlerinin arifesinde yoğun bir biçimde çalışan öğrencilerin çalışma salonlarını doldurmasını verebiliriz.

Toplumların büyük çoğunluğu erteleme davranışı sergilediklerini kabul ederler ancak küçük bir grup erteleme davranışını bir alışkanlık olarak sergilediklerini itiraf edebilirler. Düşündüğünüzde, hediye verilmeden geçirilen bir yılbaşı gecesi önemsiz olabilir, ya da bayram kutlamalarında misafirlerinizi ağırlayamamanız size çok şey kaybettirmez. Ancak, zamanında ve tam olarak teslim edilmemiş bir

dönem ödevi, bir öğrenci için başarısızlık ya da daha da kötüsü okuldan uzaklaştırılmak anlamına gelebilir. Dolayısıyla, erteleme bir öğrenci için başarıya giderken ayakkabısına giren bir taş gibidir. Çıkarılmazsa can yakıp yolunda devam etmeye engel olur.

Erteleme alanında yapılan çalışmaların büyük çoğunluğu, ertelemenin özellikle akademik alanda en yüksek düzeyde olduğunu göstermektedir (Harriot ve Ferrari, 1996) hatta bazı yazarlar tarafından bu oranın % 95'lere ulaştığı belirtilmektedir (Ellis ve Knaus, 1977; Steel, 2007). Araştırma bulguları, erteleme davranışın özellikle üniversite öğrencileri arasında artmakta olduğunu göstermektedir (Bishop, Gallagher ve Cohen, 2000; Burka ve Yuen, 1983; Ellis ve Knaus, 1977; Semb, Glick ve Spencer, 1979; Solomon ve Rothblum, 1984a). Akademik alanda ertelemeyi içeren araştırma bulguları, erteleme davranışının dersten çekilme ve düşük akademik başarı gibi akademik performans üzerinde olumsuz etkileri olmasına rağmen, öğrencilerin akademik görevlerini sıklıkla daha sonraya bıraktıklarını ya da o görevi yapmayı tamamen bıraktıklarını göstermektedir (Keller, 1968; Semb, Glick ve Spencer, 1979; Tan ve ark., 2008). Peki, erteleme davranışının doğası nedir ve üniversite öğrencilerini nasıl etkilemektedir?

En basit anlamda erteleme, öncelikle yapılması gereken bir işin daha sonra yapılmak üzere geciktirilmesi (Lay, 1986) anlamına gelmektedir. Erteleme yeni bir olgu değildir. Erteleme, uzun bir geçmişi olan ancak bilimsel alanda çalışılmaya son 20-30 yılda başlanmış bir kavramdır. Ertelemenin amacı kişinin hayatına kısa dönemli haz katmak gibi görünse de bu eğilimin davranışa

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dönüşmesi çoğu zaman stres, organizasyon bozukluğu ve başarısızlık ile sonuçlanır (Clayton, 2000). Ertelemenin altında yatan düşünce 'bunu yapmak için yarın daha iyi'dir. Ancak yarın geldiğinde durum yeniden tekrarlanır ve kişi kendine 'bunu yarın yapacağım' sözü verir. Bu kısır döngü nedeniyle erteleme 'ertesi gün sendromu' olarak adlandırılabilir (Knaus, 2002).

Bazı araştırmacılar ertelemeyi bir alışkanlık (Ellis ve Knaus, 1977) bazıları ise bir kişilik özelliği olarak kabul etmektedir (Ferrari, 1991; Lay, 1986). Bazı durumlarda ise araştırmacılar erteleme davranışı sergilemenin faydalı olabildiğini belirtmektedir (Choi ve Moran, 2009). Örneğin, Chu ve Choi (2005), bazı öğrencilerin zaman baskısı etkisiyle daha başarılı olabildiklerini ve bu sebeple ertelemeyi özellikle tercih ettiklerini belirtmektedir. Fakat Tice ve Baumeister (1997) bu durumun tersine, ertelemenin kısa dönemli haz sağlasa da uzun dönemli olarak stres ve rahatsızlığa neden olduğunu vurgulamaktadır. Bundan dolayı, erteleme davranışı çoğunlukla olumsuz durumlarla eşleştirilmektedir. Buna göre erteleme davranışı, sağlık sorunlarının yanı sıra, (Sirois, Melia-Gordon ve Pychyl, 2003; Tice ve Baumeister, 1997), düşük akademik başarı (Carden, Bryant ve Moss, 2004; Steel, 2004; Steel, 2002), kaygının değişik oluşumları (Cassady ve Johnson, 2002; Chabaud, Ferrand ve Maury, 2010; Stöber ve Joormann, 2001), akılcı olmayan inançlar ve yöntemler (Beswick, Rothblum ve Mann, 1988; Schubert Walker ve Stewart, 2000) gibi olumsuz davranış ve sonuçlarla ilişkilendirilmektedir.

Erteleme alanında yapılan çalışmaların çoğu, ertelemenin olumsuz özelliklerini incelemektedir. Ferrari ve Tice (2000), örneğin, ertelemeyi kendini sabotajın (self-handicapping) bir oluşumu ya da kişinin korumaya çalıştığı öz-saygıya olan bir tehdit olarak tanımlamaktadır. Bu nedenle, özellikle üniversite ortamında öğrencilerin bu eğilimin üstesinden gelebilmek için sıklıklı üniversite rehberlik merkezlerine başvurduğu belirtilmektedir (Schouwenburg ve arkadaşları, 2004). Diğer taraftan, bazı araştırmacılar (örn., Sigall ve ark., 2000; König ve Kleninmann, 2004) ertelemenin olumlu yanını ele almaktadır. Araştırmacılara (Pychyl ve ark., 2000) göre yapılması gereken işleri daha sonraya bırakmak oldukça akılcı ve kişilerin olumlu duygular hissetmesine yardımcı olan bir durumdur. Bu durum özellikle hoşlanılmayan bir işin daha sonraya bırakılıp onun yerine hoşlanılan bir işin yapılmasıyla gerçekleşmektedir. Bu doğrultuda bazı araştırmacılar (Tice ve Baumeister, 1997) erteleme davranışı sergileyenleri olumluyu dileyenler olarak adlandırmaktadır. Benzer olarak, Sigall ve ark. (2000) erteleme davranışı sergileyenlerin iyimser düşünürler olarak tanımlamaktadır. Buna göre, öğrenciler arkadaşları ile zaman geçirmek gibi bir etkinliği tercih ettiklerinden sınavlara çalışmayı erteleyebilirler. Bu doğrultuda iyimser düşünürler, öğrenmeleri gereken konuları bir gecede öğrenebilecekleri ya da sınavın çok kolay olacağı gibi iyimser düşünürler (Sigall ve ark., 2000). Erteleme davranışı sergilediklerinde olumsuz duygularından bahsetmezler, çünkü o sırada daha keyifli etkinlikler içindedirler (König ve Kleinmann, 2004; Pychyl ve ark., 2000).

