THE RELATIONSHIP BETWEEN DIFFICULTIES IN EMOTION REGULATION AND HEALTH-RISK BEHAVIORS: THE MEDIATOR ROLE OF PERCEIVED SOCIAL SUPPORT

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ABSTRACT

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The purpose of the present study was to examine the mediator role of perceived social support in the relationship between difficulties in emotion regulation and health-risk behaviors (alcohol use, smoking, suicide tendency, and substance use). The sample of the study consisted of 619 college students from different universities located in Central and South Anatolia. The data were gathered via four scales: Demographic Information Form, Difficulties in Emotion Regulation Scale (DERS), Multidimensional Scale of Perceived Social Support (MSPSS), and University Form of Risk Behaviors Scale (UFRBS). To test the hypothesized model, two structural equation modeling (SEM) were utilized. The tested models provided empirical evidence for relevance of *Problem Behavior Theory* in

the context of health-related risk behaviors. Results of the SEM indicated that difficulties in emotion regulation (DER) was a significant predictor for all of the health-related risk

behaviors. Perceived family and perceived significant other support partially mediated DER-smoking and DER-suicide tendency; perceived friend support partially mediated only DER-suicide tendency relationships. As for overall perceived social support, while it provided full-mediation for DER-alcohol use, it partially mediated DER-substance use, and DER-suicide tendency relationships. However, it did not mediate the DER-smoking relationship. The variance explained in health-risk behaviors ranged between 3% and 60% via two models. Furthermore, results of multi-group analyses revealed that while hypothesized model 1 varied across gender, model 2 was structurally invariant by gender. The findings of the study were discussed in the light of the literature. Implications for theory, research, practice and recommendations for further research were presented.

Keywords: difficulties in emotion regulation, perceived social support, health-risk behaviors, mediator role, structural equation modeling

ÖZ

DUYGU DÜZENLEME GÜÇLÜKLERİ İLE SAĞLIKLA İLGİLİ RİSK ALMA DAVRANIŞLARI ARASINDAKİ İLİŞKİ: ALGILANAN SOSYAL DESTEĞİN ARACI ROLÜ

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Bu çalışmanın amacı duygu düzenleme güçlükleri ile sağlıkla ilgili risk alma davranışları (alkol kullanımı, sigara kullanımı, intihar olasılığı ve madde kullanımı) arasındaki ilişkide algılanan sosyal desteğin aracı rolünü incelemektir. Araştırmanın örneklemini Orta ve Güney Anadolu'da bulunan farklı üniversitelerden 619 üniversite öğrencisi oluşturmuştur. Veriler dört ölçek aracılığıyla toplanmıştır: Demografik Bilgi Formu, Duygu Düzenlemede Güçlükler Ölçeği, Çok Boyutlu Algılanan Sosyal Destek Ölçeği ve Üniversite Öğrencileri İçin Risk Davranışlar Ölçeği Üniversite Formu. Varsayılan modeli test etmek için iki yapısal eşitlik modeli (YEM) kullanılmıştır. Test edilen modeller, sağlıkla ilgili risk alma davranışları bağlamında *Problem Davranış Kuramı* ile ilgili ampirik kanıtlar sunmuştur. YEM sonuçları, duygu düzenlemedeki zorlukların (DDZ), sağlıkla ilgili risk davranışlarının tümü için önemli ve pozitif yordayıcı rolü olduğunu

göstermiştir. Algılanan aile desteği ve algılanan özel bir insan desteği, DDZ-sigara kullanımı ve DDZ-intihar olasılığı ilişkileri için kısmı aracılık; algılanan arkadaş desteği ise sadece DDZ-intihar olasılığı ilişkisi için kısmi aracılık rolü üstlenmiştir. Algılanan sosyal destek tek bir boyut olarak düşünüldüğünde, DDZ-alkol kullanımı için tam aracılık; DDZ-madde kullanımı ve DDZ-intihar olasılığı ilişkileri için kısmı aracılık rolü üstlenmiştir. Ancak, DDZ-sigara kullanımı ilişkisi için aracılık rolü bulgusuna rastlanmamıştır. İki model yoluyla sağlıkla ilgili risk alma davranışlarında açıklanan varyans %3 ile %60 arasında değişmektedir. Ayrıca, çoklu grup analizi sonuçlarına göre yapısal model 1'in cinsiyet açısından değişmez olmadığı, fakat model 2'nin cinsiyet açısından değişmez olduğu bulunmuştur. Araştırma bulguları ilgili alan yazın yardımıyla tartışılmıştır. Kurama, araştırmaya ve uygulamaya yönelik doğurgular ve ileriki çalışmalara yönelik öneriler sunulmuştur.

Anahtar Kelimeler: duygu düzenlemede güçlükler, algılanan sosyal destek, sağlıkla ilgili risk alma davranışları, aracı rol, yapısal eşitlik modeli

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CHAPTER 1

INTRODUCTION

1.1 Background to the Study

College years, in which students experience several difficulties and try to keep pace with personal (e.g., identity exploration), social (e.g., forming and maintaining both intimate and daily relationships) and academic concerns as well, stand between adolescence and young adulthood in terms of developmental characteristics. Lives of college students are often hectic, because along with attending school and taking the exams, many students work, try to form both intimate and social relationships, and intend to take a step towards an autonomous life-style via making deliberate choices and come to assume responsibility as a result of these choices.

According to Chickering's theory (1993), students work on three types of competence throughout college years. The first one is intellectual competence indicating they have a desire to prove that they are competent enough so that they believe they have what it takes to graduate successfully. The best proof of intellectual competence in this period is how well they perform on academic tests. Secondly, physical/manual competence is another aspect that needs to be worked on throughout college life. In this area, students have a desire to feel they are as strong, attractive, and physically appealing as their counterparts. Lastly, interpersonal competence which is about experiencing the sense of belonging through social networks, romantic relationships or other social interactions. In sum, it is rather a demanding period since young adults begin to integrate their identity, enhance

their intellectual development, and internalize a personal set of beliefs and values at the same time (Blimling, 2010).

In the literature, several definitions for the term risk-taking have been offered while behaviors included in this category is rather settled. For instance, Jessor et al. (1991) and Arnett (1992) used different terms ("problem behavior" and "reckless behavior", respectively) for defining risk-taking behavior. Jessor et al. (1991) defined specified five distinctive areas including problem drinking, marijuana use, the use of other illicit drugs, cigarette smoking, and general deviant behavior. Arnett (1992) used the term "reckless behavior", because it carried stronger connotations of the potential for negative consequences-serious personal injury or death, an unwanted pregnancy, or arrest by the legal system. Proposed by Zuckerman (1979), risk-taking was a dispositional trait and defined as appraised likelihood of negative outcome. This conceptualization included such activities as parachuting, scuba diving, gambling, sexual variety seeking, drug and alcohol taking, and food preferences. Similarly, The Youth Risk Behavior Surveillance System (YRBSS) has defined six risky-behaviors as being particularly crucial for the development of optimal health; (1) behaviors that contribute to unintentional injuries and violence, (2) tobacco use, (3) alcohol and drug use, (4) sexual behaviors that contribute to unintended pregnancy and sexually transmitted diseases, (5) unhealthy dietary behaviors, and lastly, (6) physical inactivity (Eaton et al., 2012). Siegel, Cousins, Rubovits, Parsons, Levery, and Crowley (1994) divided risk-taking behaviors into two categories; low and high-risk behaviors. Whereas low-risk behaviors include taking prescription drugs and walking alone at night, high-risk behaviors include having sex without condom and taking crack or cocaine. As is seen, substantial number of indicators that have been included in abovementioned conceptualizations are mutual such as illegal drug use and abuse, minor criminal activity, and sex-related topics.

Across the literature, the predictors of risky behaviors can briefly be classified into three categories. Whilst earlier conceptualizations of risk behavior focused on personality traits such as sensation seeking and impulsivity, more contemporary research studies brought cognitive models including decision making and coping styles, beliefs and values into the forefront to explain the phenomena. Another approach is Jessor and Jessor's Problem

Behavior Theory (1977), which counted in environmental factors such as social support, peer relations, participation in religious activities, and socioeconomical status while conceptualizing problem behaviors.

From personality-trait perspective, individuals engage in risky behavior, because certain personality traits make individuals more inclined to exhibit these behaviors. A vast majority of research studies have concluded that impulsivity and sensation-seeking were the strongest predictors of risky behavior (Zuckerman & Kuhlman, 2000; Romer, 2010; Stanford et al., 1996; Luciana & Collins, 2012; Breivik, Sand & Sookermany, 2018). In these studies, participants having higher sensation seeking needs or impulsivity states were prone to engage in risk-taking behaviors more when it compared to their low sensation seeker and less impulsive counterparts.

From cognitive perspective, risk behavior can be defined as an action leads up to some chance of a loss and represents conscious actions characterized by making choices among alternative courses of action (Beyth-Marom, Austin, Fischhoff, Palmgrem, & Jacobs-Quadrel, 1993). For instance, poor executive function which indicates impairments in cognitive skills leading to control of thoughts and goal-directed behavior has been found to predict engaging in risk behavior, exaggerate the benefits of engaging in risky behavior, and lead to excessive alcohol consumption (Magar, Philips & Hosie, 2008). In a similar vein, Ready, Stierman and Paulsen (2001) have concluded that deficits in executive function predicts risky behavior and particularly substance abuse.

From Problem Behavior Theory perspective, certain demographic and external variables (socioeconomical status, peer relations etc.) are associated with risky behavior. Peer relationships are crucial factor in developmental process. In fact, the term *homophily* was coined to explain how individuals belonging to the same group tend to exhibit same patterns of behaviors by attracting each other, and it is revealed that homophily may jeopardize individuals in several risk-taking areas areas such as smoking, school dropout, substance abuse, and violent behavior (Duncan, Boisjoly, Kremer, Levy & Eccles, 2005; Van Ryzin & Dishion, 2013; Farmer et al., 2013). In another study, college students have reported that they drink heavily to facilitate contact and acceptance from their peers

(Thombs, Beck & Mahoney, 1993). Moreover, in their experimental study, Gardner and Steinberg (2005) have divided participants into three groups by their age with being adolescents (13-16), youths (18-22) and adults (24 and older) to examine differential effects of the presence of peers in risk-taking. Results indicated that peer influence is stronger predictor of risk-taking behavior among adolescents and young adults than adults indicating that the effect of peer presence on risky behavior varies with age. In addition, Kipping et al. (2015) has utilized 6406 participants to determine whether social class, maternal education, and income is associated with risky behavior. The independent variables of the study were categorical, and results have revealed that as one category reduces in social class, maternal education, and income, the odds of having a great number multiple risk behavior increased by 22, 15, and 12%, respectively.

The other point that gained attention in risk-taking studies is that many risk-taking behaviors should be accounted for by developmental context (Lerner & Tubman, 1991). For instance, while alcohol consumption may be defined as problem behavior in adolescence, because many adults do not approve of it, it is not considered as reckless behavior in Arnett's (1992) conceptualization unless it was combined with automobile driving or some other activity that raised the stakes of the potential consequences.

Gender difference in risk-taking behaviors is also another remarkable area of research throughout the literature. Several studies have shown that male participants reported a greater likelihood of engaging in health-risk behaviors (Wilsnack et al., 2009; Wilsnack et al., 2000; Mäkelä et al., 2006; Lash et al., 1998; Allen et al., 2016; Van Etten, Neumark & Anthony, 1999; Atlam & Yüncü, 2017; Oğuz, Çamcı, & Kazan, 2018; Yıldırım, 1997; Körük, 2017). A possible explanation for males obtaining higher scores than females in health-risk behaviors was offered by Driessen (1992), indicating that performing those behaviors are a manifestation of "masculinity". That is, males believe that such activities as alcohol use, smoking and substance use reinforce their masculine manners and consolidate their roles regarding gender in society.

As mentioned above, significant developmental shifts occur during college years. However, several risk-involvement behaviors that may cause negative long-term

consequences can even be life threatening (Reynolds, Magidson, Mayes & Lejuez, 2010). Self-awareness, forming one's own personal values, problem-solving, decision-making, and gaining one's own emotional independence may become sources of stress during this time, giving way to a tendency for risky behaviors, as Dryfoos (1990) illustrates. In a similar vein, Algren et al. (2018) indicated that perceived stress was significantly associated with higher odds of risk behavior including daily smoking and co-occurence of health risk behaviors. To conclude, engaging in risky behaviors can be a way to provide relief from negative affective states.

When it compared to other developmental periods, college years bring a potential increase in risk-taking behaviors. For instance, about 1 in 4 college students report academic consequences from drinking, including missing class, falling behind in class, doing poorly on exams or papers, and receiving lower grades overall (Wechsler, Dowdall, Maenner, Gledill-Hoyt & Lee, 1998). In a similar vein, percentage of college students who use tobacco products at least once a month was about 33 percent (The Harvard School of Public Health, 2013). Moreover, The Monitoring Future Report (Johnston, O'Malley, Bachman & Schulenberg, 2008) revealed that 37% of the college students had used an illicit drug, and 19% has used an illicit drug other than marijuana in the last year. Lastly, Data Courtesy of Substance Abuse and Mental Health Services Administration (SAMSHA, 2016) reported that individuals aged between 18-25 have attempted suicide three and a half times more than any other age group. In sum, in the light of the relevant literature, most of the statistical data have verified that college students are subject to an increased rate of engaging risk-taking behavior during their education.

A vast majority of risk-taking studies have focused on adolescence and aimed to predict risky behaviors via demographic variables. The one reason behind this could be the common belief that foundations of risky behavior mostly be laid throughout adolescence period. Jessor, Donovan and Costa (1991) inferred from their longitudinal study that inclination towards engaging in problem behavior during the adolescence predicts having greater inclination towards engaging in problem behavior during young adulthood in the areas such as problem drinking, alcohol use, marijuana use, and smoking. Arnett (1999) stated that young adulthood period-which embodies college years as well- bare more

heightened potential for risky behaviors than adolescence. In a study, it was found out that emerging young adults (18-25) have a higher prevalence of significant health risks compared to adolescent (12-17) and young adults (26-34) along with the lower perception of risk in many of the risk areas such as binge drinking, smoking, alcohol, and illicit drug use (Neinstein, 2012). In addition, the same study has revealed that emerging young adults have reported higher rates of past-month and past-year prevalence of serious psychological stress and suicide ideation compared to young adults and adolescents.

Taking into consideration the developmental characteristics of adolescence and emerging young adulthood, some have argued that a reasonable amount of risk-taking behaviors in adolescence and young adulthood is thought to be normative and connected with some positive psychological characteristics (Shedler & Block, 1990). In a similar vein, Jessor (1991) have argued that if it is goal-directed, risk-taking is a significant part of development into adulthood. Essau (2004) stated that some risk behaviors play both a constructive function in development and may put adolescents into a position where they would be prone to health hazards. Baumrind (1991) also made distinction between "pathogenic" and "transitional, adaptational" risk-taking behaviors. While the latter one is part of a normative and adaptive healthy psychological development via offering opportunities for self-transcendence and leading to secondary gains such as higher self-confidence, increased stress tolerance, and practice in taking initiative, former one does not offer any secondary gains. Similarly, Irwin (1987) coined the term "exploratory" behavior to make distinction between developmentally constructive risk behaviors and negative behaviors that traditionally agreed upon. Therefore, factors such as context, purpose, duration, and consequence of particular behavior is utmost importance in determining whether the behavior is functional, transitory, and goal-directed or not.