Akademik ertelemeye katkıda bulunan etmenler göz önünde bulundurulduğunda, tanımında olduğu gibi, kuramcı ve araştırmacıların ulaştığı ortak bir nokta olmadığı görülmüş, bu güne kadar kuramcılar erteleme nedenlerini farklı yaklaşımlarla açıklamaya çalışmışlardır. Örneğin, psikoanalitik kuramcılar erteleme nedenini kaygıdan kaynaklanan kaçınma davranışı ile açıklarken (Ferrari, Johnson ve McCown, 1995), bilişsel davranışçı görüşü benimseyen kuramcılar, ertelemenin, kişilerin sahip olduğu akılcı olmayan düşüncelerden kaynaklandığın belirtmişlerdir (Burka ve Yuen, 1983; Ellis ve Knaus, 1977). Davranışçı görüşe göre ise, erteleme kişilere kısa dönemli haz sağlayan öğrenilmiş bir davranıştır (Lamba, 1999). Bu kuramları temel alarak daha sonra yapılmış araştırmalarda ertelemenin çeşitli nedenleri ele alınmıştır. Bu çalışmalar, erteleme nedenlerinden bazılarının görevden hoşlanmama (Milgram, Sroloff ve Rosebaum, 1988), tembellik (Senecal, Lavolie ve Koestner 1997), sınav kaygısı (Cassady ve Johnson, 2002), düşük öz-saygı (Beswick, Rothblum ve Mann 1988), olumsuz değerlendirilme korkusu (Ferrari, 1992), öğrenilmiş çaresizlik (McKean, 1994) ve başarısızlık korkusu (Solomon ve Rothblum, 1984) olduğunu göstermiştir.

Son zamanlarda ertelemeye neden olan etmenler birçok araştırmacının ilgisini çekmiş ve bu durum erteleme nedenlerini anlamaya yoğunlaşan farklı modellerin geliştirilmesini sağlamıştır (Dietz, Hofer ve Fries, 2007; Eun Hee, 2009; Seo, 2008). Bu modeller bazı kuramları temel almış ve araştırmacıların yönelimlerine göre ertelemeye ilişkin bazı nedenler ortaya koymuştur (Kachgal, Hansen ve Kevin, 2001; Schowuenburg ve ark., 2004).

Buna göre, *duygusal* yönelimli araştırmalar ertelemenin öznel rahatsızlığına odaklanmıştır (Burka ve Yuen, 1983; Solomon ve Rothblum, 1984). Bu doğrultuda araştırmacılar ertelemeyi olumsuz duygulara neden olan kaygı ve endişe (Tuckman, 1991) ile ilişkilendirmişlerdir. Duygusal yönelimli araştırmacılar kaygı ve endişe duygusunun erteleme ile ilişkili olan en olumsuz duygu olduğunu vurgulamaktadır (Ferrari ve Tice, 2000). Onlara göre erteleme davranışı sergileyen öğrenciler özellikle teslim tarihi öncesi huzursuzluk yaşarlar (Ellis ve Knaus, 1977; Harrington, 2005).

Bilişsel yönelimli erteleme araştırmacıları, ertelemenin öğrencilere olumsuz etkileri olmasına rağmen bilinçli olarak erteleme davranışı sergileme nedenlerini incelemişlerdir (Karas ve Spada, 2009). Bu doğrultuda bilişsel değişkenler erteleme çalışmalarında sıklıkla araştırılmıştır. Örneğin, Burka ve Yuen (1983) bireylerin erteleme davranışı sergilemelerinin nedenini kırılgan öz-saygılarını korumak amaçlı geliştirdikleri bir yöntem olarak açıklamaktadır. Bandura (1986) başka bir yaklaşımla ertelemenin düşük öz-yeterlik sebebinden kaynaklandığını belirtmektedir. Bu doğrultuda araştırma bulguları erteleme davranışı ve öz-saygı, öz-yeterlik inançları ile olumsuz yönde ilişkili bulunmuştur. Buna göre düşük öz-saygı ve düşük öz-yeterliğe sahip olan öğrenciler yüksek düzeyde erteleme davranışı sergilemektedir (Beck, Koons ve Milgrim, 2000; Ferrari, 1994; Ferrari, 2001; Ferrari ve Emmons, 1994; Sirois, 2004).

Erteleme davranışı çalışmalarında *davranış* yönelimli olan araştırmacılar ise öğrencilerin çalışma davranışının miktarı ve erteleme sıklığına odaklanmışlardır

(Beck, Koons ve Milgrim, 2000). Erteleme davranışının belirlenmesi için, birçok çalışmada dönem ödevinin teslim tarihine bakılırken (Tice ve Baumeister, 1997) bazı araştırmalarda uygulanan ölçeklerin araştırmacıya geri verilmesi arasında geçen süre (Lay, 1986) sınavların tamamlanma süresi (Moon ve Illingworth, 2005), ya da verilen görevin başlama ve bitiş saati arasında geçen süre değerlendirilmiştir (Senecal, Lavolie ve Koestner, 1997). Buna ek olarak bazı davranış yönelimli araştırmacılar öz-düzenlemenin erteleme davranışını en güçlü yordayan davranış değişkenlerinden biri olduğunu belirtmektedir (Ferrari ve Tice, 2000; Van Eerde, 2003; Wolters, 2003; Ariley ve Wertenbroch, 2002; Howell, Watson, Powell ve Buro, 2006; Klassen, Krawchuk ve Rajani, 2008).

Çalışma bulgularında görülen değişkenlik, öğrencilerin akademik ortamda erteleme davranışı sergilemelerinin tek bir faktöre bağlı olmadığını, bunun çoklu nedenlerden kaynaklanıyor olabileceğini ortaya koymuştur (Rothblum, Solomon, & Murakami, 1986; Watson, 2001). Bu doğrultuda, erteleme davranışının çoklu faktörlerle incelenmesi son zamanlarda önemli bir araştırma konusu olmuştur. Erteleme davranışının oluşumunu, kuramsal olarak, duygusal, bilişsel ve davranışsal parçalar oluşturmalıdır. Bu yönde yapılan bir çalışma yalnızca Solomon ve Rothblum (1984) tarafından gerçekleştirilmiştir. Buna göre araştırmacılar duygusal parça olarak duygu ve ruh halinin (Burka ve Yuen, 1983; Ferrari, 1992; Spada, Hiou, ve Nikcevic, 2006) önemli olduğunu vurgularken, bilişsel parça olarak akıl dışı düşünce ve inançlara (Blunt ve Pychyl, 2005; Ferrari, 1994) odaklanmışlardır. Erteleme davranışının davranışsal boyutunu

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incelemek için ise, yapılması gereken görevlerin daha sonraya bırakılmasına neden olan diğer davranışlar (Solomon ve Rothblum, 1984) incelemişlerdir.

Daha önce başlatılan çalışmalarda, ertelemenin sınırlı boyutta değişkenlerle incelenmiş olması bu çalışmaların eksikliğini düşündürtmektedir. Bu çalışmaların, ayrıca, kuramsal ve uygulamalı yöntemlerin kullanıldığı kapsamlı çalışmalar olmaması ertelemenin oluşumunu ve çoklu yönlerinin anlaşılmasını güçleştirdiğini düşündürtmektedir. Bu doğrultuda bu çalışmada, daha önce yapılan erteleme çalışmaları genişletilerek, ertelemeye katkıda bulunduğu düşünülen duygusal, bilişsel ve davranışsal bileşenler incelenmiş ve ertelemenin bu bileşenlerle olan ilişkisine bakılmıştır. Bu amaçla, duygusal, bilişsel ve davranışsal bileşenlerden oluşan bir grup değişken seçilmiş ve bu değişkenlerin üniversite öğrencilerinde ertelemeyi ne düzeyde yordayacağına bakılmıştır. Bu çalışma için seçilen değişkenler, engellenmeye tahammülsüzlük inancının duygusal parçalarını oluşturan duygusal ve rahatsızlığa tahammülsüzlük, akıl dışı inançların duygusal sorumsuzluk ve aşırı kaygı olarak adlandırılmış olan duygusal iki alt boyutu, akademik öz-yetkinlik, öz-saygı, ve öz-düzenleme değişkenlerini içermektedir. Bu çalışmada seçilen değişkenler, çalışmanın temeli olarak benimsenen akılcı duygusal davranış teorisini temel almaktadır.

Çalışmanın Amacı

Bu çalışmanın amacı, erteleme davranışının nedenlerini Ellis (1962)'in akılcı duygusal davranış kuramı çerçevesinde incelemektir. Bu amaçla akılcı duygusal davranış kuramı temel alınarak duygusal, bilişsel ve davranış bileşenlerini yansıttığı düşünülen değişkenler belirlenmiş ve bu değişkenlerin erteleme ile yapısal bir ilişki içerisinde öğrencilerde ertelemeyi ne ölçüde yordayacağına bakılmıştır. Daha önce belirtildiği gibi bu çalışmada kullanılan değişkenler, engellenmeye tahammülsüzlük inancının duygusal iki boyutunu oluşturan duygusal ve rahatsızlığa tahammülsüzlüğü; akıl dışı inançların duygusal parçasını oluşturan duygusal sorumsuzluk ve aşırı kaygı boyutlarını ve akademik öz-yeterlik, öz-saygı ve öz-düzenleme değişkenlerini içermektedir.

Buna göre, varsayımı önerilen ara değişkenli yapısal model, bağımlı ve bağımsız değişkenlerden oluşmaktadır. Modelde bağımsız değişkenler, engellenmeye tahammülsüzlük inancının iki boyutu ve akıl dışı inançların iki boyutunu, akademik öz-yeterlik, öz-saygı ve öz-düzenleme değişkenlerini içerirken, araştırmanın bağımlı değişkeni ertelemeyi içermektedir. Önerilen yapısal modelde, akademik öz-yeterlik, öz saygı ve öz-düzenleme değişkenleri ara değişken olarak belirlenmiştir.

Bu bağlamda, bu araştırma aşağıdaki soruya odaklanmaktadır;

Erteleme; engellenmeye tahammülsüzlük (duygusal tahammülsüzlük ve rahatsızlığa tahammülsüzlük), akıl dışı inançlar (duygusal sorumsuzluk ve aşırı kaygı), akademik öz-yeterlik, öz-saygı ve öz-düzenleme tarafından ne ölçüde yordanmaktadır?

Varsayımda Bulunulan Modelin Geliştirilmesi

Erteleme problemi, teorik yapısının ötesinde gerçek yaşam sorunlarından biridir. Ertelemenin diğer bazı sorunlar gibi (Ellis, 1979) ampirik olarak duygusal, bilişsel ve davranışsal yapılardan oluştuğu bilinmektedir (Solomon, ve ark., 1983; Solomon ve Rothblum, 1984)(Solomon et al., 1983). Bu yüzden, karmaşık yapılardan oluşan insan davranışlarının, duygusal, bilişsel ve davranışsal tüm bileşenler dahil edilerek incelenmesi önerilmektedir (Solomon ve Rothblum, 1984). Daha once erteleme alanında yapılan çalışmaların sınırlılığının yanı sıra; ertelemeye katkıda bulunan etmenleri içeren çalışmaların sınırlı nedenlere odaklandığı bilinmektedir. Ertelemenin çok boyutlu olarak çalışıldığı çalışmalarda ise (Rothblum ve ark., 1986; Solomon ve Rothblum, 1984) değişkenler arasındaki yapısal ilişkiye bakılmaksızın incelenmesi bu alanda bilgi yetersizliğine neden olmaktadır.

Tüm bu bilgiler ışığında, ertelemeye katkıda bulunan etmenlerin alan yazında incelemesi sonucu, kavramsal ve kuramsal temelden oluşan, duygusal, bilişsel ve

davranışsal bileşenleri içeren yapısal bir model geliştirmeye karar verilmiştir. Bu doğrultuda bu çalışma, bu alanda daha önceki yıllarda yapılan çalışmaların kavramsal olarak genişletilmiş biçimini içeren, kapsamlı olarak seçilen duygusal, bilişsel ve davranışsal bileşenleri yansıttığı düşünülen değişkenlerin erteleme davranışı ile olan yapısal ilişkisini incelemektedir.

Ellis ve Knaus (1977)'un vurguladığı gibi, erteleme kaynağını farklı düşünme, farklı uygulama ve bunlara ilişkin güçlü duygular geliştiren kendini baltalayıcı (self-defeating) bir davranıştır. Bu doğrultuda erteleme eğilimini değiştirmek için Ellis (1973)'in akılcı, duygusal davranış modelini temel alan Duygu-Düşünce-Davranış modeli geliştirilmiştir. Bu modelin özellikle tercih edilmesinin nedenlerinden birisi modelin güçlü kuramsal temelinin olması ve kuram çerçevesinde duygu, düşünce ve davranışın birbirinden ayırdedilemez oluşumudur.