Emotions are integral part of development during college years. Blimling (2010) indicated that two phases occur in terms of emotional development in college years. First is moving from external influences to internal processes in terms of emotional control. Second is differentiation and integration process which indicates adjusting behaviors as a result of emotion eliciting stimuli with the help of the feedbacks from the members of the society. Emotion regulation can be defined as mechanisms through which individuals modify their

emotions to achieve a desired outcome (Aldao et al., 2010). As a concept, emotion dysregulation refers to impairments in emotion regulation processes. Gratz and Roemer (2004) suggested that emotion dysregulation is a hyperdimensional concept including such features as lack of awareness and understanding of emotions, acceptance of emotions, an inability to control behaviors when experiencing emotional distress, lack of access to adaptive strategies for modulating the intensity of emotional experiences. Mentioned before, impulsivity was one of the personality traits which has recurrently been proved to be associated with engaging in risky behaviors although proneness to risk-taking behavior is not merely because of impulsivity (Shapiro, Siegel, Scovill, & Hays, 1998; Engels & Bogt, 2001) As is seen, impulsivity is closely related to one of the dimensions (inability to control behaviors when experiencing emotional distress) of abovementioned conceptualization of emotion dysregulation, and studies have shown that impulsivity and emotion dysregulation are associated concepts (Schreiber, Grant & Odlaug, 2012; Jakubczyk, 2018).

Past studies have revealed that both emotional states and emotion regulation are closely associated with domain specific risk behaviors such as smoking (Gerhick et al., 2007; Abrantes et al., 2008), alcohol use-dependence (Fox et al., 2007; Fox et al., 2008; Petit et al., 2015), substance abuse, suicidal ideation and suicide attempts (Neacsiu, 2017; Zlotnick, Donaldson, Spirito & Pearlstein, 1997), aggressive behavior (Gratz, Paulson, Jakupcak & Tull, 2009), and lastly, disordered eating behavior (Whiteside et al., 2007) as well.

Many studies have indicated that negative affect directly predicts risk-taking behavior (Tavolacci et al., 2013; Curry & Youngblade, 2006, Salameh et al., 2015). Similarly, Tice, Bratlavsky, and Beumeister (2001) suggested that impulsive decision making may be an attempt to alter an instant negative emotional state. Specifically, when under emotional distress, people set their priorities in a way that short-term goal of feeling better is remained in the forefront and long-term goals such as healthiness, slimness and thrift are kept at the background. In their meta-analytic review, Aldao, Nolen-Hoeksema and Schweizer (2010) have revealed that maladaptive emotion regulation strategies are associated with anxiety, depression, eating and substance-related disorders, specifically

large effect size for rumination, medium to large for avoidance, problem solving, and suppression, and lastly, small to medium for reappraisal and acceptance which are considered to be adaptive emotion regulation strategies.

Thoit (2010) defined social support as emotional, informational or practical assistance from significant others, and the support may be received directly or perceived to be available when it is needed. Empirical evidence on perceived social support revealed that it is associated with protection against several risk behaviors in different sample groups (Reininger et al., 2012; Spohr et al., 2016). However, some studies have concluded that having more close friends increases the odds of engaging in health-related risk behaviors such as smoking, suicide, and substance use along with the violent behavior (Yun et al., 2010; Ford, 2009).

In sum, the period of emerging young adulthood which contains college years as well bears heightened potential for increased stress as a result of the variety and the complexity of developmental tasks. Throughout the period, individuals struggle to feel competent in personal, social, and academical areas. The struggle and the distress, however, may raise the stakes for proneness to exhibit risky-behavior and impair emotion regulation skills by channeling individuals to satisfy short-term pleasures instead of achieving the long-term goals such as being healthy and accomplished.

1.1 Purpose of the Study

The purpose of the current study was to explore the roles of difficulties in emotion regulation and perceived social support in the context of health-related risk behaviors among university students based on the premises of *Problem Behavior Theory*. More specifically, present study intended to examine structural relationships among perceived social support (family support, friend support, and significant other support), difficulties in emotion regulation and to what extent/if those variables explain engaging in health-related risk behaviors (alcohol use, smoking, suicide tendency, and substance use) among university students. Moreover, along with the direct effects, indirect effects (mediator roles) via perceived social support and its divergent agents were also investigated.

1.3 Research Questions and Hypotheses

Current study aimed to account for following research questions;

1. To what extent do difficulties in emotion regulation (DER) directly predict health-related risk behaviors (alcohol use, smoking, suicide tendency, substance use)?
    1.1. To what extent do DER directly predict alcohol use?
    1.2. To what extent do DER directly predict smoking?
    1.3. To what extent do DER directly predict suicide tendency?
    1.4. To what extent do DER directly predict substance use?

2. To what extent do difficulties in emotion regulation (DER) indirectly associated with health-related risk behaviors (alcohol use, smoking, suicide tendency, substance use) through different dimensions of perceived social support (family, friends significant others)?
    2.1. To what extent is DER indirectly associated with alcohol use through social support from family, friends and significant others?
    2.2. To what extent is DER indirectly associated with smoking through social support from family, friends and significant others?
    2.3. To what extent is DER indirectly associated with suicide tendency through social support from family, friends and significant others?
    2.4. To what extent is DER indirectly associated with substance use through social support from family, friends and significant others?

3. To what extent do difficulties in emotion regulation (DER) indirectly associated with health-related risk behaviors (alcohol use, smoking, suicide tendency, substance use) through overall perceived social support?
    3.1. To what extent is DER indirectly associated with alcohol use through overall perceived social support?
    3.2. To what extent is DER indirectly associated with smoking through overall perceived social support?

3.3. To what extent is DER indirectly associated with suicide tendency through overall perceived social support?

3.4. To what extent is DER indirectly associated with substance use through overall perceived social support?

4. Do aforementioned hypothesized relationships as stated in overall research question of the study differ across gender with regards to the structural models?

Hypotheses of the study were as follows:

1. Direct effects from difficulties in emotion regulation and health-related risk behaviors are positive and significant.

    1.1. Direct effect from difficulties in emotion regulation to alcohol use is positive and significant.

    1.2. Direct effect from difficulties in emotion regulation to smoking is positive and significant.

    1.3. Direct effect from difficulties in emotion regulation to suicide tendency is positive and significant.

    1.4. Direct effect from difficulties in emotion regulation to substance use is positive and significant.

2. Difficulties in emotion regulation are significantly and indirectly associated with health-related risk behaviors (alcohol use, smoking, suicide tendency, substance use) through different dimensions of perceived social support (family, friends significant others).

    2.1. Difficulties in emotion regulation are significantly and indirectly associated with alcohol use through social support from family, friends and significant others.

    2.2. Difficulties in emotion regulation are significantly and indirectly associated with smoking through social support from family, friends and significant others.

    2.3. Difficulties in emotion regulation are significantly and indirectly associated with suicide tendency through social support from family, friends and significant others.

2.4. Difficulties in emotion regulation are significantly and indirectly associated with substance use through social support from family, friends and significant others.

3. Difficulties in emotion regulation are significantly and indirectly associated with health-related risk behaviors (alcohol use, smoking, suicide tendency, substance use) through overall perceived social support.

3.1. Difficulties in emotion regulation are significantly and indirectly associated with alcohol use through perceived social support.

3.2. Difficulties in emotion regulation are significantly and indirectly associated with smoking through perceived social support.

3.3. Difficulties in emotion regulation are significantly and indirectly associated with suicide tendency through perceived social support.

3.4. Difficulties in emotion regulation are significantly and indirectly associated with substance use through perceived social support.

4. Hypothesized relationships did not differ across gender with regards to structural models.

1.3 Significance of the Study

The current study aimed to clarify relationships among difficulties in emotion regulation, perceived social support and health-risk behaviors in a sample of university students. Hence, it is expected that results of the study contributed to the theory, research and practice by offering significant relationships among study variables.

As it was mentioned, the purpose of this study is to clarify the factors contributing the occurrence of alcohol use, smoking, suicide tendency and substance use. The reason behind including certain dependent variables was threefold. Firstly, including and examining all health-risk behaviors would not be convenient in a single model since adding too many variables may have adverse effects on hypothesized structural model such as the problems of inflated chi square values and poor model fit. Secondly, psychometric characteristics of the scale that was used to measure risk behaviors among

university students made it impossible to merge its distinctive domains into one single latent variable (Gençtanırım, 2014). Lastly, literature regarding the health-risk behaviors leading deaths, disabilities and social problems among youth mostly focused on the aforesaid variables such as alcohol use, smoking, suicide tendency and substance use ("Centers for Disease Control and Prevention", n.d.).

First up, as previously implied, theoretical framework of this study was based on *Problem Behavior Theory* (PBT). According to PBT, a variety of cognitive, environmental and developmental factors contribute to the occurrence of problem behavior. Although what constitutes problem behaviors have also been open to discussion back then, Jessor et al. (1991) referred health-risk behaviors such as alcohol use, smoking, substance use, and general deviant behavior as problem behaviors. As mentioned in the literature, those behaviors were included in the behavior system. Nevertheless, in order to conclude that the behavior is a problem behavior, all three systems (personality, environmental and behavior systems) should be taken into consideration. Because, dynamic interactions among three systems are crucial in terms of reaching a conclusion about the behavior. Thus, the current study aims to offer valuable contributions to PBT via exhibiting a hypothetical model embracing three variables which correspond to variables in the three systems (i.e., personality, environment and behavior). Although several studies have shown that certain personal and environmental variables were related to health-risk behaviors, to researcher's knowledge, a very limited amount of studies have investigated those relationships in a way that one hypothetically mediates the other in the very same systems of PBT. In addition, examining divergent agents of social support hypothetically mediating the relationship between difficulties in emotion regulation and health-risk behaviors was also unique contribution of this study to the existing literature.

According to Turkey Health Interview Survey (2016), 13.1% of males and 5.4% of females between the ages of 15 and 24 reported that they use alcohol, and the percentages rise to 24.1 and 8.7 for males and females, respectively for the ages of 25-34. As for smoking, individuals aged between 15-24 reported that 28.2% of males and 7.8% of females were daily smokers. Moreover, percentages dramatically increase for the ages

between 25-34, 49.6% of males and 16.6% of females being daily smokers. Moreover, Çakmak and Ayvaşık (2007) indicated that alcohol is one of the widely used psychoactive drugs among individuals aged between 18-25. In a similar vein, Berk (2011) revealed that 58.5% of the participants who reported some form of substance use was between the ages of 18 and 28. As for suicide rates in Turkey, majority of studies and public statistics concluded that the prevalence was the highest between the ages of 15-24 (Harmancı, 2015; Ercan et al., 2016; TÜİK, 2013) and women reported higher numbers of suicide attempts than men (Seydioğlu, 2002; Eskin, 2007). However, some studies suggested that males obtained higher scores in suicide tendency (Hisli-Şahin & Durak-Batıgün, 2009; Batıgün, 2005) or there were no differences across gender (Uçar, 1999). Thus, unlike in alcohol use, smoking, and substance use, gender differences in suicide tendency are widely open to discussion. All in all, relevant statistical information was compatible with the literature indicating the delicacy of emerging young adulthood period in terms of engaging in problem behaviors such as alcohol use, smoking and substance use. Therefore, it can be concluded that health-risk behaviors in emerging young adulthood period which contains college years as well might well be a source of concern in Turkey.

From a wider perspective, health-risk behaviors have been prohibitors detaining individuals from utilizing their full-potential in various aspects. For instance, several studies demonstrated that health-risk behaviors associated with higher levels of educational underachievement (Jeynes, 2002; Hernández-Serrano et al., 2018; Diego et al., 2003; Cox et al., 2007), unemployment (Vogli & Santinello, 2005) and suicide (Dragisic et al., 2015; Thompson Jr. et al., 2015). Therefore, findings of the current study can provide insight about how to reduce/minimize health-risk behaviors by understanding the relationship between difficulties in emotion regulation and those behaviors, and eventually, account for factors that may hinder university students from to be more efficient and productive individuals.

Along with the personal factors associated with health-risk behaviors, an environmental factor, which is perceived social support, was included in the hypothesized model. The reason behind such an effort was to investigate whether an environmental factor was

strong enough to reduce the effect of a personality factor which is difficulties in emotion regulation predicting health-risk behaviors.

In addition, the findings of the present study could pave the way for researchers and practitioners to develop programs aiming to prevent health-risk behaviors. Specifically, perceived social support and its theoretical dimensions as mediators provided significant results in the relationship between difficulties in emotion regulation and health-risk behaviors. Thus, programs aiming to prevent health-risk behaviors may provide crucial implications by taking into consideration of the findings of current study.

Lastly, in current Turkish literature, there are few studies that investigated the direct effect of difficulties in emotion regulation (Arabacı, Dağlı & Taş, 2018) or indirect effects through perceived support aiming to explain health-risk behaviors (Gençtanırım-Kurt & Ergene, 2017; Körük, 2017). Therefore, present study is one of the very first local attempts to fill the gap building a relatively integrative model to explain health-risk behaviors and variables pertaining to predict those behaviors. In a similar vein, a limited number of studies have investigated indirect effects of divergent agents of perceived social support predicting health-risk behavior (e.g., Lai & Ma, 2016). Therefore, another unique aspect of this study is its contribution to existing literature by examining indirect effect through different theoretical aspects of perceived social support.

1.2 Definition of Terms

In this section, the definition of the terms used in the current study were presented.

Emotion regulation refers to "awareness and understanding of emotions, acceptance of emotions, ability to control impulsive behaviors and behave in accordance with desired goals when experiencing negative emotions, and ability to use situationally appropriate emotion regulation strategies flexibly to modulate emotional responses as desired in order to meet individual goals and situational demand" (Gratz & Roemer, 2004, pp. 42-43).

Emotion regulation difficulties/emotion dysregulation refers to "relative absence of any or all of abovementioned abilities" (Gratz & Roemer, 2004, pp. 43).

Perceived social support refers to "perceived instrumental and/or expressive provisions supplied by the community, social networks, and confounding partners" (Lin, 1986, pp. 15).

Risk-taking behavior refers to the any behavior that may endanger the well-being of self or others, or by violating the rules, laws, or norms established to prevent negative consequences (Maslowsky et al., 2011).

Health-risk behavior refers to behaviors causing serious health problems and/or unintentional injuries among individuals. These behaviors include alcohol use, drug use, behaviors that contribute to unintentional injuries and violence (including suicide), tobacco use, unhealthy dietary behaviors, physical inactivity, and sexual behaviors that contribute to unintended teen pregnancy and sexually transmitted infections, including HIV (Centers For Disease Control and Protection [CDC], n.d.).

CHAPTER 2

LITERATURE REVIEW

In this chapter, the literature with regards to the study variables were presented. The chapter consists of five sections. In the first section, theories explaining the concept of risk-taking were detailed. The second section provides a conceptual framework for emotion and emotion regulation. Third section includes the ongoing conceptualizations about concept of social support. In the fourth section, current national and international studies on health-risk behaviors were reviewed. In the final section, findings were briefly summarized.

2.1 Theories of Risk-Taking

In this section, theories regarding risk-taking and risk-taking behaviors were presented. In detail, problem behavior theory (PBT), developmental approach, personality-trait framework and lastly, decision-making approach were clarified in detail.

2.1.1 Problem Behavior Theory

Problem Behavior Theory (PBT; Jessor & Jessor, 1977) is a multidimensional socio-psychological perspective to explain risk-taking behavior and indicates problem behaviors as behaviors that diverge significantly from the regular norms of society, socially defined as a problem, constitutes a source of concern or bring out social sanctions. In PBT, the main purpose is to examine the relationship among three systems; the personality system, the perceived environment system, and lastly, the behavior system. Jessor, Donovan and

Costa (1991) have suggested that in order to determine whether a behavior is problem or not, an interaction between these three major sets should be considered.