Yol Analizi Modelinin Geliştirilmesi

Bu çalışmada, değişkenler arasındaki ilişkiyi incelerken değişkenlerin ana değişkeni ne ölçüde yordadığı bilgisini sağlayan yol analizi kullanılmıştır. Yol analizi geliştirmek amacıyla öncelikle daha once erteleme davranışı alanında yapılmış çalışmalar incelenmiş ve erteleme ile ilişkisi güçlü olduğu rapor edilmiş değişkenler belirlenmiştir. Erteleme ile anlamlı ilişkisi olan tüm faktörler literatür taraması bölümünde sunulmaktadır. Gerek ertelemenin teorik olarak test edilmesi gerekse kullanılan istatistiksel analizin gerekliliği doğrultusunda, önerilen

modelin sınanması için bir kuramsal temele ihtiyaç duyulmaktadır. Bu doğrultuda Ellis ve Knaus (1979)'un ertelemeye yaklaşımı temel alınarak akılcı, duygusal davranış kuramı göz önünde bulundurulmuştur. Araştırmacıların kuramsal çerçevede erteleme ile ilişkili olarak önerdikleri kavramlar incelenerek, duygusal, bilişsel ve davranış bileşenlerini yansıtan değişkenler belirlenmiştir. Sonuç olarak, akılcı duygusal davranış kuramında önemli olduğu vurgulanan değişkenler seçilerek sebepsel ve ilişkisel bir model ortaya konulmuştur. Bu doğrultuda, veriler toplama süreci tamamlandıktan sonra değişkenler arasında istatistiksel anlamlılık düzeyinin test etmek için Pearson momentler çarpımı katsayıları hesaplanmıştır.

Yol analizine dahil edilen değişkenlerin anlamlı ve çokyönlü bir yapı oluşturmasıyla, ertelemeyle yüksek düzeyde ilişkili bulunan bazı altboyutlar seçilmiştir. Bu doğrultuda, engellenmişlige tahammülsüzlük değişkeninin duygusal ve rahatsızlığa tahammülsüzlük alt boyutlarının yanısıra akıl dışı inançlar değişkeninin duygusal sorumsuzluk ve aşırı kaygı alt boyutları modele dahil edilmiştir. Tüm bu aşamalardan sonra, akılcı duygusal davranış kuramını temel alan ara değişkenli yapısal model oluşturulmuştur.

Çalışmada önerilen kuramsal model Figür 1.1 (sayfa 10)'de sunulmaktadır. Modelde resmediğildiği gibi erteleme dışsal değişken (exogenous variable) olarak, duygusal tahammülsüzlük, rahatsızlığa tahammülsüzlük, duygusal sorumsuzluk ve aşırı kaygı değişkenlerini içeren dört içsel değişken (endogenous

variable) tarafından, akademik öz-yeterlik, öz-saygı ve öz-düzenleme olan üç ara değişken (mediator variable) yoluyla yordanmaktadır.

Çalışmanın Önemi

Okul yılları boyunca öğrencilerin akademik performans sorumluluğu aşamalı olarak aileden öğretmene ve öğretmenden öğrencinin kendisine geçer (Tuckman, 1991). Öğrenci, okul yıllarında daha çok aileye bağlıyken yaş ve okul derecesi arttıkça aileden bağımsızlaşarak öğrenme adımlarını kendisi oluşturmaya ve eğitimine kendisi karar vermeye başlar. Bu öz-bağımsızlık üniversite döneminde en yüksek düzeylere erişir. Bu dönemde öğrencinin öğrenmesi tamamen kendi sorumluluk alanında olduğundan erteleme eğilimi öğrenci için en önemli sorunlardan biri olmaya başlar. Bu bağlamda, birçok öğrenci belirlenen zaman içinde öğrenme görevlerini tamamlayamadığını bundan dolayı beklenen başarıyı elde edemediğini itiraf etmiştir (Beswick ve ark., 1988)(Beswick et al., 1988). Bazılarıysa bu sebepten dolayı başarısız olup sonunda okulu bırakmak ya da okuldan uzaklaştırılmak durumunda kaldığını belirtmiştir (Keller, 1968).

Erteleme eğiliminin akademik başarısızlığa neden olduğuna ilişkin bazı kanıtlar bulunmaktadır (Howell ve Buro, 2009; Lubbers ve ark., 2010). Bu sebeple, akademik ortamda ertelemenin doğasını anlamak ve bu eğilime etki eden çoklu faktörleri anlamak önemlidir. Daha önce bu alanda yapılan çalışmaların sınırlı değişkenlere odaklanmış olmaları (Solomon ve Rothblum, 1984) ertelemenin çok yönlü anlaşılmasına olanaksız kılmaktadır. Bu alanın araştırmacıları ertelemenin

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yetersiz zaman kontrolünün ötesinde çok boyutlu bir olgu olduğunu savunmaktadır (Solomon ve ark., 1983). Buna rağmen, ertelemenin duygusal, bilişsel ve davranışsal bileşenleri içeren çok boyutluluğuna ilişkin yeterli bilgiye rastlanmamaktadır.

Bu doğrultuda bu araştırma geçmiş yıllarda erteleme alanında yapılmış olan çalışmaların genişletilmiş niteliğinde, erteleme ile istatistiksel olarak anlamlı ve yüksek düzeyde ilişkili olan bazı değişkenlerin ara değişkenli bir kuramsal modelin yol analizi kullanılarak incelenmesini içermektedir. Bu çalışma, ertelemenin hem kuramsal hemde yapısal bilgi birikimine destek olmak amacıyla planlanmıştır. Diğer bir deyişle, bu çalışmanın kuramsal temeli duygusal, bilişsel ve davranış bileşenlerinin önemini vurgulayan Ellis (1962)'in akılcı duygusal davranış kuramını temel alarak yapılandırılmıştır.

Bu çalışmada araştırmacı öğrencilerde ertelemenin çeşitli etki alanlarını incelemek amacıyla akılcı duygusal davranış yaklaşımını temel almıştır. Bu doğrultuda, ertelemeye ilişkin duygusal, bilişsel ve davranış bileşenlerinin geniş çeşitliliğinin incelenmesi, üniversite eğitim çalışanlarına ve psikologik danışmanlara öğrencilerin ihtiyaçlarını ve erteleme nedenlerini anlamaya ilişkin destek olacaktır. Buna ek olarak, bu çalışma bulgularının erteleme alanında yapılan çalışmalara da katkıda bulunacağı düşünülmektedir. Bu doğrultuda, bu çalışmanın Türkiye'de oldukça sınırlı olan erteleme literatürüne de katkıda bulunması beklenmektedir. Tüm bunların ötesinde, geçerlik ve güvenirlik çalışması bu çalışma kapsamında gerçekleştirilen Engellenmeye Tahammülsüzlük

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Ölçeği (Harrington, 2005)'nin bu alanda daha sonra başlatılacak olan çalışmalara öncülük edeceği beklenmektedir.

Öğrencilerde erteleme eğilimi, erteleme eğiliminin oluşumu, sebep-sonuç ilişkisi, iyileştirilme seçenekleri batı toplumlarında oldukça ilgi görürken, bu alanlarda Türkiyede bir çalışmaya rastlanmamıştır. Araştırmacılar, ertelemenşn çoklu yapısının inelenmesinin önemini vurgulamasına rağmen, ertelemeyi çok boyutta ele alan, kuramsal temele dayandırılmış bir model çalışmasına da rastlanmamıştır. Bu doğrultuda, Türk örneklemi üzerinde ertelemenin çoklu yapısını inceleyen bu çalışmanın ulusal ve uluslararası literature katkı sağlayacağı beklenmektedir. Çalışmanın bulgularının ayrıca, öğrencilerde ertelemenin azaltılması yada control edilmesine ilişkin oluşturulacak olan programlara ışık tutması beklenmektedir.

Çalışmanın Sınırlılıkları

Bu çalışmanın ışığında bazı sınırlılıkların olduğu gözardı edilmemelidir. İlk olarak, çalışma bulgularının genellenmesi düşünüldüğünde çalışmanın örneklem seçimine ilişkin bir sınırlılığı olduğu düşünülebilir. Bu çalışma öğrencilerde erteleme davranışını yordayan çoklu faktörleri incelemeyi amaçlayan ilk çalışma olduğu düşünülerek, çalışma örnekleminin sadece Orta Doğu Teknik Üniversitesi lisans öğrencileri arasından seçilmiş olması çalışmanın sınırlılıkları arasında kabul edilebilir. Erteleme davranışını farklı düzeylerde sergileme olasılıklarından dolayı çalışma bulgularının üniversite eğitimlerine devam eden hazırlık ve lisans üstü öğrencilerine genellenip genellenemeyeceği açık değildir.

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Çalışmanın ikinci sınırlılığı bulguların öz-cevaplama yöntemiyle elde edilmiş olmasıdır. Bu çalışma kapsamında erteleme, gözlem, arkadaş yada öğretmen değerlendirmesi gibi çoklu yöntemler kullanılarak değil her öğrencinin erteleme eğilimini kendi ifadesine alınarak değerlendirilmiştir. Bu doğrultuda öğrencilerin gerçek erteleme seviyelerini yansıttıkları varsayılarak gerekli analizler yapılmış ve bulgular edinilmiştir.

Çalışmanın son sınırlılığı kullanılan değişkenlerle ilişkilidir. Bu çalışma kapsamında öğrencilerde erteleme bilişsel, duygusal ve davranış bileşenlerini içeren yapıları yansıttığına inanılan bir grup değişken yoluyla incelenmiştir. Çalışma bulguları bilişsel, duygusal ve davranış bileşenlerini içeren bu değişkenlerle sınırlıdır.

YÖNTEM

Örneklem

Bu çalışmaya Orta Doğu Teknik Üniversitesi (ODTÜ)'nde 2009-2010 akademik yılında 37 bölümde eğitimlerine devam eden lisans öğrencileri katılmıştır. Çalışmada örneklem seçimi için oransal seçkisiz örneklem yöntemi kullanılmıştır. Bu doğrultuda, üniversitede alt grupları oluşturan beş fakültenin öğrenci sayıları belirlenmiş ve bu sayılarla aynı oranda lisans öğrencisi çalışmaya dahil edilmiştir. Buna gore çalışmanın nüfusunu, toplamı 1150 olan uluslararası lisans öğrencilerinin genel nüfustan çıkarılmasıyla elde edilen 11460 lisans öğrencisi

olarak belirlenmiştir. Buna göre toplam nüfusun %10'unu oluşturan 1146 lisans öğrencisinden toplanan veriler sonucu edinilen bulguların ODTÜ'de okuyan tüm lisans öğrencilerine genellenebileceği düşünülmüştür. Buna göre, ODTÜ'de her fakültede okuyan öğrenci sayısı belirlenerek bu öğrencilerin %10'u çalışmaya dahil edilmiştir. Bu doğrultuda, araştırmacı 1270 öğrenciden veri toplamış ancak veri izleme yöntemlerinden sonra eksik veri ve aykırı verilere sahip olan öğrencilerin toplamdan çıkarılmasıyla istatistiksel analiz için 1218 katılımcı kalmıştır. Çalışmaya katılan 1218 öğrencinin 623'ü (% 51.1) kız öğrencilerden oluşurken öğrencilerin 595'i (% 48.9) erkek öğrencilerden oluşmuştur. Katılımcıların ayrıca 320'si (% 26.3) birinci sınıf, 211'i (% 17.3) ikinci sınıf, 405'i (% 33.3) üçüncü sınıf ve 282'si (% 23.2) dördüncü sınıf öğrencilerinden oluşmaktadır.

Veri Toplama Araçları

Bu çalışmada erteleme davranışına katkıda bulunan duygusal, bilişsel ve davranışsal parçalar, Demografik Bilgi Formunun yanı sıra, Tuckman Erteleme Davranışı Ölçeği, Akılcı Olmayan İnançlar Testi, Akademik Öz-Yeterlik Testi, Rosenberg Öz-Saygı Testi, Engellenmeye Tahammülsüzlük Ölçeği, ve Öz-Kontrol Ölçeği ile değerlendirilmiştir.

Çalışma kapsamında kullanılan her bir very toplama aracı için aynı örneklem kullanılarak geçerlik ve güvenirlik çalışması gerçekleştirilmiştir. Buna göre, kullanılan ölçeklerin geçerlik kanıtları Cronbach Alfa değeri hesaplanmıştır.

Çalışmada kullanılan veri toplama araçlarının benzer ölçek geçerliği ve karşıt ölçek geçerliğine ilişkin kanıtlara ulaşmak için ölçeklerden arasındaki ilişki Pearson momentler katsayısı değerlendirilmiştir.

Çalışmada kullanılan *demografik bilgi formu* katılımcıların cinsiyet, yaş, bölüm ve genel akademik ortalamalarına ilişkin sorular içermektedir. Bu formda ayrıca çalışmanın amacı ve içeriği kısa bir paragrafla açıklanmıştır.

Tuckman Erteleme Davranışı Ölçeği (Tuckman, 1991), uluslararası erteleme davranışı çalışmalarında sıklıkla kullanılan ölçeklerden biridir. Toplam 16 maddeden oluşan ölçekte bazı maddelerin (7, 12, 14 ve 16) ters puanlanması yoluyla toplam puan elde edilmektedir. Ölçek, tek boyutlu bir yapı göstermektedir. Bu güne kadar yapılan geçerlik güvenirlik çalışması bulguları ölçeğin içtutarlık katsayısının .86 ve benzer ölçek geçerliğinin .47 olduğunu göstermiştir. Ölçeğin Türkçe geçerlik güvenirlik çalışması Uzun-Özer, Saçkes ve Tuckman (2009) tarafından yapılmıştır. Ölçekteki iki maddenin çıkarılmasıyla ölçek orijinalindeki yapıya ulaşmış ve 14 maddeden oıluşan tek boyutlu yapıda kabul edilmiştir. Araştırmacılar ölçeğin iç tutarlık katsayısını .90 ve karşıt ölçek geçerliği .22 olarak rapor etmiştir.