Along with that, "proneness" is another concept that has been used in PBT's conceptualization of risky behavior. It refers to inclination or likelihood of engaging in problem behavior and occurs as a result of the relationships among abovementioned three systems. Since proneness to engage in problem behavior is a result of interconnection among the subsets, it is reasonable to generalize pronness in all of the three areas; personality proneness, environmental proneness, and behavioral proneness (Jessor et al., 1991). Proneness to problem behavior in personality system consists of lower academic achievement, higher value on independence, lower expectations of attaining goals, greater social criticism, greater alienation, lower self-esteem, more external control, greater tolerance of deviance, less religiosity, and greater discrepancy between the positive and negative functions of the problem behavior (Jessor, 1987). Proneness in the behavior system refers to high involvement in other problem behaviors (e.g., problem drinking and general deviant behavior) and low involvement in conventional behaviors (e.g., church attendance) (Jessor et al., 1991). Lastly, proneness in perceived environment system is characterized by low levels of parental support and greater peer influence on decision-making than parents, greater friends' approval and models for problem behavior, and fewer models for religiosity (Jessor et al. 1991).

PBT makes a distinction between problem behaviors and health enhancing behaviors. While problem behaviors include problem drinking, delinquent behavior, drug use, precocious sexual intercourse, anti-social behaviors, unhealthy food (e.g., coffee drinking), drop out, the health-enhancing behaviors include seat belt use, adequate hours of sleep, attention to healthy diet, adequate exercise, low sedentary behavior, and regular tooth-brushing (Donovan, Jessor & Costa, 1993). Thus, characteristics of behavior system have been regarded as a two-tailed structure and an increase in frequency of engaging in one set of behaviors is expected to correlate negatively with other set of behaviors.

To conclude, PBT asserts that problem behavior occurs as a result of the interactions between person and environment. Moreover, Jessor et al. (1991) suggested that the ones

who are inclined to exhibit a particular problem behavior are also more prone to display other types of risky behaviors as well and the various body of research studies (Elster, Lamb & Tavare, 1987; Elster, Ketterlinus & Lamb, 1989; Levine & Singer, 1988; Hundleby, 1987) have supported this assumption in adolescent samples.

2.1.2 Developmental Approach

Developmental approach to risk-taking behavior underlines the importance of contextual framework. The notion of contextualism which lays emphasis on the whole organism interacting with its environment constitutes the basic tenets of this perspective. According to contextualism, every act should be evaluated by taking into account its current and historical context (Fox, 2008).

Some have argued that risk-taking is a normative and adaptive aspect of healthy psychological development (Irvin, 1987; Baumrind, 1991). From Baumrind's perspective (1991), risky behaviors can be explored by dividing them into two categories; transitional and pathogenic risk-taking behaviors. While transitory risk behaviors such as light alcohol consumption offer an opportunity for self-transcendence and secondary gains such as higher self-confidence, increased stress tolerance, and practice in taking initiative, pathogenic risk behaviors such as using illicit drugs are merely detrimental to psychological health. In other words, an ability to make distinctions between pathogenic and transitory risk-taking behavior may eventually help individuals to benefit from secondary gains in turn.

In a similar vein, Arnett (1992) also put emphasis on the context and suggested that although alcohol consumption below the age of 21 is widely thought to be a reckless behavior since it causes a disapproval among the U.S society, it should not be considered as a reckless behavior unless the action of drinking ends up with engaging in some delinquent act such as to attempt driving a car while drunk or an incident that potentially will harm others or give rise to an undesired consequence. In a similar vein, Newcomb and Bentler (1988; as cited in Shedler & Block, 1990) have stated that occasional drug use among adolescents may best be best understood as a representation of

developmentally suited experiment, because one of the developmental tasks for an adolescent is to establish independent and autonomous identity which may involve experimentation with a wide range of behaviors. Therefore, without regarding the context or developmental framework, solely engaging in a risky behavior may not be adequate to label it as a problem or abusive behavior.

All in all, developmental approach provides a thorough perspective towards explaining risk-taking phenomena and asserts that scrutinizing the behavior within its very own context and developmental period provides more plausible explanations as to why individuals engage in such acts.

2.1.3 Personality-Trait Approach

Personality-trait approach essentially assumes that particular personality characteristics make individuals more inclined to engage in risk-taking, reckless or impulsive behavior. Certain personality traits such as sensation seeking (Zuckerman, 1979; Horvath & Zuckerman, 1993), impulsivity (Romer, 2010), aggression (Swaim, Henry & Baez, 2004), and extroversion (Anic, 2007) were found to be related with higher levels of risk-taking behaviors. However, among all, sensation seeking and impulsivity were the most dominant predictors of risk-taking disposition across the literature.

While impulsivity and sensation seeking has been defined and conceptualized in several ways, core propositions of these terms are quite similar to each other. Impulsivity can be defined as "the tendency to enter into situations, or rapidly respond to cues for potential reward, without much planning or deliberation and without consideration of punishment or loss of reward" (Zuckerman & Kuhlman, 2000, p.1000), and sensation seeking is defined as "a trait defined by the need for varied, novel, and complex sensations and experiences, and the willingness to take physical and social risks for the sake of such experience" (Zuckerman 1979, p.10). As Zuckerman (1993) describes, sensation seeking and impulsivity are very similar constructs in terms of biological, empirical and conceptual sense, and supported the marriage of the traits. Eventually, a super-trait called "impulsive sensation seeking" (Zuckerman, 1994) was conceptualized indicating the

fusion of both above terms. However, there is a subtle difference between impulsive and sensation-seeker risky behavior; while the motive of sensation seekers is rewards that would be earned in turn such as gaining acceptance within peer groups, impulsive individuals engage in risky behavior for the action itself.

At most of the times, explaining risk-taking inclination via single personality variable may impinge on reaching extensive results, as suggested by Essau (2004). Instead, he proposed to utilize Five-Factor or OCEAN Model which is one of the most comprehensible trait model that merges several traits in five major domains: openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism" as argued by Costa and McGrae (1992) to overcome this limitation. In Nicholsen et al.'s (2005) study, a sample of 2,401 students were examined to what extent five-factor personality traits explain risk-taking disposition. Results indicated that while extraversion and openness were positively related to risk-taking, neuroticism, agreeableness and conscientiousness were inversely related to risk-taking disposition.

In conclusion, personality-trait approach focuses on particular personality variables that associated with risk-taking propensity. A large body of research studies indicated that sensation-seeking and impulsivity are far more critical variables pertaining to explain risk-taking behavior. However, there is a controversy over the premise that the single-trait variables may not be adequate to reach extensive results in terms of explaining risk-taking predisposition. To overcome this drawback, multidimensional personality models were presented.

2.1.4 Decision Making Approach

Decision making approach of risk taking is a roof concept that is widely used in literature to merge cognitive aspects of risk-taking behavior. Decision-making theorists tend to explain the possible reasons of engaging in risk-taking behavior instead of giving weight to what happens next after the behavior. This approach includes such models as behavioral decision-making, prototype-willingness, developmental cognitive neuroscience, and developmental social neuroscience frameworks (Reyna & Rivers, 2008). The main

proposition of decision-making approach is that engaging in a risk-taking behavior is consequence of cognitive processes where individuals consider possible results, rewards, and as well as risks of the particular behavior by taking into account their subjective beliefs and values, desires or preferences.

Costanzo argues that there are two different systems of cognition; the Generative System and the Conservative System (1991; as cited in Shapiro et al., 1998). While former one indicates a relatively rational set of thoughts and decisions, latter one is more likely to consist of rudimental and instant flock of thoughts which pave the way for fulfilling immediate desires. In Generative System, emotions and decisions are differentiated; therefore, costs and benefits can easily be taking into account while making decisions. However, if Conservative System is being used, decision making processes are heavily influenced by emotions and instant needs. Taking into consideration the fact that risk-taking behaviors are highly and positively correlated with particular personality characteristics such as sensation-seeking and impulsivity, Conservative System seems to be the stronger predictor for engaging in risky behaviors.

Behavioral decision-making approach is a follow-up framework for expectancy-value approach which suggests that behaviors are substantially shaped by expectancies (Reyna & Rivers, 2008). In risk-taking literature, this approach essentially maintains that individuals are able to consider rewards and consequences before taking the action so that they would be able to decide whether the consequences are worth to take risks or not. Fischhoff (2008) stated that assumptions of behavioral decision-making framework are able to justify a large number of decisions by taking into account social and affective factors that may have influences on decision making processes and behaviors as well.

Proposed by Gerard et al. (2008), Prototype-willingness model is another cognitive model that aimed to shed a light on the risk-taking behaviors. It essentially assumes that risk-taking is a decision-making process; however, cognitive mechanism behind engaging in those behaviors are not that deliberate as in other traditional theories of decision-making. For this reason, the word willingness is utilized instead of intention since willingness is a more sensitive measure to predict risk-taking propensity, and the word prototype implies

the figures of ordinary members of social categories such as smoker or non-smoker (Reyna & Rivers, 2008). In this model, individuals have positive or negative attitudes towards certain prototypes. If the attitude towards a prototype is positive, then, individual will be more inclined to engage in risk-taking behaviors. Moreover, such external factors as media exposure and accessibility to alcohol and drugs are crucial along with the internal factors (e.g., prototypes or images). Because, while the former one affects "prototype favorability", the latter one affects "risk opportunity" indicating taking an action towards risky behavior (Gerrard et. al., 2008).

In sum, decision making approach and models underline the cognitive processes which prompt or hinder individuals to engage in risk-taking behavior. As it is suggested, with several models having also included external factors such as peer acceptance and media exposure into the conceptualizations, decision-making approach offers comprehensible explanations related to risky behavior in various developmental periods.

As mentioned, the current study aimed to investigate the relationship among such variables as difficulties in emotion regulation, perceived social support and health-risk behaviors (alcohol use, smoking, suicide tendency and substance use). While doing that, Problem Behavior Theory was put to the forefront since it offers one of the most comprehensive conceptualizations regarding health-risk behaviors, because PBT counts in several personal and environmental factors concomitantly to explain why people prone to engage in risk-taking behaviors. Since one single explanation such as that decision-making processes or certain environmental factors would make people more vulnerable to exhibit health-risk behaviors seems impotent, propositions belonging PBT was point of origin throughout the study.

2.2 Emotion Regulation

In this section, the concepts of emotion, emotion regulation and emotion dysregulation were touched upon. In addition, empirical studies regarding emotion regulation were provided.

2.2.1 The Concept of Emotion

Emotions have always been an intriguing phenomenon that have been frequently investigated and attempted to be conceptualized in social science studies. However, neither scientific nor daily definition of the concept of emotion is still not fully agreed upon. Lakoff (2013) mentions that emotion is an essentially contested concept. That is, everyone is of one mind about that emotions exist, but no one can agree on its definition.

Two major conceptualizations of emotion have come up throughout emotion research. First one dates back to mid-1940s and interprets emotions as "irrational or unreasonable, reflecting and causing destruction within our thought processes and concurrent behavior" (Young, 1943; as cited in Bariola, Gullone, & Hughes, 2011, p.199). The other perspective- a widely accepted annotation- has delineated emotions as "organized psychophysiological reactions to news about ongoing relationship with the environment" (Lazarus, 1991, pp. 38). Another well-accepted conceptualization which reinforces the latter notion restates that emotions assume functional role in the initiation, maintenance, modification, and termination of relationships between individual and the environment (Campos et al., 1994).

As can be seen, different perspectives towards the concept of emotion were presented throughout the years. While earlier attempts have underlined the adverse nature of emotions, contemporary research has reconstructed and redefined the term in a way that it does not include such adverse characteristics as destructive, unreasonable or irrational.

Campos et al. (1994) define emotion as the process of interpreting the significance of a physical or mental event, and the significance is constructed by individual via utilizing subjective frame of references. That is, subjective interpretations of the event and the context are utmost importance in determining emotion and intensity of that particular emotion. The nature of the significance establishes the quality of the emotion (Campos et al., 1994). This definition also makes it possible to prevent labeling emotions as good or bad because, whereas emotions labeled as "bad" may indeed be quite useful in several

contexts, the ones that marked as "good emotions" may impair the relationship between individual and the environment depending on the context.

Gross (2002) has suggested that emotions increase the probability of acting in certain ways. However, they are not the indicators of how individuals are going to act. As an example, when afraid, we may run, but do not always do so; when angry, we may strike, but do not always do so; and when amused, we may laugh, but do not always do so (Gross, 2002). Therefore, interpreting emotions as an inside force that leads us to behave in certain ways may not necessarily be the case. Rather, they are propulsive forces which increase or decrease the probability of executing our acts.

2.2.2 Conceptualizations and Definitions Regarding Emotion Regulation

In daily life, people experience various emotions as a result of potentially emotion-arousing stimuli; however, perceived severity of and reactions towards the very same stimuli depend on several individual factors. While an occasion may cause burst with anger, the other may more easily be handled, but, as Davidson (1998) argues, either on purpose or intentional, people regulate their emotions nearly at all times.

In the literature, there is no consensus about what to be included or excluded to conceptualize the term emotion regulation (Koole, 2009) or how to define this term operationally (Sumida, 2010). Nevertheless, there is a widespread recognition that competent emotion regulation is a developmental achievement (Bridges & Grolnik, 1995; Saarni, 1999; Cole et al., 2004; Campos et al, 1994; Thompson et al; 2008; Desiatnikov, 2014). Variety of components of emotion regulation have been proposed by researchers, including abilities to identify emotions, generate new emotional experiences, selectively deploy attention, reinterpret potentially distressing cognitions, modify potentially distressing situations, and modulate response (Eisenberg & Spinrad, 2004; Gross, 2002; Gross & Thompson, 2007).

Arguably one of the most influential contributions to the field of emotion regulation was proposed by Gross (1998) indicated that emotion regulation process consists of applying strategies to modulate or change the meaning of emotional experiences or expressions in order to react towards demands of the environment. Moreover, the regulation process includes occasional, in-control, conscious, and unconscious efforts while their effects can be monitored at one or more spots throughout emotion generation period (Gross, 1998; Gross & Jazaieri, 2014). Another proposition offered by Gross is that emotion regulation refers to "the processes by which we influence which emotions we have, when we have them, and how we experience and express them" (Gross, 1998, pp. 224). On one hand Gross' conceptualization emphasizes the self-control feature of emotion regulation, on the other hand, it implies personal agency which is related to taking an action as a result of an emotion eliciting stimulus.

After collaborating with Thompson, Gross merged his conceptualization with Thompson's and suggested a new definition for the term. The new definition included both intrinsic (emotion regulation within yourself) and extrinsic (emotion regulation within others) processes as a part of the emotion regulation (Gross, 2011). According to Gross and Thompson (2007), emotion regulation refers to the automatic or controlled, conscious or unconscious efforts of individuals influencing emotions in self, others or both, and the process may dampen, intensify, or sustain emotions, depending on individual's goals. This definition assembles the extrinsic influences and emotion regulation in the self.

Another well-accepted definition of emotion regulation was offered by Koole (2009) indicating that it is an intervention process where people attempt to change the natural flow of their emotions. However, Gratz and Roemer (2004) suggested that emotion regulation is a more comprehensive and multifaceted concept, and defined emotion regulation by dividing it into six categories; awareness and understanding of emotions, acceptance of emotions, ability to control impulsive behaviors and behave in accordance with desired goals when experiencing negative emotions, and ability to use appropriate emotion regulation strategies flexibly to modulate emotional responses as desired in order to meet individual goals and situational demands.