Akılcı Olmayan İnançlar Ölçeği (Jones, 1969) Ellis'in Akılcı duygusal davranış teorisi temel alınarak geliştirilmiştir. Ölçeğin orijinalinde 100 madde ve 10 alt boyut bulunmaktadır. Ölçeğin Türkçe geçerlik ve güvenirlik çalışması Yurtal (1999) tarafından yapılmıştır. Yurtal (1999) ölçeğin içtutarlık katsayısının .74 ve

test-tekrar test geçerliğinin .71 olduğunu belirtmiştir. Ölçeğin Türkçe formu 45 madde ve 8 alt boyuttan oluşmaktadır. Alt boyutlar için geçerlik katsayısı .46 ile .82. arasında değişmektedir. Ölçeğin 16 PF kişilik envanteri alt boyutları ile olan korelasyon katsayıları .31 ile .63. arasında rapor edilmiştir.

Akademik Öz-Yeterlik Ölçeği (Jerusalem ve Schwarzer, 1981)'nin orijinali Almancadır. Ölçek toplam 7 maddeden oluşmakta ve tek boyutlu bir factör yapısı göstermektedir. Akademik öz-yeterlik ölçeğinin Türkçe uygulaması için geçerlik ve güvenirlik çalışması Yılmaz, Gürçay ve Ekici (2007) tarafından gerçekleştirilmiştir. Ölçeğin Türkçe formu da aslı gibi 7 maddeden ve tek boyuttan oluşmuştur. Ölçekte bir maddenin (madde 7) ters puanlanması yoluyla toplam puan elde edilmektedir. Ölçeğin Türk örneklemi için iç tutarlık katsayısı .79 olarak ve benzer ölçek geçerliği .44 olarak bulunmuştur.

Rosenberg Öz-Saygı Ölçeği (Roseberg, 1965) 10 maddeden oluşan tek boyutlu bir ölçektir. Ölçekte beş maddenin (1, 2, 4, 6 ve 7) ters puanlanması yoluyla toplam puan elde edilmektedir. Ölçeğin Türkçe geçerlik ve güvenirlik çalışması Çuhadaroğlu (1985) tarafından gerçekleştirilmiştir. Çuhadaroğlu ölçeğin Türk örneklemi için geçerlik katsayısını .71, test-tekrar test katsayısını .75 olarak rapor etmiştir.

Engellenmeye Tahammülsüzlük Ölçeği, Harrington (2005) tarafından Ellis (1962)'in akılcı duygusal davranış teorisi temel alınarak geliştirilmiştir. Ölçek 28 madde ve toplam dört alt boyuttan oluşmaktadır. Ölçeğin geçerlik ve güvenirlik

çalışması bu çalışma kapsamında gerçekleştirilmiştir. Madde-toplam korelasyonu düşük olan dört maddenin ölçek maddelerinden çıkarılmasıyla ölçek orijinal yapıya ulaşmış ve uygulanan doğrulayıcı faktör analizi ölçeğin dört alt boyuttan oluştuğunu ortaya koymuştur. Ölçeğin Türk örneklemi için iç tutarlık katsayısı .86 ve test-tekrar test ilişkisel katsayısı .70 olarak hesaplanmıştır. Bu çalışma sonucunda ölçeğin aykırı ölçek geçerliği .35 olarak bulunmuştur.

Öz-kontrol Ölçeği (Rosenbaum, 1980) 36 maddeden ve toplam 6 alt boyuttan oluşan bir ölçektir. Ölçekten alınan toplam puan, ölçekteki on bir maddenin (4, 6, 8, 9, 14, 16, 18, 19, 21, 29 ve 35) ters puanlanması ile elde edilmektedir. Türkçe geçerlik ve güvenirlik çalışması Siva (1991) tarafından yapılan ölçeğin Türk örneklemine uygulanması sonucu içtutarlık katsayısı .79 ve test-tekrar test ilişkisel katsayısı .80 (Dağ, 1991) olarak rapor edilmiştir. Ölçeğin aykırı ölçek geçerliği ise -.29 olarak bulunmuştur.

Veri Toplama Süreci

Veriler araştırmacı tarafından 2009-2010 öğretim yılı bahar döneminde 6 haftalık bir sürede toplanmıştır. Üniversite İnsan Araştırmaları Etik Kurulu onayı ve her bir sınıfın öğretim elemanlarının izni alındıktan sonra tüm ölçme araçları öğrencilere ders saatlerinde dağıtılmış ve gerekli açıklamalar tüm öğrencilere standart biçimde yapılmıştır. Tüm öğrenciler çalışmaya gönüllü olarak katılmıştır.

Verilerin Analizi

Bu çalışmada verilerin analizi için AMOS 18 veri analizi programı kullanılmıştır. Bu analiz yoluyla varsayımsal bir model test edilmiştir. Diğer bir deyişle, akılcı duygusal davranış kuramı temel alınarak seçilmiş duygusal, bilişsel ve davranış değişkenlerinin, erteleme davranışını ne ölçüde yordadığı ve değişkenlerin doğrudan ve dolaylı etkisini incelemek için birbirleriyle olan yapısal ilişkisine bakılmıştır.

BULGULAR

Bu çalışmada öncelikle, çalışmanın temel analizi olan yol analizinin gerekliliği olan sayıltılar test edilmiştir. Buna göre veri analizinden önce eksik veriler ve aykırı değerler tespit edilmiş ve % 5 in üzerinde eksik veri ve aykırı veri bulunan katılımcılar veri analizine dahil edilmemiştir. Bunun yanı sıra, verilerin dağılımının normal olup olmadığını test etmek amacıyla Skewness ve Kurtosis değerlerine bakılmıştır. Analiz öncesi bulgular veri analizinin uygunluğu ortaya koyduğundan verilerin analizi için ilk olarak betimsel istatistik yöntemleriyle değişkenlerin ortalamaları ve standart sapmaları (Tablo 4.2); daha sonra da değişkenler arasındaki korelasyonlar hesaplanmıştır (Tablo 4.3).

Önerilen modelin sınanması amacıyla öncelikle modelin çalışma verilerine uygun olup olmadığını görmek için çeşitli uygunluk ölçütleri hesaplanmıştır. Bu sonuçlar Tablo 4.7'de belirtilmektedir. Tablodan, tüm istatistiksel uygunluk sonuçlarının

anlamlı olduğu ancak veri toplanan örneklemin bu modeli çok iyi temsil etmediği görülmektedir. Buna göre analiz sonuçları bazı yolların çıkarılması ve bazı yolların modele eklenmesine ilişkin öneriler vermiştir. Bu öneriler gerçekleştirilerek analiz tekrarlanmıştır. Buna göre önerilen modelin çoklu uygunluğu Tablo 4.9'da sunulmaktadır.

Modelde kurgulanan doğrudan ve dolaylı yolların anlamlı olup olmadığı standardize edilmiş beta yükleri ile elde edilmiştir. Doğrudan ve dolaylı etkiler Tablo 4.6'da, Figür 4.2 (sayfa 131)'de ve Figür 4.3 (sayfa 137)'te sunulmaktadır. Figür 4.2'de anlamlı yollar siyah, anlamsız yollar kırmızı ve önerilen yollar ise yeşil renkle gösterilmektedir. Figür 4.3'de ise önerilen modeldeki yolların standardize edilmiş beta yükleri gösterilmektedir.

Tüm bu yollar incelendiğinde öz-saygının ertelemeyi olumsuz yönde yordadığı görülmektedir. Bulgular ayrıca öz-saygının ertelemeyi en güçlü düzeyde olumsuz yordayan bir değişken olduğunu ortaya koymuştur. Akademik öz-yeterlik erteleme davranışını olumsuz yönde anlamlı olarak yordarken aynı zamanda ara etken olarakta yordadığını ortaya koymuştur. Bulgular genel olarak öz-saygının erteleme davranışını hem doğrudan hem de akademik öz-yeterlik ve öz-düzenlemeyi ara etken alarak, dolaylı olarak da etkilediğini göstermiştir.

Çalışma bulguları, engellenmeye tahammülsüzlük alt boyutlarından duygusal tahammülsüzlük değişkeninin öz-düzenlemeyi olumlu olarak ve ertelemeyi olumsuz olarak yordadığını ortaya koymuştur. Duygusal tahammülsüzlük ve

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akademik öz-saygı arasında anlamlı bir ilişki bulunamamıştır. Bulgular ayrıca, yordama puanı düşük olsa bile duygusal tahammülsüzlüğün ertelemeyi dolaylı olarak öz-düzenlemeyi ara değişken alarak yordadığını ortaya koymuştur. Benzer olarak, engellenmeye tahammülsüzlüğün ikinci alt boyutu olan rahatsızlığa tahammülsüzlüğün akademik öz-yeterliği, öz-saygıyı ve öz-düzenlemeyi anlamlı ve olumsuz yönde yordadığını ortaya koymaktadır. Buna ek olarak bulgular, engellenmeye tahammülsüzlüğün ertelemeyi akademik öz-yeterlik ve öz-saygıyı ara değişken alarak dolaylı yönden de yordadığını göstermektedir.

Modelin önemli değişkenlerinden biri olan akılcı olmayan inançlar ölçeğinin iki alt boyutundan biri olan duygusal sorumsuzluğun akademik öz- yeterliği ve öz-saygıyı anlamlı ve olumsuz yönde yordadığı görülmektedir. Bu çalışmanın önemli bulgularından bir diğeri de duygusal sorumsuzluk değişkeninin erteleme davranışını doğrudan ve dolaylı yolla yordamış olmasıdır. Akılcı olmayan inançlar değişkeninin ikinci alt boyutu olan aşırı kaygı değişkeninin de öz-saygıyı ve ertelemeyi dolaylı olarak yordaması diğer önemli bir bulgu olarak değerlendirilebilir. Modelde aşırı kaygı değişkeni erteleme davranışını öz-saygı yoluyla dolaylı olarak yordamaktadır.

Araştırma modeli, önerilerden sonra tekrar test edilmiş ve bu haliyle modelin uyum istatistiklerinin çok daha iyi olduğu görülmüştür. Tablo 4.7 ve Figür 4.3 (sayfa 137) yenilenmiş modeldeki beta yüklerini göstermektedir. Erteleme, akademik öz-yeterlik, öz-saygı ve öz-düzenleme için elde edilen regresyon eşitlikleri ve R2 sonuçları Tablo 4.8'de sunulmaktadır. Buna göre, engellenmeye

tahammülsüzlük (duygusal ve rahatsızlığa tahammülsüzlük), akıl dışı inançlar (duygusal sorumsuzluk), akademik öz-yeterlik, öz-saygı ve öz-düzenleme erteleme toplam varyansının % 35'ini; öz-saygı, duygusal tahammülsüzlük, duygusal sorumsuzluk, akademik öz-yeterlikteki toplam varyansın % 13'ünü; rahatsızlığa tahammülsüzlük, duygusal sorumsuzluk ve aşırı kaygı öz-saygıdaki toplam varyansın % 07 sini ve son olarak duygusal tahammülsüzlük, rahatsızlığa tahammülsüzlüğü, duygusal sorumsuzluk, akademik öz-yeterlik ve öz-saygı, öz-düzenlemedeki toplam varyansın % 27'sini açıklamıştır.

TARTIŞMA

Bu çalışmanın amacı akılcı duygusal davranış kuramı çerçevesinde belirlenmiş olan değişkenlerin Türk üniversite öğrencilerinin erteleme davranışı sergilemelerine ne düzeyde katkıda bulunduğunu incelemektir. Diğer bir deyişle, bu çalışma kapsamında bilişsel, duygusal ve davranışsal bileşenleri yansıtan değişkenlerin hem erteleme ile hem de kendi aralarında ne düzeyde etkileşimli oldukları incelenmiştir. Akılcı duygusal davranış kuramını temel alan çalışmada Figür 4.1'de görülen ara değişkenli bir model test edilmiştir.

Bu çalışma kapsamında çoklu faktörler ertelemenin neden sonuç örüntüsü içinde değerlendirilmiştir. Çalışma kapsamında değerlendirilen kavramlar engellenmeye tahammülsüzlük, akılcı olmayan inançlar, akademik öz-yeterlik, öz-saygı ve öz-düzenlemeyi içermektedir.

Cinsiyet farkı bu çalışma kapsamında incelenen ilk kavramdır. Cinsiyet farkına yönelik, ön çalışma olarak gerçekleştirilen analizler kız ve erkek öğrencilerin erteleme davranışlarında cinsiyet farkının olmadığını göstermiştir. Bu doğrultuda çalışma bulguları, daha önce gerçekleştirilen bir çalışmanın bulgularıyla tutarsızlık göstermektedir. Ancak araştırmacı görüşleri buna benzer sonuçların beklenebileceği yönündedir. Buna göre bazı araştırmacılar (örn., Milgram, Batori ve Mowrer, 1993; Watson, 2001) erteleme davranışının veri toplanan nüfustan ve uygulanan yöntemden etkilendiğini belirtmektedir. Bu çalışmanın nüfusunun daha önceki çalışmanın nüfusu ile aynı olmasına rağmen çalışmada kullanılan erteleme davranışı ölçeğinin farklı olması ve çalışmanın beş yıl sonra yeniden yapılması iki çalışma arasındaki cinsiyet farkına olan tutarsızlığı ortaya koymuş olabilir. Bu bağlamda, çalışma bulguları erteleme davranışı alanda metanaliz çalışmalarını yürüten (Steel, 2004; 2007) erteleme davranışında cinsiyet farkının tahmin etmesi zor bir yapı olduğunu belirten araştırmacıların görüşlerini desteklemektedir.