The notion of emotion regulation has thought to be difficult to segregate from the notion of emotion (Cole et al., 2004; Campos et al., 1994; Kagan, 1994) and unfortunately, reaching a universal definition of emotion is a futile attempt since it is not convenient to define emotions operationally (Campos et al., 1994). Some have argued that emotion and emotion regulation are inseparable concepts, because emotions have already had the regulatory feature by nature (Stansbury & Gunnar, 1994) or what we know about emotions are so restricted that we are not able to depict the difference (Kagan, 1994). Along those lines, Gross (2011) also treated emotion regulation-both before and after the collaboration with Thompson- as an ambiguous process.

Some researchers include such characteristics as control of emotional experience, expressive control of negative emotions, and reduction of emotional arousal when conceptualizing the term emotion regulation (Kopp, 1989; Garner & Spears, 2000). However, Cole et al. (1994) and Thompson (1994) suggested that emotion regulation is rather a complicated process and does not necessarily involve immediately eliminating the negative affect. Emphasis on accepting and valuing emotional responses rather than controlling and reducing the negative effects were included in their conceptualization. Similarly, Gross (2002) also indicated that although the concept of emotion regulation is thought to be associated with immediately eliminating the negative feelings, there is more to emotion regulation than this.

Hayes et. al. (1996) have proposed that struggles to inhibit internal experiences such as unwanted thoughts and feelings may lead many psychological disorders. Research studies indicated that while inhibition, suppression and control of negative emotion are negatively related to psychological health (Gross & John, 2003), to be able to be aware of the feelings, identify negative emotions and evaluate the information that emerge as a consequence of negative experiences were likely to promote adaptive social behavior (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995).

The research on emotion regulation strategies have focused on two contrasts to a large extent: suppression and reappraisal. Previous studies revealed that people who report using suppression, experience less positive emotion and more negative emotion as well as depressive symptoms (Gross & John, 2003; Nezlek & Kuppens, 2008). On the other hand, people who report using reappraisal experience decreased levels of negative emotion and increased positive emotion (Feinberg, Willer, Antonenko & John, 2012; Lieberman, Inagaki, Tabibnia, & Crockett, 2011).

Earlier studies tended to make the distinction between cognitive change (reappraisal) as an adaptive response and response modulation (suppression) as a maladaptive one (Gross, 1998a, 1998b). Nevertheless, recent studies tend to show that whether an emotion regulation strategy is effective or adaptive is almost entirely context dependent (Paul, Simon, Kniesche, Kathmann, & Endrass, 2013; Zimmermann & Iwanski, 2014). Thus, utilizing a sole strategy (e.g., using reappraisal) for every occasion may not be considered as sign of an ability in terms of regulating the emotions. Therefore, adaptive emotion regulation involves flexibility in the use of emotion regulation strategies (Cole et al., 1994; Thompson, 1994). In a similar vein, ideal emotion regulation skills allow one to respond in flexible and appropriate ways (Cicchetti, Ganiban & Barnett, 1991). Therefore, being aware of personal and environmental demands and reacting accordingly may be one of the most accurate indicators of emotion regulation skills.

Many theorists have agreed with the assumption that emotion regulatory skills are built up in infancy and develop incrementally over time (Gross & Munoz, 1995: Kopp, 1989), and from infancy, the child both experiences emotions and learns to regulate them (Thompson, 1990). In a similar vein, Kopp (1989) has suggested that a rudimentary form of emotion regulation can be observed in 3 to 9-month-old infants. Likewise, Greenberg and Paivio (2003) indicated that development of emotion regulation can be one of the major developmental tasks in the personal and interpersonal domain. It takes many years of practice, is influenced by both internal and external factors, and continues even after regulation has been achieved. In other words, emotion regulation is a multifaceted concept and relational set of processes that keep developing throughout lifetime.

Both emotion regulation and emotion dysregulation have been characterized as multifaceted constructs. Emotion dysregulation can be defined as incompetency or inflexibility in handling the density and the lasting interval of particular negative emotions such as disappointment, sadness, fear, and anger. Earlier conceptualizations of emotion regulation tended to focus on two contrasts which are suppression and reappraisal indicating that suppression is a maladaptive strategy since it was defined as "conscious inhibition of ongoing emotion-expressive behavior" (Gross, 1998, pp. 226). Gratz and Roemer (2004) suggested that there is more to add to this conceptualization and divided emotion dysregulation into six categories on behalf of being more comprehensive; nonacceptance of emotions, difficulties in engaging in goal-directed behavior, difficulties in remaining control over the behavior while under distress, awareness or acknowledging emotions, difficulties in finding appropriate strategies when upset, and lack of clarity in emotions that are experienced.

2.3 Perceived Social Support

In this section, along with the theoretical perspectives, primary conceptualizations of social support were presented.

2.3.1 Definitions and Conceptualization of Social Support

The significance of social ties in daily life has become increasingly clear. Providing and receiving help from others are indispensible part of our lives and one of the crucial forms of coping activities. Included by most of the definitions, social support corresponds to such activities as giving recommendation, emphatizing, assisting, inspiring, encouraging etc. Since social relations contain several aspects such as affairs with beloved ones to interpersonal day-to-day interactions, reaching an exact and one-dimensional definition seems a futile attempt. Alloway and Bebington (1987) suggested that because social support is a multidimensional concept and source of each dimension is quite separate from each other, specifying the qualities of every aspect is what makes it challenging to integrate this concept into mental health research.

A number of investigators have pointed out distinction between psychological and non-psychological forms of social support (Caplan, 1979; Cobb, 1976). The core fraction of this differentiation is that while psychological support indicates provision of information, non-psychological support implies acquisition of tangible assist. Along with this distinction, it is pointed out that it is important to underline the critical differences among social network and social support, because despite the fact that the primary source of social support is individuals within the social network, simply having a broad social network does not necessarily indicate an access to social support (Nurullah, 2012). Quality of received support, solidness of connections between person and community members and lastly, other individuals' inclination towards providing support is what make social support more meaningful (Pearlin, 1989; Pearlin, Lieberman, Menaghan, & Mullan, 1981). Giving advice, provide encouragement, empathizing, helping with practical tasks are some actions related to the concept of social support (Barrera, Sandler, & Ramsay, 1981).

Cobb (1976) defines social support as a cognitive construct and proposed that individual's belief that there is care and/or love (emotional aspect), trust and value (esteem support), and sense of belonginess to members of the society (network support) bring social support into the forefront. This definition accentuates an important aspect, because social support is substantially related to beliefs rather than facts. In other words, the definition ignores received social support to a large extent and emphasizes the concept of perceived social support by giving utmost importance to individual's frame of reference. As Cohen and Hoberman (1983) argues, the tangible existence of any source that theoretically included in the concept of social support does not necessarily provide evidence for its actual availability. Rather, the belief that being received some sort of support from family, friends or significant others is a stronger determinant of its genuine availability, because instead of its actual availability, cognitive perspective deals with the beliefs and subjective references regarding received social support. Along those lines, Lin (1986) too, points out the difference between actual and perceived social support and states that actual and perceived support may be consistent with each other for some individuals and not for others, because the amount of support comprises of personal appraisals (Barrera, 1986;

Nurullah, 2012). Although social support is a multifaceted construct, both elements (perceived and actual or received social support) are hypothesized to be health-protective and to act as a buffer against stress (Tardy, 1985).

Thoits (2010) suggested that significant others including family members, friends and colleagues are the main sources of social support coming to existence from three distinctive areas; emotional support, information support and practical support. In a similar way, Lin (1986) divided social support into two components and investigated these two words separately. The term "social" in social support has three distinct levels; the community, the social network, and intimate relationships and the “support” term has two major dimensions; instrumental (material) and expressive (emotional support). House (1981) provided a relatively broad conceptualization of social support that hypothetically included four distinctive domains; emotional, instrumental, informational, and appraisal support.

There are three widely accepted conceptualizations that attempt to explain the social support as a separate construct; buffering effect hypothesis, main effect hypothesis, and matching hypothesis. Buffering effect hypothesis argues that when confronted with negative life events, higher levels of social support offers a protective role via preventing individuals from overwhelming effects of these events (Williamson, 2015). As direct effect theory of social support proposes, social support has constructive effects on psychological health and well-being at varying levels irrespective of existence of a stressful situation (Cohen & Wills, 1985; as cited in Thoits, 1995). In other words, social support directly affects the well-being and mood, and as a result, helps people to alleviate the adverse effects of negative or stressful life experiences. Proposed by Cutrona and Russell (1990), the matching hypothesis indicates that different stress-evoking events require different forms of social support depending on the features of that particular event. The types of social support in matching hypothesis-which is similar to above mentioned House (1980)'s classification- includes emotional support, network support, esteem support, tangible aid and informational support. For instance, unmanageable stressors

such as death of a beloved one require emotional support rather than instrumental, tangible or informational support.

In sum, many of the definitions of social support in literature have concluded that it is a multidimensional concept and offered dimension-specific description of social support. According to Cohen (2004), categorizations laying emphasis on divergent aspects set ground for shedding the light on the debate of whether the specific aspects and sources of social support pose a more protective role against different stress-evoking situations and for different personality traits.

2.4 Research on Health-Risk Behaviors and Demographic Variables

Throughout the literature, several studies aimed to predict health-risk behaviors via demographic variables such as gender. Results of most of those studies indicated that gender was associated with engaging in risk behaviors. The literature regarding gender being predictor of health-risk behaviors demonstrated that males tended to exhibit higher levels of risk behaviors such as alcohol use, smoking, and substance when it compared to females; however, gender differences in suicide tendency was still a matter of debate.

Allen et al. (2015) examined gender differences and dependency motives in smoking behavior in a sample of 2,376 individuals with at least 25 years of age. They divided the whole sample into two groups: non-dependent smokers (NDS) and dependent smokers (DS). Findings of the study revealed that among NDS group, women scored significantly lower scores on smoking dependency motives; however, there were no significant differences in smoking dependency motives of DS group indicating that gender differentiated smoking motives among non-dependent sample. Moreover, no significant differences were found in terms of cigarettes smoked per day regarding gender or two study groups.

Van Etten et al. (1999) investigated gender differences in early stages of drug involvement. The respondents consisted of 131,226 residents, aged 12 years and older. Results have shown that males reported higher initial opportunity to use drugs than females in all of nine time points.

In their study, Mäkelä et al. (2006) compared drinking habits of males and females across Europe. The data were collected from the general population aged 20-64 years in 14 European countries. Findings indicated that mean frequency of drinking was 40-250% higher among males than females. Additionally, it was revealed that heavy episodic drinking was also more common (three to six times more often) among men when it compared to women.

Lash et al. (1998) investigated the effect of masculine gender role stress which is a term occurring in men who are highly commited to the male role on alcohol and drug abuse. The sample consisted of 139 substance abuse inpatient men and the mean age of the participants was 42.10. Findings of this study were in line with the proposition of Driessen (1992), indicating that obtaining relatively a masculine gender role increases the odds of engaging in health-related risk behaviors such as alcohol use since those "masculine" deeds were reinforced by the society. The findings revealed that higher levels of masculine gender role had more severe alcohol and drug dependence. Moreover, masculine gender role was also associated with substance abuse in response to negative emotions.

Willsnack et al. (2009) conducted a study where they aim to provide information about gender and age specific alcohol consumption. The study sample comprised of above 10,000 individuals from 35 different countries and since the age range of participants was relatively large, three different intervals were created:18-34, 35-49, and 50-65. Results showed that men were more likely than women to be a current drinker, high-volume drinker, and heavy episodic drinker as well. Moreover, the status of being a current drinker and heavy episodic drinker became less prevalent as age increases.

In a Turkish sample, Siyez (2008) examined the gender differences in health-risk behaviors such as smoking, alcohol use, substance use, early sexual intercourse, and antisocial behavior. Sample size for the study was 1,734, and the sample consisted of high school students. It was concluded that males reported significantly higher scores in smoking, alcohol use, substance use and early sexual intercourse; however, there were no significant differences in terms of antisocial behavior.

Körük (2017) investigated the mediator role of psychological symptoms on the predictive role of perceived social support and insecure attachment on risky behaviors among adolescents. The sample was 462 high school students. Findings indicated that there were significant gender differences in terms of alcohol use, smoking, and suicide tendency. While males reported higher scores for alcohol use and smoking, females reported higher scores in suicide tendency.

In a similar vein with the mentioned studies, Oğuz, Çamcı and Kazan (2018) conducted a study in a sample of 602 university students whether their smoking status differs across gender. It was found out that male participants reported higher scores in smoking than females.

In another recent study, Atlam and Yüncü (2017) examined the predictive role of several demographic variables on smoking, alcohol use and substance use in a sample of 1522 college students. Results of the study indicated that males' scores in alcohol use, smoking, and substance use were significantly higher than females.

2.5 Research on Health-Risk Behaviors and Perceived Social Support

Several researchers have aimed to determine whether there was an association between the amount of social support received and the proneness to risky behavior. Results have revealed that social support predicted less involvement in problem behavior among adolescents, young adults and older age groups as well (e.g., Moran & Dubois, 2002; Reininger, Perez, Flores, Chen & Rahbar, 2012; Oğuzdoğan, 2017). Findings regarding those studies were presented below.

Moran and Dubois (2002) investigated the relationship between social support, self-esteem and problem behavior among young adolescent sample. The sample consisted of 347 individuals. Results of the study revealed that social support and self-esteem predicted less involvement in problem behavior.

Reininger et al. (2012) examined the association among perceived social support, community empowerment and youth risk behaviors along with several demographic variables. Sample size of the study was 1,181 recruited from 31 different schools. It is found out that males reported higher scores in alcohol use, tobacco use, sexual activity and fighting and perceived social support and/or at least its one divergent agent posed a buffering factor against all of the risk behavior areas.

Woods-Jagger et al. (2016) conducted a study where they aim to investigate the relationship among family support, alcohol-related problems, and emotion regulation strategies. The sample was 150 adolescents. It is revealed that while limited access to emotion regulation strategies was positively and significantly correlated, family support was negatively and significantly correlated with alcohol-related problems.

Kerr et al. (2006) investigated the role of perceived social support from family and friends on several psychopathologies. Participants were 220 adolescents with age range between 12-18 who had been psychiatrically hospitalized. Results of the study suggested that perceptions regarding low family support were associated with greater alcohol use, substance use and more severe suicidal ideation. However, for male participants, higher levels of friend support was related to higher levels of suicidal ideation indicating possible diverse effect of peer existence.

Research on acting perceived social support as a mediator for health-risk behaviors was limited in the literature. For instance, Lai and Ma (2016) investigated the mediator role of divergent aspects of perceived social support in the relationship among life satisfaction, hopelessness and health-risk behaviors. Findings of this study revealed that family support mediates the relationship between life satisfaction and hopelessness on smoking, alcohol use, and suicidal thoughts; friend support mediates this relationship only for alcohol use,

and lastly, when support from significant others was put in as mediator, there were no significant indirect effects among study variables indicating that significant other support was not a mediator for the last relationship.

In sum, perceived social support as well as its divergent aspects assumed to be a protective factor against engaging in health-risk behaviors via a large number of studies. Furthermore, in some studies, along with being negatively associated with health-risk behaviors, perceived social support acted as either partial or full mediator for those behaviors. Therefore, the literature regarding the relationship between health-risk behaviors and perceived social support offered relatively noncontentious results indicating that perceived social support was a salient factor associated with less involvement in health-risk behaviors.