Araştırmadan elde edilen bulgulara bakıldığında engellenmeye tahammülsüzlüğün duygusal parçası olan duygusal sorumsuzluğun, akılcı olmayan inançların duygusal parçaları olan duygusal ve rahatsızlığa tahammülsüzlüğün, akademik öz-yeterlik inancının, öz-saygının, ve öz-düzenlemenin doğrudan erteleme davranışına neden olduğu görülmektedir. Ancak bu doğrudan etkilerin yanında akademik öz-yeterliğin, öz-saygının ve öz-düzenlemenin beklendiği gibi erteleme ve diğer değişkenler arasında ara değişken özelliğine de sahip olduğu ortaya çıkmıştır. Buna göre, rahatsızlığa tahammülsüzlük ve duygusal sorumsuzluk düşük akademik öz-yeterliğe yol açarak erteleme davranışına neden olmakta;

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rahatsızlığa tahammülsüzlük, duygusal sorumsuzluk ve aşırı kaygı öğrencilerde öz-saygının düşmesine neden olarak erteleme davranışının dolaylı olarak artmasına neden olabilmektedir. Aynı şekilde duygusal ve rahatsızlığa tahammülsüzlük aşırı kaygı ile beraber öz-düzenlemeyi olumsuz yönde etkileyerek erteleme davranışına neden olabilmektedir.

Araştırma bulgularında görüldüğü gibi, üniversite öğrencilerinde ertelemeye yol açabilen pek çok faktör bulunmaktadır. Bu etkenler kendi aralarında da çeşitli etkileşimlerde bulunmakta ve öğrencilerin akademik görevlerini ileriki bir zamana bırakmalarına neden olmaktadır. Bu çalışma bulguları, öğrencilerin akademik görevlerini ertelemelerinde duygusal, bilişsel ve davranışsal faktörlerin etkili olduğunu ortaya koymaktadır. Bulgular bilişsel faktörlerin, erteleme davranışına ilişkin duygusal ve davranışsal faktörler üzerindeki etkisini güçlendirebileceği söylenebilir. Bulgulara genel olarak bakıldığında Ellis (1962)'in önemle üzerinde duyduğu duygu, düşünce ve davranış örüntüsünü desteklediği de görülebilmektedir. Bu çalışma, üniversite öğrencilerinde erteleme davranışının önemli nedenlerini ortaya koymuştur. Akılcı duygusal davranış kuramı çerçevesinde erteleme davranışını açıklayıcı pek çok etkenin bireysel rollerinin yanı sıra bu etkenlerin birbirleriyle etkileşerek erteleme davranışını yordadığı da çalışma bulguları arasındadır.

Bu çalışmanın bulguları, hem istatistiksel hem de kuramsal olarak duygusal, bilişsel ve davranışsal faktörlerin problem davranışlarda önemini ortaya koymuştur. Akılcı duygusal davranış kuramında da önerildiği gibi insanların

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duygusal, bilişsel ve davranış örüntüleri birbirinden ayrılmaz şekilde ilişkilidir. Bu doğrultuda, bu faktörlerden birinin değişimi diğerlerinin de değişimi ile gerçekleşebilmektedir. Buna göre davranışlar etkileşimli ve geçişli olarak gelişmektedir. Düşünceler duygu ve davranışlarla beslenmektedir (Ellis 1979).

Çalışma bulguları erteleme davranışının sadece davranışsal bir problem olmadığını, aksine, duygusal, bilişsel ve davranışsal bir örüntü içinde olduğunu ortaya koymuştur. Bulgular erteleme davranışını değiştirmenin ancak duygu ve düşüncenin de değişmesiyle gerçekleştirileceğini göstermektedir. Bu doğrultuda çalışma bulgularının üniversite psikolojik danışma servisi çalışanlarına ve eğitim görevlilerine faydalı bilgiler sunacak niteliktedir. Buna göre, öğrencilerde erteleme davranışının üstesinden gelinmesinin ancak a) farklı davranarak, b) genelde düşündüğünden farklı yolla düşünerek, c) değişime yönelik hissetme ile oluşacağının bilinmesi gerekmektedir.

Buna ek olara, çalışma bulguları, erteleme davranışında en güçlü etkinin öz-düzenleme yoluyla olduğunu ortaya koymuştur. Bu doğrultuda, erteleme davranışının üstesinden gelinmesi doğrultusunda çalışmalar yapan araştırmacıların ya da psikolojik danışmanların öğrencilerde erteleme davranışını azaltmak için onlara öncelikle öz-düzenleme yollarını öğretmeleri önerilebilir.

Bundan sonra Türkiye'de yapılacak çalışmalar için de birtakım öneriler verilebilir. Türkiye'de erteleme davranışı kuramsal çalışmalar olarak çok fazla ilgi görmediğinden bu alanda sistematik ve kuramsal temele dayanan çalışmalara

ihtiyaç vardır. Bu çalışma erteleme davranışını akılcı duygusal davranış kuramı çerçevesinde incelemiştir. Bu çalışmanın bu yönde yapılan ilk çalışma olduğu göz önünde bulundurularak daha sonraki çalışmalarda tekrarlanması ya da başka bakış açıları ve kuramsal yaklaşımlar kullanılarak yeni çalışmalar yapılması, erteleme davranışının açıklanması için daha fazla bilgiler verecektir. Bunun dışında, erteleme davranışının yaş, sosyo-ekonomik düzey, üniversite tipi gibi farklı özellikler dikkate alınarak oluşturulacak örneklemde incelemesi de uygun olacaktır.

Buna ek olarak, bu çalışmada daha önce de belirtildiği gibi, duygusal bilişsel ve davranışsal bazı değişkenler belirlenerek erteleme davranışına olan etkisi ara değişkenli bir model çerçevesinde değerlendirilmiştir. Daha sonra bu alanda yapılacak olan çalışmalarda farklı değişkenlerin eklenmesi, farklı kişisel özellikler ve aile faktörünün belirlenmesi erteleme alanında daha fazla edinilen bilgiyi güçlendirecektir.

Bu çalışmada, erteleme davranışı 'davranış' olarak değerlendirilmiştir. Diğer bir deyişle bu çalışmada öğrencilerin yapmaları gereken akademik görevleri ileriki bir zamana bırakıp ertelemeleri belli bir dinamik çerçevesinde incelenmiştir. Bu bağlamda, ileride yapılacak olan çalışmalarda erteleme davranışının kaçınsal, kararsal ve kronik diğer oluşumlarının çalışmaya dahil edilmesinin bulguları güçlendireceği düşünülmektedir.

Son olarak, Türkiye'nin farklı bölgelerinde bulunan üniversite öğrencilerinden oluşan bir örneklemin çalışma bulgularını güçlendireceği açıktır. Bu doğrultuda,

bu çalışmada olan sadece öz-cevaplama yönteminin yanı sıra öğrencilerin aile, arkadaş ve öğretmenlerinin de görüşleri dahil edilerek oluşturulan gerçek erteleme davranışı bu alanda daha güçlü bilgi sağlayacaktır.

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PUBLICATIONS

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