2.6 Research on Health-Risk Behaviors and Emotion Regulation Difficulties

As previously mentioned, there were mainly two emotion regulation conceptualizations across the literature. First one was dichotomous and divided the concept of emotion regulation into two categories as cognitive reappraisal and suppression (Gross, 1991), and suppression mainly corresponded to some sort of difficulty in emotion regulation processes. More contemporarily, second conceptualization was belonging to Gratz and Roemer (2004), and classified difficulties in emotion regulation as a six-dimension notion. Studies related to both conceptualizations provided adequate empirical data to conclude that difficulties in emotion regulation were related to health-related risk behaviors.

Dragan et al. (2015) investigated the mediator role of metacognitions about alcohol use in the relationship between difficulties in emotion regulation and problem drinking among women. A total sample of 502 women were recruited for the study. It was found out that there was no direct association between difficulties in emotion regulation and problem drinking. However, when metacognitions about alcohol added to the structural equation model, the relationship became significant indicating that positive metacognitions about alcohol use was a significant predictor of abovementioned relationship.

Fox et al. (2008) aimed to compare recently abstinent alcoholics and social drinkers in terms of emotion regulation difficulties and impulse control. The sample consisted of 62 social drinkers and 50 recently abstinent treatment-seeking alcohol users. Results revealed that during the first week of the treatment, alcohol dependent group reported significant differences in emotional awareness and impulse control when it compared to social drinkers. However, significant progress in terms of emotional awareness and emotional clarity was observed after 5 weeks of treatment among treatment-seeking group. Lastly, significant difference between social drinkers and treatment-seeking group in terms of impulse control was sustained until the last week of the treatment indicating that a personality factor which is impulsivity was resistant to change even after a some sort of intervention.

Dvorak et al. (2014) investigated the associations among different aspects of emotion regulation difficulties, problematic alcohol use and alcohol-related consequences in a sample of 1758 college students. It was found out that impulse control difficulties were positively associated with number of drinks consumed among active drinkers. In addition, non-acceptance of emotions, difficulties in impulse control, lack of emotional clarity and difficulties related to engaging in goal-directed behaviors were positively related to number of consequences experienced.

In an experimental study, Fucito et al. (2010) examined whether emotion regulation strategies were associated with smoking and motivations related to smoking. Data were gathered from individuals who smoke 10 or more cigarettes per day for at least one year. One hundred and twenty-one participants (61 men, 60 women) were recruited for the study. Results of the study indicated that while frequent reappraisal was associated with smoking less cigarettes and weaker beliefs that smoking reduces negative effect; frequent suppression was positively and significantly correlated only with the number of years smoking.

Neacsiu et al. (2018) aimed to investigate the relationship between suicidal behavior and problems with emotion regulation via two studies and two independent samples. First sample consisted of adults aged between 18-60 years old and the aim of the first study was to determine the relationship among emotion regulation difficulties, suicide tendency and certain demographical variables among a non-clinical sample. Findings of the first study revealed that relationship status, total number of current personality disorders, anxiety severity, negative effect and difficulties in emotion regulation were significant predictors of suicide ideation. Second study was experimental and the purpose was comparing a group of depressed adults with a history of suicide attempts (group 1) with non-suicidal depressed (group 2) and healthy control group (group 3). The total sample size for the second study was 95. Results revealed that participants who had suicide attempts and depression history scored significantly higher scores than both healthy control group and depressed control group in terms of emotion regulation difficulties.

Hatkevich et al. (2019) investigated the associations among six dimensions of difficulties in emotion regulation and suicide tendency in a sample of 547 psychiatric adolescent inpatients. The diagnosis criteria were mood disorders, anxiety disorders and substance use disorders according to DSM-IV. Findings revealed that female participants were reported higher scores in both suicide tendency and suicide attempt across all samples belonging to different criteria. Moreover, as for past year suicide ideation, two subscales of DERS (strategy and impulse) were significant predictors. While individuals who have difficulties in finding appropriate strategies to regulate emotions tended to have increased levels of suicide ideation and attempt, individuals who have difficulties in controlling emotions when upset were less inclined to suicide ideation and suicide attempts. The domains of goals, clarity, awareness and nonacceptance were not significantly associated with suicide ideation and attempt.

Rajappa et al. (2012) investigated the predictive role of emotion regulation difficulties on suicidal ideation in three different samples consisted of 96 participants. First group was young adults with current suicidal ideation but no suicide attempt history (n=17), second group was individuals who had a history of a single (n=20) or multiple attempts (n=17),

and third group was individuals who had no current ideation and no past attempt (*n*=42). Findings of the study revealed that strategy (inability to find appropriate strategies to regulate emotions) and non-acceptance (difficulty in accepting emotional responses) subscales were able to differentiate multiple or single attempters from control group who had no current suicidal ideation or history of attempt.

Bonn-Miller et al. (2011) where they investigated the mediator role of difficulties in emotion regulation in the relationship between post-traumatic stress symptom severity and marijuana use in a sample of 79 adults indicated that the direct effect from difficulties in emotion regulation to marijuana use was .48 and significant. Additionally, difficulties in emotion regulation acted as a full mediator between post-traumatic stress severity and marijuana use indicating that participants who were able to regulate their emotions better were less likely to use marijuana as a result of post-traumatic stress.

Fox et al. (2007) examined the difference between difficulties in emotion regulation in cocaine abstinent individuals. Two samples were utilized for the study. First sample was 60 cocaine-dependent individuals (according to DSM-IV) and the second sample was 52 healthy volunteers. Moreover, cocaine-dependent individuals were in treatment during the data gathering process. First step was to measure group differences on first week of the treatment, and then, same scales were applied the same two groups after the 7 weeks or treatment for cocaine-dependent individuals. Results revealed that the two groups' scores were significantly different from each other in terms of impulse, awareness, strategies and clarity subscales at the end of the first week of the treatment. After seven weeks, only the differences for impulse and awareness scales were remained significant.

In sum, difficulties in emotion regulation is a significant variable that is associated with more involvement in health-risk behaviors such as alcohol use, smoking, suicide tendency and substance use. However, it should be noted most of the abovementioned studies utilized total score of Difficulties in Emotion Regulation Scale since six-dimension conceptualization of difficulties in emotion regulation made it impossible to reveal the associations among study variables due to multicollinearity problems. Very few studies investigated whether distinctive dimensions of emotion regulation difficulties were

related to health-risk behaviors. For instance, experiencing difficulties in finding appropriate strategies to alleviate negative emotions (strategy subscale of DERS) was the strongest subdimension associated with suicide tendency as proved by several studies.

2.7 Research on Health-Risk Behaviors in Turkey

Research on health-risk behaviors in Turkey was relatively scarce and the focus of the current studies was mostly on adolescence period. Moreover, most of those studies have investigated health-risk behaviors on an individual basis (e.g., examining the predictors of smoking, alcohol use, suicide tendency and substance use separately). A very few studies have conceptualized risk behaviors in a way that it would be able to include such behaviors as smoking, alcohol use, substance use and suicide tendency concomitantly.

For instance, Irmak, Kızıltepe, Gümüşten, and Çengelci-Özekes (2018) examined the predictors of risk-taking behaviors (smoking, carrying weapons related to delinquent act such as pocketknife) in college students in a sample of 410 students (282 females, 128 males). Findings of the study revealed that gender was the strongest predictor of risk-taking behaviors and males were more likely to engage in risk-taking behaviors.

Kurşuncu (2016) investigated whether family-of-origin variables along with the demographic variables were significant predictors of risk-taking behaviors among young adults. The data were gathered from 535 individuals (429 females, 106 males). Results revealed that males who had low academic achievement, one or no sibling, high level of personal authority, and low level of father intimacy were more prone to exhibit risk-taking behaviors.

In a study, Geçkil and Dündar (2011) explored the relationships among self-esteem, and demographic variables-such as gender, age, grade and health-risk behaviors. Health-risk behaviors for the study was fivefold; psychosocial, nutrition, physical activity, hygiene, and substance abuse. The sample consisted of 1361 adolescents (655 girls, 706 boys). It was found that age, grade, gender, self-esteem and academic achievement were significant predictors of health-risk behaviors. Results of the study concluded that while males

obtained higher scores than females in such risk areas as substance abuse, hygiene, and psychosocial domain, females reported higher scores in physical activity and nutrition. Moreover, there were no significant differences regarding age group.

Fırat et al. (2016) investigated the predictors of risky behaviors (tobacco use, alcohol, addictive substances, sexuality, personal safety, and violence) in a sample of 184 college students. Findings revealed that males reported higher scores in antisocial behaviors, tobacco use, substance use, and school dropout. It was also revealed that students living home with their friends reported higher scores in alcohol use when it compared to students living with their families or in dorm. Additionally, students living home with their friends reported higher scores for tobacco use when it compared to their counterparts living with their families.

In another study, Oğuzdoğan (2017) examined the relationship between several demographic variables, emotion regulation, coping strategies, perceived social support and alcohol/cannabis dependency risk in a sample of 252 university students (157 females, 95 males). Results revealed that gender was able to differentiate the groups for alcohol and cannabis dependency risk. Moreover, emotion regulation strategies and problem-focused coping was significant predictors of cannabis dependency risk, and perceived social support was significant predictors of both alcohol and cannabis dependency risk.

2.8 Summary of Literature Review

Literature with regards to health-risk behaviors indicated that along with certain demographic variables, there are several personal and environmental factors associated with alcohol use, smoking, suicide tendency and substance use. *Problem Behavior Theory* underlined that proneness to those behaviors occur as a result of the interaction among three subsystems; personality, environment and behavior systems. Developmental approach remarked the importance of the context and developmental period to explain health-risk behaviors. Personality-trait approach focused on certain personality structures such as sensation-seeking and impulsivity that are associated with risk behaviors. Lastly,

decision-making approach implied that cognitive processes were utmost importance in explaining risk behaviors.

Literature with regards to emotion regulation revealed that emotion-as a concept- is relatively troublesome to define and conceptualize. Similarly, there is no common definition for the concept of emotion regulation. However, it was concluded that both concepts are multi-faceted. Many studies referred emotion regulation as a sub-concept of self-control. As for emotion dysregulation, it can briefly be defined as inabilities in handling with negative emotions such as fear, sadness, and despair. Furthermore, context of any emotion was also stated as an important factor determining emotion regulation/dysregulation since "good" emotions may be "bad" or vice versa according to the context.

Social support was one of the concepts of psychology that has been investigated for decades. Some have classified the concept as twofold: perceived and received social support, some have classified as threefold: family, friend and significant other support, some have focused on psychological and non-psychological forms of social support, and lastly, some have divided it into three categories as emotional, network, esteem and tangible support. However, the common ground of all was that social support has preventive, enriching and well-being increasing factor when it cognitively or subjectively exists in individual's life.

As a result, literature regarding the relationship between difficulties in emotion regulation strategies and health-risk behaviors was relatively limited and continues to pile. Moreover, six-dimension conceptualization of DER hinders researchers from examining the effect of all of six aspects separately due to multicollinearity issues. However, the conclusions derived from the studies revealed that the concept of difficulties in emotion regulation gives indication that it is one of the unique variables that is able to explain certain amount of variance in almost every health-risk behavior both included in the current study and other non-included risk-behaviors such as antisocial and risky eating behaviors as well. When it comes to perceived social support, as proved by a wide range of studies, it provides either significant mediator or negative direct effects in terms of

explaining health-risk behaviors. However, the number of studies where the relationship between divergent aspects of perceived social support and health-risk behaviors have been investigated was relatively limited. Therefore, literature review regarding the role of divergent aspects of perceived social support in terms of explaining health-risk behaviors underlined the need for separate analyses. Moreover, existing studies exploring the effect of different dimensions of perceived social support on health-risk behaviors remarked the deceptive characteristics of perceived friend support since it may have reinforcing and enthusing effects on exhibiting such behaviors as smoking, alcohol use, and substance use among college students.

CHAPTER 3

METHOD

This chapter aims to provide information about methodological steps that have been followed throughout the study. Details about the research design, sampling procedure and demographic characteristics of the participants, data collection instruments, procedures that were followed while collecting data, description of variables, data analyses, and lastly, limitations of the study were presented, respectively.

3.1. Research Design of the Study

The purpose of the study was to investigate the relationships among emotion regulation difficulties, perceived social support, and health-related risk behaviors in university students. Explicitly, present study aimed to explore whether emotion regulation difficulties are associated with health-related risk behaviors and whether both different dimensions of and total perceived social support act as a mediator variable between these two. Along with that, gender was investigated whether the proposed models were similar or different for women and men in terms of health-related risk behaviors. Thus, the overall research design of the study is quantitative and correlational. Correlational studies are sometimes called associational research and refers to the relationships among two or more variables without influencing them (Fraenkel, Wallen & Hyun, 2011). The purpose of the study is to explore direct, indirect and overall associations among difficulties in emotion regulation, health-related risk-taking behaviors including alcohol use, smoking, suicide tendency and substance use, perceived social support from family, friends, significant others, and total perceived social support as well. Difficulties in emotion regulation was

exogenous, total as well as dimensions of perceived social support were mediators and health-risk behaviors were endogenous variables of the study. To investigate the aforementioned relationships, Structural Equation Modeling was performed.

Demographic data were collected via using Personal Information Form which was developed by the researcher. Scores related to health-related risk behaviors, emotion regulation difficulties and perceived social support were gathered via University Form of Risk Behaviors Scale (UFRBS), Difficulties in Emotion Regulation Scale (DERS), and Multidimensional Scale of Perceived Social Support (MSPSS), respectively. Data were collected through both online and paper-pencil surveys. In total, 647 participants filled out the instruments.

3.2 Sampling Procedure

Data collection and sampling procedure were conducted via two methods. First method of the data collection procedure was completed through paper-pencil surveys. University students who are enrolled in Turkish universities irrespective of age were the target population of the study. However, accessible population was university students enrolled in one of the state universities in Southern Anatolia for the first method of the data collection. Therefore, convenience sampling procedure was utilized. An additional online data collection procedure was also followed because of limited time and accessibility.

The data were collected from 647 university students during the academic year of 2018-2019. Three hundred and forty-four participants were recruited via paper-pencil surveys and 303 participants were recruited via online survey. Fourteen of the participants were excluded from the paper-pencil survey because 5% or higher of their data were missing (Tabahchnick & Fidell, 2013). As a result of the outlier inspection, 6 univariate outliers were removed from the dataset. In the online part of the study, 8 participants were reported that they were graduated from university. Therefore, these participants were also excluded from the study. As a result, total number of participants became 619.

After removing total 28 individuals from the dataset, separate independent samples t-tests, one-way ANOVAs were conducted to determine whether two data collection methods significantly differed in terms of scores in smoking, alcohol use and suicide tendency. Then, since the data belonging to substance use did not distribute normally across the sample, Mann-Whitney U test was conducted to determine whether substance use scores differ across two data collecting methods.

Results revealed that there was no significant difference between paper-pencil survey scores (M = 14.96, SD = 7.69) and online survey scores (M = 14.25, SD =7.30) in terms of alcohol use, t (617) = 1.16, p = .25. Moreover, there was no significant difference between paper-pencil survey scores (M = 26.99, SD = 10.13) and online survey scores (M = 27.98, SD = 9.81) in terms of suicide tendency, t (617) = -1.23, p = .22. Lastly, there was no statistically significant difference between paper-pencil survey scores and online survey scores in terms of substance use (U = 46428.50, p = .47). However, there was a significant difference between paper-pencil surveys (M = 17.88, SD = 9.16) and online surveys (M = 15.76, SD = 7.88) in terms of scores in smoking, t (617) = 2.12, p = .002. Since the sample sizes across two methods were not equal, Welch's F ratio which is an alternative method for determining mean differences was utilized. Results have revealed that there was a significant mean difference in terms of smoking scores, Welch's F (1, 614.52) = 9.44, p < .05. However, the aims of the study did not include determining or comparing any domain specific relationships with respect to data collection method (e.g., online participants vs. paper-pencil participants) for health-related risk behaviors. Therefore, two sets of data have been merged while conducting the main analyses.

3.3 Demographic Characteristics of the Participants

After data cleaning process, there were total 619 participants whose answers were included in the analyses. Of the 619 participants, 197 (31.8 %) were male and 422 (68.2 %) were female. The ages of the participants were ranged from 18 to 36 (M = 20.61, SD = 2.08).

Of the participants, more than half of the them reported that their perceived socioeconomical status were belong to middle-low class (*n* = 390, 63%). As for residency status, 72 (11.6 %) of them were living home alone, 91 (14.7 %) of them were living at home with friends, 111 (17.9 %) of them were living with one or more family members, and 345 (55.7 %) were living in dorm, respectively. Lastly, more than half of the participants reported that they have two or more siblings (n = 363, 58.6%).

Table 3.1

Demographic Characteristics of the Participants (N = 619)

Gender	*f*	*%*
Male	197	31.8
Female	422	68.2
Perceived socioeconomical status		
Low	13	2.1
Middle-low	119	19.2
Middle	390	63
Middle-high	91	14.7
High	6	1
Residency status		
Home alone	72	11.6
Home with friends	91	14.7
Home with at least one family member	111	17.9
Dorm	345	55.7
Grade		
1	134	21.6
2	166	26.8
3	188	30.4
4	131	21.2

3.4. Data Collection Instruments

To collect data, four instruments were utilized for the study. These instruments were Demographic Information Form, University Form of Risk Behaviors Scale (Gençtanırım, 2014), Difficulties in Emotion Regulation Scale (Rugancı & Gençöz, 2010), and Multidimensional Scale of Perceived Social Support (Eker & Arkar, 1995) along with a demographic information form (Appendix D). Psychometric properties of the instruments were presented below.

3.4.1 Demographic Information Form

Demographic information form was developed by the researcher for the aims of this study. Participants were asked to indicate their gender, age, number of siblings, perceived socio-economic status, and residency status.

3.4.2 University Form of Risk Behaviors Scale (UFRBS)

The scale was developed by Gençtanırım (2014) to measure risk-behaviors jeopardizing the lives of university students in terms of biological, social and psychological domains. UFRBS consists of 60 items with 5-point Likert type rating scale on a range of *never* (1) to *always* (5). It consists of seven subscales including antisocial behaviors (items 1 through 10; total 10 items), alcohol use (items 11 through 19; total 9 items), smoking (items 20 through 27; total 8 items), suicide tendency (items 28 through 39; total 12 items), eating habits (items 40 through 47; total 8 items), school dropout (items 48 through 51; total 4 items), and substance use (items 52 through 60; total 9 items). Sample items for each subscale were "I do fight verbally", "I drink alcohol to muster up courage", "I cannot hold myself back when I want to smoke", "I feel desperate about my problems", "I like eating junk food", "I do not hesitate quitting school if I find a decent job " and “I use drugs to satisfy my curiosity", respectively. The instrument was developed based on Problem Behavior Theory (Jessor, 1977). As a result of explanatory and confirmatory factor analyses, the last form included 60 items with 7 factors.

Results of the factor analysis revealed that 52.38% of the total variance can be explained by UFRBS. As for the internal consistency of the scale, Cronbach alpha and test-retest reliability methods were utilized, and as a result reliability coefficients were found .78, .90, .93, .89, .83, .68, and .90 for antisocial behaviors, alcohol use, smoking, suicide tendency, eating habits, school dropout, and substance use, respectively. Test-retest reliability has revealed that Pearson r's of the current subscales were between .74 and .97.

Higher scores on all items indicates higher risky behavior on the scale. Total score cannot be calculated, but separate scores for each subscale can be calculated. Therefore, higher points for each subscale indicate higher risk behavior pertaining to related dimension. Possible higher and lower scores for each subscale were as follows; antisocial behaviors (10-50), alcohol use (9-45), smoking (8-40), suicide tendency (12-60), eating habits (8-40), school dropout (4-20) and substance use (9-45).

3.4.2.1 Validity and Reliability of the UFRBS for the Study

The purpose of the study was to explore mediator role of perceived social support in the relationship between difficulties in emotion regulation and health-related risk behaviors. Therefore, four subscales of UFRBS which were alcohol use, smoking, suicide tendency and substance use were utilized in parallel with the aims of the study. To examine the construct validity of UFRBS, a confirmatory factor analysis (CFA) was conducted for four subscales in the current study since the aim of the study was to investigate health-related risk behaviors across four domains. Item parceling procedure was utilized for all of the subscales except for school dropout, antisocial behaviors and eating subscale since the aim of the research was measuring health-related risk behaviors. Furthermore, all of the subscales consisted more than five items which enables researcher to create parcels accordingly. As a result, hypothesized four factor construct was confirmed and CFA revealed that the model fit was satisfactory (fit (x^2 = 417.76, df = 129, p = .00; x^2/df = 3.24; GFI = .93, CFI = .97, TLI = .96, SRMR = .04, RMSEA = .04).

To investigate reliability, Cronbach's alphas were calculated for each subscale. The Cronbach alpha coefficients for alcohol use, smoking, suicide tendency, and substance use were .91, 91, .93, and .90, respectively.

For the purposes of the study, smoking, alcohol use, suicidal tendency and substance use subscales were the variables of interest. Other subscales were not included in the main analyses. It was found out that these four subscales were reliable enough indicating that it was eligible to conduct further statistics.

3.4.3 Difficulties in Emotion Regulation Scale (DERS)

Difficulties in Emotion Regulation Scale was a self-report questionnaire developed by Gratz and Roemer (2004) to assess difficulties in emotion regulation more comprehensively than existing measures (Gratz & Roemer, 2004) by taking into consideration of several dimensions of emotion regulation process that have never been considered. The initial DERS consisted of 41 items with a 5-point Likert type scale on a range of 1 to 5, where 1 is *almost never* (0-10%) to 5 is *almost always* (91-100%). The scale comprised of six subscales; (a) awareness and understanding of emotions; (b) acceptance of emotions; (c) the ability to engage in goal-directed behavior, and refrain from impulsive behavior, when experiencing negative emotions; and (d) access to emotion regulation strategies perceived as effective. In order to assess difficulties regulating emotions during times of distress (when regulation strategies are most needed), many items begin with "When I'm upset," (Gratz & Roemer, 2004). The possible lowest score that can be obtained from the scale was 41, and the possible highest score was 205. Higher scores in each scale indicated greater difficulties in emotion regulation in that subdimension.

Final DERS consisted of six subscales. As for the more detailed explanation about those subscales, *nonacceptance* subscale corresponds to nonacceptance of emotional responses and indicates to what extent one is inclined to have negative secondary emotions responses or nonaccepting reactions towards a stress arousal situation. Sample item for this subscale is "When I'm upset, I feel guilty for feeling that way." *Goals*, or in another

words, difficulties in engaging in goal-directed behavior subscale reflects the challenges concentrating on and accomplishing tasks when experiencing negative emotions. "When I'm upset, I have difficulty focusing on other things." is a sample item for this subscale. *Impulse* subscale comprises of items representing difficulties in remaining in control of behaviors when experiencing negative emotions. One of the items of this subscale was "When I'm upset, I have difficulty in controlling my behaviors." *Awareness* subscale aims to measure predispositions towards regarding and acknowledging emotions. Most of the items in this subscale are reversely coded and aims to measure to what extent individuals are inattentive to or have lack of awareness of their emotional responses. For instance, "I pay attention to how I feel." is a sample item for this scale. Fifth subscale of the DERS is *strategies* indicating the beliefs that there is nothing to be done to regulate emotions effectively when individual is upset. "When I'm upset, I believe that there is nothing I can do to make myself feel better." is one of the sample items in this subscale. Finally, *clarity* subscale aims to measure to what extent individuals are certain and clear about the way and what they feel and "I have no idea how I am feeling." is an example item for this subscale.

Internal consistency and test-retest methods was utilized for determining reliability of DERS. Results indicated that the scale had high internal consistency with having the value of .93 of alpha coefficient. Moreover, Cronbach's α values was higher than .80 for each subscale and item-total correlations were between .16 to .69. To test the test re-test reliability, 21 participants were recruited, and the test-retest reliability was found to be .88 for the total scale.

The Turkish version of the DERS was developed by Rugancı and Gençöz (2010). 338 participants enrolled in three state universities in Ankara were recruited to test the factor structure of the DERS. Results of the factor analysis have revealed that six-factor solution was interpretable in a similar way to original scale, and the total variance of 62.4% can be accounted for by these six factors. There were only two items loaded on different factors when it compared to original study. One of them which is "When I'm upset, I acknowledge my feelings." was excluded from the study, because its correlation with the total scale was

very low (*r*=. 06) and it decreased Cronbach's α in two different possible factor solutions. The other item was "I experience my emotions as overwhelming and out of control." In the original study, it was loaded on the *impulse* factor; however, results revealed that it had a loading of .48 in *clarity* factor. In spite of the findings, researchers have decided to keep it under the impulse factor, because of semantic concerns and the fact that it did not change the reliability score of total scale in two different scenarios. To test the reliability of the scale, alpha coefficients, test-retest and split-half reliability scores were calculated. Cronbach's α coefficient was found .90 for the total scale and .75 to .90 for each subscale. Test-retest reliability was calculated with the 59 participants and found to be .83 for the total scale, and .60 to .85 for the subscales. Split-half procedure was conducted by separating the scale randomly into two parts. The Gutman split-half reliability was found to be .95 and the Cronbach alpha coefficients were found to be .86 and .89 for two random parts having 18 and 17 items, respectively.

3.4.3.1 Validity and Reliability of the DERS for the Study

Rugancı and Gençöz (2010) indicated that the DERS had six factors including goal, strategy, awareness, impulse, non-acceptance, and clarity. However, several studies have shown that items belonging to awareness subscale had relatively lower loadings and five-factor structure indicated a better fit than six factor model (Hallion et al., 2017; Fowler et al., 2014; Osborne et al., 2017; Bardeen et al., 2002). Similarly, three of the factor loadings belonging to awareness subscale were between .30 and .35. Therefore, to test both structures and to prove construct validity, Confirmatory Factor Analysis (CFA) with item parceling procedure was conducted for both the five-factor model and the six-factor model. In a similar vein with the aforementioned studies, first-order CFA for five-factor model indicated a better and a satisfactory fit (x^2 = 676.05, *df* = 160, p = .00; x^2/df = 4.23; GFI = .90, CFI = .93, TLI = .92, SRMR = .06, RMSEA = .05).

Throughout the study, difficulties in emotion regulation were hypothesized to be a second-order latent variable consisting of five latent variables and only the total score for difficulties in emotion regulation were used. To investigate the second-order structure, another CFA was conducted. Results have revealed that model yielded a satisfactory fit

to the data, (x^2 = 685.16, *df* = 165, p = .00; x^2/df = 4.15; GFI = .90, CFI = .93, TLI = .92, SRMR = .05, RMSEA = .07).

Reliability of DERS was investigated by determining internal consistency via calculating Cronbach Alpha coefficients both for the total scale and five subscales. The analyses revealed that total scale Cronbach Alpha value was .94. As for the subscales, the Cronbach Alpha coefficients for *Goal, Strategy, Nonacceptance, Impulse and Clarity* were .86, .88, .85, .85, and .82, respectively.

3.4.4 Multidimensional Scale of Perceived Social Support (MSPSS)

The Multidimensional Scale of Perceived Social Support (MSPSS) was utilized in this study to measure perceived social support from three different dimensions; family, friend and significant others. The original scale was developed by Zimet et al. (1988) to evaluate individual's perceptions about the amount of support they receive from aforementioned three distinctive domains. MSPSS has twelve items with a 7-point Likert type scale on a range of 1 to 7, where 1 is very *strongly disagree* to 7 is *very strongly agree,* and three subscales with each subscale having four items under. Higher scores indicate higher perceived social support and none of the items were reversely coded. Therefore, the possible lowest and highest score that can be received from the scale are 7 and 84, respectively.

As for the psychometric properties of the MSPSS, 275 undergraduate students with being 136 female and 139 males were recruited for the study. Results showed that the scale has good internal and test-retest reliability. The Cronbach's α for total scale was .88, family subscale was .87, friends subscale was .85, and significant others subscale was .91. To measure test-retest reliability, the scale was administered to sixty-nine of previously recruited participants in two to three months period and results indicated that the test-retest reliability scores for family, friends, significant others subscales were .85, .75, and .72 respectively. Regarding the total scale, test-retest reliability score was obtained as .85. To examine the construct validity of the scale, scores on MSPSS was compared with the scores on the two subscales of the Hopkins Symptom Checklist (HSCL); depression and

anxiety. Results indicated that there are significant negative correlations among all of the three subscales of MSPSS and the two scales of HSCL.

The original MSPSS has been adapted to Turkish by Eker and Arkar (1995). Psychometric properties of the scale were examined using samples consisting of normal and with medical or mental health problems. In revised form (Eker, Arkar & Yaldiz, 2001), four different samples (university students, both psychiatric inpatients and outpatients, renal disease patients and normal control group) were recruited. In a similar vein with the original version, the Turkish version of the MSPSS consisted of 12 items with a 7-point Likert type scale, and three subscales with each subscale consisting of 4 items. The possible lowest and highest score that can be obtained from scale are 7 and 84, respectively. As for the subscales, the possible lowest and highest scores were between 4-28.

In 1995 version, subscales were labeled as family, friends, and significant other and explicitly stated in the scale as they were (e.g., I get the help and support I need from a significant other); however, in revised form, Eker, Arkar and Yaldiz (2001) stated that the expression of significant other has a very special type of connotation for Turkish culture and mainly interpreted as support from romantic partners. Therefore, it was not very comprehensible which subscale intended to measure the perceived social support from the spouses. To overcome this drawback, researchers switched the word "significant other" into "individuals besides my parents and friends (e.g., date, fiancée, neighbor, relative, doctor)."

The Cronbach's alpha coefficients of subscales were varied between .85 to .92, and it was .89 for the total scale. As a result of the factor analysis, 75% of the total variance can be accounted for by three factors. To examine construct validity of the MSPSS, Beck Depression Inventory (BDI) and State-Trait Anxiety Inventory (STAI) were investigated to see whether there were correlations among them. Results revealed that MSPSS scores were negatively correlated with the scores of STAI and BDI for university sample.

3.4.4.1 Validity and Reliability of the MSPSS for the Study

To check internal consistency, Cronbach Alpha coefficients for each subscale and total scale were calculated. Like abovementioned findings, Cronbach alpha value for the total scale was .88, for perceived social support from family subscale was .87, for perceived social support from friends' subscale was .89, and for perceived social support from significant others was .96.

To prove hypothesized three- factor construct validity and the data fit, CFA was utilized. Results indicated a good fit, (x^2 = 225.53, *df* = 51, p = .00; x^2/df = 4.42; GFI = .94, CFI = .97, TLI = .96, SRMR = .06, RMSEA = .07) except for the RMSEA value since it is fairly sensitive to sample size in a way that the larger the sample size, the more likely a model will fail to fit via using the chi-square goodness-of-fit test (Barrett, 2007).

3.5 Data Collection Procedure

Previous to data collection process, the researcher applied to the Middle East Technical University Human Subjects Ethics Committee to receive necessary permission for conducting the study. After obtaining the permission, first set of data were collected via in-class surveys from Faculty of Education of a state university in Southern Anatolia in fall semester of 2018-2019. Participants were provided information about the aims and significance of the study. In detail, the researcher provided information about why it is requested to give genuine answers to the questions, and for what purposes their answers would be evaluated. In the end, a contact e-mail address of the researcher was shared for participants who are willing to be informed about the results or general outline of the study. Second set of data were collected via Google Forms which is an online platform allowing to design and share online surveys with the participants. In a similar vein with the first part of the study, participants were requested to fill in the forms and the issues of anonymity and confidentiality were assured. In the end, a contact e-mail address was also shared with the participants who are willing to receive further information about the study.

3.6 Description of Variables

Health-risk behavior: It refers to frequency of engaging in health-related risktaking behaviors measured by UFRBS via its four subscales. These four areas include alcohol use, smoking, suicide tendency, and substance use. Health-related risk behavior was endogenous and/or dependent variable of the study. The highest and lowest score that can be received in subscales ranged between 8 and 60.

Difficulties in emotion regulation: refers to sum of scores as measured by DERS via total 5 subscales (awareness subscale was removed from the study due to low factor loadings as suggested by several researches) including lack of emotional *clarity*, *non-acceptance* of negative emotions, deficiencies in *strategy* building when distressing stimuli is present, lack of control in *impulsive* behaviors and inability to behave in line with the *goals* under the effect of negative emotions. Difficulties in emotion regulation was exogenous and/or independent variable of the study. The possible total score range was between 35 and 175.

Perceived social support: It was measured by the MSPSS via 3 subscales including family support, friends support, and significant others support. Perceived social support was mediator variable of the study. The possible total scores for all of three subscales were between 7 and 28. As for the total perceived social support, possible range was between 12 and 84.

3.7 Data Analyses

AMOS Version 21 (2006) and IBM SPSS Statistics for Windows, Version 25 (2017) programs were utilized to conduct the study. While t-tests, bivariate correlations and assumption checks (except for multivariate normality) was conducted via SPSS 25, SEM and Structural Invariance Analyses were done via AMOS Version 21. Prior to conducting analyses, the procedures of data screening, data cleaning, assumption checks, t-test analyses to investigate the differences between online and paper-pencil surveys was completed. Following this, bivariate correlations among study variables were reported. After item parceling procedure, Structural Equation Modeling (SEM) was utilized to test

hypothesized models. To investigate whether the final model was applicable for both males and females, invariance analyses were conducted.

3.8 Limitations of the Study

It should be noted that there are several limitations of this study mainly stemming from data collection procedure. Firstly, a non-random sampling method which is convenience sampling method was used to recruit participants for the study. Convenience sampling essentially indicates recruiting participants who are currently available for participating in the study. Fraenkel et al. (2011) states that convenience sampling bears many possible sources of bias. First bias related to this method is that students who were not in the lecture in the day that the data have been collected could not be recruited for the study. Taking into consideration the topic of the study, many students who were engaging in health-related risk activities were expected to be absent from school more when it compared to their counterparts, recruited participants may not represent the characteristics of actual risk-takers.

Second bias related to generalizability of the findings. A non-random sampling method was utilized indicating that results of the study may not be valid for some other sample. Therefore, results were provided in a way that they reflect only recruited sample's characteristics.

Another limitation of current study is that the data were collected via relying solely on self-reports. Participants were requested to answer questions related to alcohol use, substance use, smoking, and suicide tendency. Therefore, substance use in particular, providing answer for each and every question might be compelling for some participants because they may be inclined to hide particular amount of information and give socially desirable answers.

CHAPTER 4

RESULTS

In this chapter, findings of the study were presented. First up, preliminary analyses which include data screening and results of the outlier analyses were reported. Then, assumptions related to Structural Equation Modeling (SEM) including sample size requirements, outlier analyses, assumption of normality, multicollinearity, linearity and homoscedasticity were given. Descriptive statistics, differences in gender in engaging in health-related risk behavior, and bivariate correlations among study variables were presented. Furthermore, findings regarding to Structural Equation Modeling (SEM) were presented. In that section, firstly, detailed information about the measurement model and hypothesized structural model were depicted. Direct associations, indirect associations among study variables and mediation analyses regarding to hypothesized structural models were provided. Next, measurement invariance across gender were depicted for both models in detail. Lastly, findings of the study were reported at the end of the chapter.

4.1 Preliminary Analyses

In this chapter, findings related to preliminary analyses were presented. In data screening section, it was aimed to monitor the procedures that have been followed while dealing with missing data and unengaged responses. In outlier analyses section, along with the results for both the univariate and multivariate outliers, methods that have been utilized to deal with these outliers were reported thoroughly.

4.1.1 Data Screening

The data for the study were collected via two methods. First part of the data was collected by Google Forms which allows researcher to submit the data in excel sheet. After recoding Likert-type answers into numbers in SPSS 25, all of the recoded data were transferred back to Excel program. To check whether there were any unengaged responses, three different "=STDEV.P" commands was utilized for the rows that constitutes the items of three different scales. As a result, it was revealed that standard deviation scores for each scale were different than 0 suggesting that there were not any unengaged responses in online form. As for the missing entries, Google Forms provides an option restraining participant to proceed before filling out each question in the scale. This option was enabled by the researcher prior to data gathering process. Furthermore, 8 participants who remarked that they were graduated from university have been excluded from the study.

Second part of the data was collected via paper-pencil surveys. After data collection process was terminated, participants' Likert-type answers were entered Excel program by hand. Missing values were determined by utilizing "=COUNTBLANK" command for each participant. As a result, missing values were identified and 14 participants whose missing answers exceeded the limit of 5% were excluded from the study. Missing values that have not exceeded the value of 5% were replaced by the median of that particular item (Tabachnick & Fidell, 2013). With respect to the unengaged responses, in a similar vein with the online part of the study, "=STDEV.P" command was utilized, and it was revealed that there were no unengaged responses in the second part as well.

4.1.2 Outlier Analyses

To examine the univariate outliers, standardized Z-scores for both dependent and independent variables of the study were calculated, and as suggested by Tabachnick and Fidell (2013), scores that exceeded the limits of -3.29 and +3.29 ($p < .001$, two-tailed) were labeled as potential outliers. There were total 6 participants whose Z-scores of alcohol use fell outside of the abovementioned interval. As for substance use, there were 12 potential outliers. However, the normality assumption of this subscale was invalid

suggesting that the data belonging to substance use subscale was not distributed normally. Therefore, it was decided to include outliers of substance use subscale. Moreover, there were no outliers in terms of the other dependent variables of the study. Along with that, there were no potential outliers in the scores of the independent variables. Results were inspected by the researcher and as a result, total six participants were removed from the study.

As for determining multivariate outliers, Mahalanobis distances were calculated. The Mahalanobis D^2 evaluates each observation's distance in multidimensional space from the mean center of all observations and provides a single value for each observation (Hair et al., 2013). The requirement for being multivariate outlier is a very conservative probability estimate and it is convenient to adjust $p < .001$ as the threshold value (Tabachnick & Fidell, 2013). Under the light of this information, 10 potential outliers were identified overpassing the chi-square of 18.47 (df=4, $p < .001$). However, another threshold is that D^2/df should not exceed 3 or 4 in large samples (Hair et al., 2013). Taken into consideration the second proposition, only one observation were beyond the value of 4 (D^2/df= 4.26). Each variable has some observations that are extreme and they should not be considered unrepresentative of the population (Hair et al., 2013), and as the data set becomes larger, the more the sample resembles the population which it was collected, and thus the likelihood of outlying values becomes greater (Osborne & Overbay, 2004). Furthermore, it is not recommended that outliers be completely discarded unless there is strong evidence that they resulted from mistakes (Kleinbaum, Kupper, & Miller, 1998). Taking into consideration the fact that the research questions of the study were related to health-related risk behaviors which include such sensitive aspects as substance use, existence of outlier values were highly expected. Thus, it was decided to include multivariate outliers in the analyses.

4.2 Assumptions of Structural Equation Modeling

In this section, assumptions of structural equation modeling including sample size requirements, normality, multicollinearity, linearity, and homoscedasticity were discussed and results were presented in line with guidelines proposed by several studies.

4.2.1 Sample Size Requirements

Different rules of thumb were proposed as to what should be the optimal number of participants to conduct a study and several criteria have been suggested by the researchers. Kline (1998) suggested that minimum sample size to conduct a structural equation model should be at least 200. Tabachnick and Fidell (2013) recommended applying "N>50+8m" formula where m indicates the number of independent variable(s) in the study. Wolf et al. (2013) suggested that minimum sample size requirement for conducting mediation models is 450 cases. Therefore, minimum sample size requirement has been met for conducting the study.

4.2.2 Normality

Skewness-kurtosis values, the results of Kolmogorov-Smirnov and Shapiro-Wilk tests, histograms, and Q-Q plots were checked to determine univariate normality. Skewness-kurtosis values closer to zero indicates that the distribution is close to normal and the values should not exceed -3 and +3 range (Field, 2009). If the sample is large, it is a good idea to look at the shape of the distribution instead of using formal inference tests (Tabachnick & Fidell, 2013). Although the results of Kolmogorov-Smirnov and Shapiro-Wilk tests were significant, skewness and kurtosis values were ranged between -3 and + 3 except for the "Substance Use" subscale as expected since it is relatively a delicate and legally connotative topic when it compared to other domains of health-related risk taking behaviors. The table 4.1 indicating the skewness-kurtosis values were represented below. As for the histograms and Q-Q plots, apart from "Substance Use" subscale, the distributions were close to normal distribution.

Table 4.1

Normality Indices for the Study Variables

Variables	*Skewness*	*Kurtosis*
Difficulties in Emotion Regulation	.45	-.06
Perceived Social Support	-.40	-.53
Perceived Social Support from Family	-.88	.12
Perceived Social Support from Friends	-.88	.46
Perceived Social Support from Significant Others	-.22	-1.45
Suicidal Tendency	.54	-.18
Alcohol Use	1.38	1.22
Smoking	.97	-.26
Substance Use	3.01	9.99

As for multivariate normality, Mardia's test was utilized and results revealed that multivariate normality assumption was not met because of excessive kurtosis. Byrne (2010) suggested that if there is an evidence of multivariate kurtosis then the results based on Maximum Likelihood Estimation (MLE) may be problematic. Therefore, Asymptotic Distribution-Free Estimation (ADF) can be used instead of MLE. However, it requires considerably high numbers of sample size (e.g., 1,000 to 5,000 cases). In the worst scenario, sample size should be 10 times greater than the number of estimated parameters to go on with ADF which corresponds to 1160 samples for this study. Since the sample size is 619 for the current study, implying ADF method of estimation was not reasonable. As Byrne (2010) suggests, the procedure of bootstrapping is one of the decent methods to deal with the multivariate non-normal data. Therefore, bootstrapping method was utilized as a remedy to diminish the detrimental effects of the multivariate non-normality in the present dataset.

4.2.3 Multicollinearity

Multicollinearity refers to the correlation among three or more independent variables (Hair et al., 2013) and if multicollinearity occurs, then correlations among two or more variables would be so high that they essentially represent the same underlying construct (Byrne, 2010). To meet this assumption, variance inflation factor (VIF) values should be lower than 10, and tolerance values should be above .20 (Tabachnick & Fidell, 2013). Moreover, bivariate correlations among independent variables should not exceed the limit of .70 which represents "shared" variance of 50% (Hair et al., 2013). However, as a less conservative threshold, Kline (2011) suggested that bivariate correlations needs to be lower than .85. For the variables of the current study, all correlations were below the abovementioned thresholds. As for the VIF and tolerance values, there were no values exceeding the VIF limit of 10 (values ranged between 1.13 and 1.28) and no tolerance values have been found less than .20 (values ranged between .77 and .88). As a result, multicollinearity assumption was met.

4.2.4 Linearity

Linearity refers to relationships among pairs of variables are linear (Hair et al., 2013). Assumption of linearity have been checked by two methods. Scatterplots of regression standardized predicted values and Normal P-P plot of regression standardized residuals have been examined (Appendix E). As a result, with being slight fluctuations across the normal P-P plot of substance use and alcohol use, linearity assumption has been met indicating that there is a linear relationship between independent variables and dependent variable(s) of the study.

4.2.5 Homoscedasticity

Homoscedasticity assumption deals with the constancy of the residuals across the values of the independent variables (Hair et al., 2013). To check whether this assumption has been met, scatterplots of regression standardized predicted values were investigated. With

being slight decreasing patterns in the scatterplots for the substance use and alcohol use, homoscedasticity assumption has not been violated.

4.3 Descriptive Statistics and Gender Differences

In this section, descriptive statistics of the quantitative variables of the study including means, standard deviations, maximum and minimum values were reported (Table 4.2). Next, bivariate correlations among study variables were provided (Table 4.3).

Table 4.2

Means and Standard Deviations of the Study Variables (*N* = 619)

Variables	*M*	*SD*	*Possible Range*	*Actual Range*
Age	20.61	2.08	-	18-36
DER*	74.28	20.37	30-150	32-139
PSS** from Family	21.82	5.48	4-28	4-28
PSS** from Friends	21.50	5.25	4-28	4-28
PSS** from Significant Others	17.05	8.89	4-28	4-28
Alcohol Use	14.62	7.51	9-45	9-45
Smoking	16.86	8.63	8-40	8-40
Suicidal Tendency	27.46	9.98	12-60	12-60
Substance Use	11.28	4.88	9-45	9-40

Note.* = Difficulties in Emotion Regulation; ** = Perceived Social Support

As it is revealed in descriptive statistics table, participants' ages (*M* = 20.61, *SD* = 2.08) were representative of the population considering the fact that college years mainly corresponds to ages of 18-22 in Turkey. Furthermore, participants indicated relatively lower scores in, alcohol use (*M* = 14.62, *SD* = 7.51), smoking (*M* = 16.86, *SD* = 9.98), and substance use (*M* = 11.28, *SD* = 4.88); moderate scores in difficulties in emotion regulation (*M* = 74.28, *SD* = 20.37), suicidal tendency (*M* = 27.46, *SD* = 9.98); whereas

they reported relatively higher scores in perceived social support from family (M = 21.82, SD = 5.48), friends (M = 21.50, SD = 5.25), and significant others (M = 17.05, SD = 8.89).

4.3.1. Gender Differences with Regards to Health-Related Risk Behaviors

To investigate whether there was a difference between males and females in terms of engaging in alcohol use, smoking, suicide tendency, and substance use behaviors, one-way ANOVAs were conducted for each domain. Since it was impossible to conduct post-hoc analysis for a binary variable such as gender, Bonferroni's correction which is a conservative method to compare group means was applied by dividing alpha value to two (.05 / 2 = .025). Therefore, new alpha value was set to .025. Results indicated that there was a significant difference between scores of males and females in terms of alcohol use, smoking, and substance use. Males (M = 16.74, SD = 8.68) had significantly higher scores than females (M = 13.63, SD = 6.68) in alcohol use, F (1, 617) = 23.79, p = .00. Males (M = 19.26, SD = 8.81) had significantly higher scores than females (M = 15.74, SD = 8.32) in smoking, F (1, 617) = 23.18, p = .00, η^2 = .04. Males (M = 12.93, SD = 6.21) had significantly higher scores than females (M = 10.51, SD = 3.88) in substance use, F (1, 617) = 34.97, p = .00, η^2 = .06. However, there was no significant difference between the scores of males (M = 28.56, SD = 10.46) and females (M = 26.95, SD = 9.72) in terms of suicide tendency F (1, 617) = 3.49, p = .062.

4.3.2 Bivariate Correlations Among Study Variables

Table 4.13 representing bivariate correlations among study variables was presented below.

Table 4.3

Bivariate Correlations among Study Variables

Variables	1	2	3	4	5	6	7	8
1. DER	-							
2. Pss from Family	-.19**	-						
3. Pss from Friends	-.20**	.43**	-					
4. Pss from Significant Others	-.10*	.31**	.27**	-				
5. Pss Total	-.20**	.71**	.68**	.82**	-			
6. Alcohol Use	.10**	-.10**	-.10*	-.01	-.08	-		
7. Smoking	.15**	-.10*	-.05	.11**	.01	.49**	-	
8 Suicidal Tendency	.59**	-.39**	-.35**	-.28**	-.44**	.21**	.20**	-
9. Substance Use	.19**	-.15*	-.13	-.09*	-.15**	.41**	.37**	.26**

Note. Pss = Perceived Social Support, DER = Difficulties in Emotion Regulation.

Note. *p<.05, **p<.01

Difficulties in emotion regulation was positively and significantly correlated with all dimensions of health-related risk behaviors including alcohol use (r = .10, p < .01), smoking (r = .15 , p < .01), suicidal tendency (r = .59 , p < .01), and substance use (r = .19 , p < .01). That is, participants who obtained higher scores in difficulties in emotion regulation tended to engage in behaviors such as alcohol use, smoking, suicide tendency, and substance use.

As for the perceived social support from family, in a similar vein with the difficulties in emotion regulation, all dimensions of health-related risk behaviors were significantly and negatively correlated with alcohol use (r = -.10 , p < .01), smoking (r = -.10 , p < .05), suicidal tendency (r = -.39 , p < .01), and substance use (r = -.15 , p < .01).

While alcohol use (r = -.10 , p < .05), suicidal tendency (r = -.35 , p < .01), and substance use (r = -.13 , p < .01) were negatively and significantly correlated with perceived social support from friends, there were no significant correlation between smoking and perceived social support from friends (r = .05, p > .05) . Whereas social support from significant others was negatively and significantly correlated only with suicidal tendency (r = -.28 , p < .01), it was positively and significantly correlated with smoking (r = .11 , p < .01).

All of the domains of health-related risk behaviors were significantly and positively correlated with each other with the p value is smaller than 01. The strongest correlation was between smoking and alcohol use (r = .49, p < .01). It was followed by the correlation between substance use and alcohol use (r = .41, p < .01), substance use and smoking (r = .37 , p < .01), substance use and suicide tendency (r = .26, p < .01), alcohol use and suicide tendency (r = .21, p < .01), smoking and suicide tendency (r = .20, p < .01).

Furthermore, all three aspects of perceived social support were significantly and positively correlated with each other. Perceived social support from family was significantly and positively correlated with perceived social support from friends (r = .43, p < .01), and perceived social support from significant others (r = .31, p < .01) and perceived social support from friends was significantly and positively correlated with perceived social support from significant others (r = .27, p < .01). Along with the variables of interest of the study, there were also significant positive correlations among the five subsets of difficulties in emotion regulation with correlation coefficients (r) ranging between .40 to .62 (p < .01).

Lastly, total perceived social support was significantly and negatively correlated with difficulties in emotion regulation (r = -.20, p < .01) indicating that higher levels of perceived social support were associated with the lower levels in difficulties in emotion regulation. Total perceived social support was also significantly and negatively correlated with two aspects of health-related risk behaviors including suicidal tendency (r = -.44, p < .01) and substance use (r = -.15, p < .01).

4.4. Results of Structural Equation Modeling and Mediation Analyses

In this section, model testing stages including item parceling method, procedures and stages followed in order to test the models, and lastly, results of the mediation analyses pertaining to alcohol use, smoking, suicide tendency, and substance use separately were presented.

4.4.1 Model Testing

In this section, details about the model testing procedure were presented. Item parceling method, and procedures about model testing, model testing stages, information about measurement and structural models, and results of the mediation analyses were provided thoroughly.

4.4.1.1 Item Parceling Method

Item parceling method was utilized in this study for both measurement and structural models. Item parceling is one of the widely used methods in Structural Equation Modeling, and involves utilizing sum or average of scores (parcels) in a subset rather than utilizing observed single items. The main reason behind using average of scores instead of individual scores is that parceling diminishes complexity of the model via decreasing the number of indicators for the latent variables (Nasser & Takashaki, 2003).

Bandalos and Finney (2001) inferred that the common reasons for using item parceling procedure involves increase the stability of the parameter estimates (29%), improve the variable to sample size ratio (22.6%), and dealing with small sample sizes (21%). It has also been indicated throughout the literature that utilizing less parcels leads to a better fit (Matsunaga, 2008; Bandalos, 2002; Rogers & Schmitt, 2004). Particularly, when the data are violating the assumptions of multivariate normality, item parceling may lead to better results in terms of model fit (Matsunaga, 2008).

There are several item parceling techniques proposed by Little et al. (2002). They indicated that prior to parceling procedure, researcher has to be aware of the nature and dimensionality of items that are going to be parceled. In this study, random sampling technique without replacement was used. First up, researcher has prepared pieces of papers indicating the item numbers belonging to related dimensions of difficulties in emotion regulation (goal, strategy, non-acceptance, impulse and clarity) and health-related risk behaviors (alcohol use, smoking, substance use, and suicide tendency). Afterwards, one piece of paper was randomly selected among others and matched with the secondly selected number.

On behalf of being more conservative, number of parcels were tried to keep at minimum for this study since multiple parcels may lead to estimation bias (Bandalos, 2008). Therefore, two items were summed for each subscale in order to create parcels except for alcohol use since the total number of items in this subscale was 7 which is an odd number. Moreover, no parceling procedure was utilized for the subscales of goal and clarity subscales, because they were made up five items. Details about the item parceling procedure were represented in Table 4.4.

Table 4.4

Parceled Constructs and Latent Variables

Latent Variables and Parcels	Item Numbers
Strategy	15, 16, 22, 28, 30, 31, 35, 36
stp1	30, 15
stp2	31, 16
stp3	36, 28
stp4	22, 35
Non-Acceptance	11, 12, 21, 23, 25, 29
nap1	25, 23
nap2	29, 11
nap3	12, 21
Impulse	3, 14, 19, 24, 27, 32
imp1	24, 3
imp2	32, 19
imp3	14, 27
Alcohol Use	11, 12, 13, 14, 15, 16, 17, 18, 19
al1	13, 11, 18
al2	19, 17
al3	14, 12
al4	15, 16
Smoking	20, 21, 22, 23, 24, 25, 26, 27
sm1	26, 21
sm2	23, 25
sm3	22, 20
sm4	24, 27
Suidice Tendency	28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39
sui1	34, 35
sui2	28, 39
sui3	32, 31
sui4	30, 37
sui5	38, 29
sui6	33, 36
Substance Use	52, 53, 54, 55, 56, 57, 58, 59, 60
sub1	54, 60, 56
sub2	57, 52
sub3	59, 55
sub4	58, 53

4.4.1.2 Procedures about Model Testing

AMOS (Analysis of Moment Structures) version 21 was utilized to test both the measurement and structural models of the study. The estimation method of measurement and structural model was maximum likelihood estimation (MLE). The MLE requires that there are no missing values, exogenous variables are measured without error, and data are multivariate normal (Kline, 2011; Byrne, 2010). However, the last requirement is relatively troublesome to fulfill. In this study, multivariate normality was not met thoroughly. To prevent the detrimental effects of multivariate non-normality, Byrne (2010) suggested utilizing bootstrapping procedure as an aid to multivariate non-normal data. Bootstrapping procedure comprises of selecting multiple subsamples from original sample. In this study, 1000 samples and 95% *CI* were used to test both measurement and structural models.

4.4.1.3 Model Testing Stages

Model testing consists of two stages. First stage is testing the measurement model. In measurement model, relationship between latent variables and their particular measures were explored. The latent variables of current model were difficulties in emotion regulation, perceived social support from family, perceived social support from friend, perceived social support from significant others, suicide tendency, alcohol use, smoking, and substance use. In the second measurement model, hypothetical dimensions of social support have been merged into one latent variable; perceived social support. While testing the hypothesized structural models, two models were constructed. In the first model, theoretical dimensions of perceived social support (perceived support from family, friends, and significant others) was included as mediator variables between difficulties in emotion regulation (DER) and health-risk behaviors. In the second model, theoretical dimensions of perceived social support have been merged in one single latent construct as perceived social support representing the three latent hypothesized dimensions; perceived social support from family, friends and significant others.

4.4.1.3.1 Testing the measurement model 1

In this section, the relationships among latent variables, which were parceled priorly, were investigated. There were total eight sets with 1 of them belonging to second order latent construct of Difficulties in Emotion Regulation (DER); 4 of them belonging first order health-risk behaviors; *alcohol use, smoking, substance use* and *suicide tendency* and 3 of them indicates first order latent variables for *perceived social support from family, friends, and significant others.*. Eight-factor measurement model was tested via CFA and results were presented below (Figure 4.1).

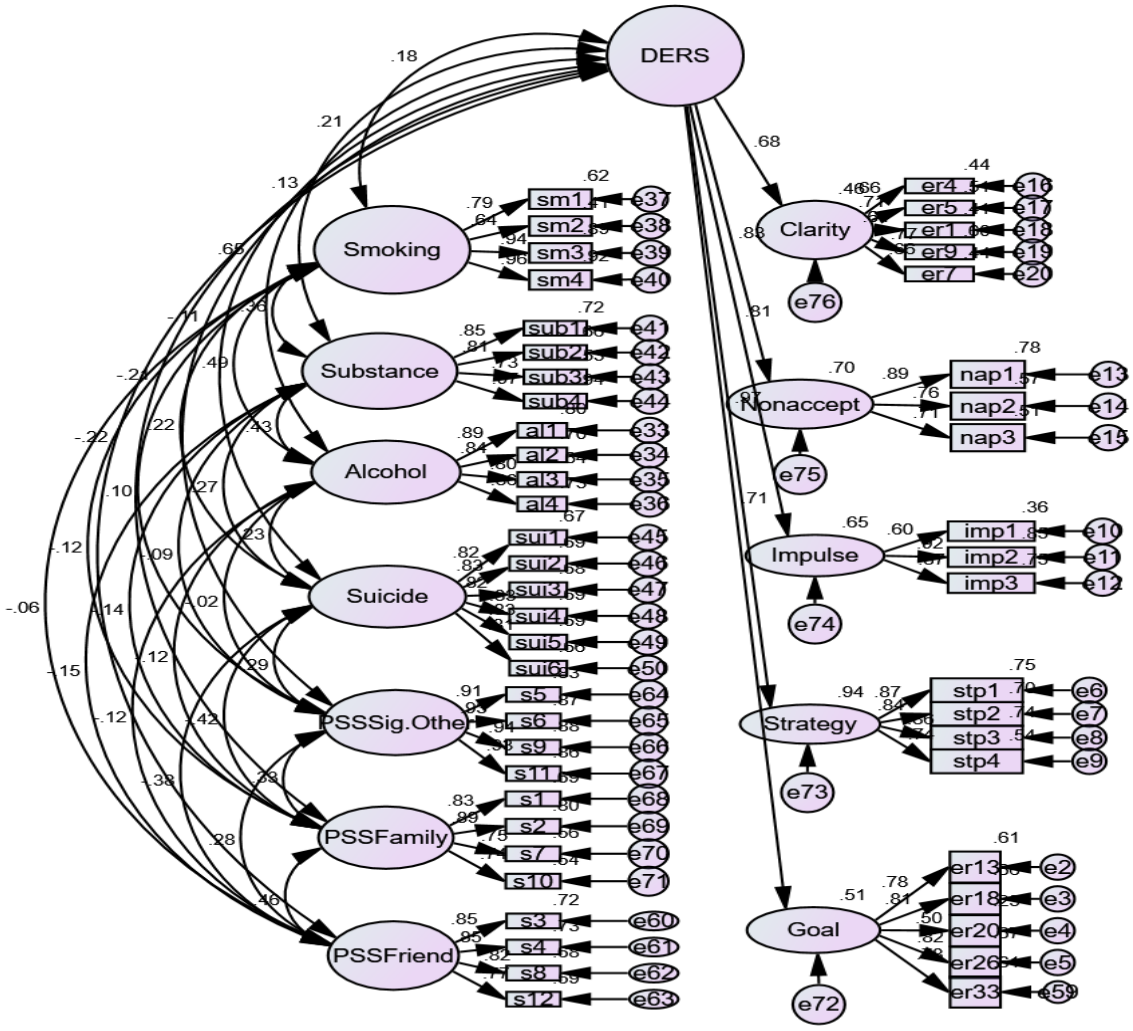

Figure 4.1. The measurement model 1

Results indicated that measurement model fit well to the data (x^2 = 2580.79, *df* = 1142, p = .00; x^2/df = 2.26; GFI = .85, CFI = .94, TLI = .93, SRMR = .05, RMSEA = .05). All of the standardized factor loadings were significant with loadings ranging from .50 to .97 ($p < .05$). Below in Table 4.5, the factor loadings from observed variables to related latent variables were presented.

Table 4.5

Standardized Factor Loadings between Observed and Latent Variables in Measurement Model 1

Variable 1		Variable 2	Factor Loading
Goal	←	DERS	.71
Strategy	←	DERS	.97
Impulse	←	DERS	.81
Nonaccept	←	DERS	.83
Clarity	←	DERS	.69
er13	←	Goal	.78
er18	←	Goal	.81
er20	←	Goal	.50
er26	←	Goal	.82
er33	←	Goal	.78
stp4	←	Strategy	.74
stp3	←	Strategy	.86
stp2	←	Strategy	.84
stp1	←	Strategy	.87
imp3	←	Impulse	.87
imp2	←	Impulse	.92
imp1	←	Impulse	.60
nap2	←	Nonaccept	.76
nap1	←	Nonaccept	.89
nap3	←	Nonaccept	.71
er4	←	Clarity	.66
er5	←	Clarity	.71
er1	←	Clarity	.64

Table 4.5 (Continued)

er9	←	Clarity	.77
er7	←	Clarity	.66
al1	←	Alcohol	.90
al2	←	Alcohol	.84
al3	←	Alcohol	.80
al4	←	Alcohol	.86
sm1	←	Smoking	.79
sm2	←	Smoking	.64
sm3	←	Smoking	.94
sm4	←	Smoking	.96
sub1	←	Substance	.85
sub2	←	Substance	.81
sub3	←	Substance	.73
sub4	←	Substance	.97
s3	←	PSSFriend	.85
s4	←	PSSFriend	.85
s8	←	PSSFriend	.82
s12	←	PSSFriend	.77
s5	←	PSSSig.Other	.91
s6	←	PSSSig.Other	.93
s9	←	PSSSig.Other	.94
s11	←	PSSSig.Other	.93
s1	←	PSSFamily	.83
s2	←	PSSFamily	.89
s7	←	PSSFamily	.75
s10	←	PSSFamily	.74
sui1	←	Suicide	.82
sui2	←	Suicide	.83
sui3	←	Suicide	.82
sui4	←	Suicide	.83
sui5	←	Suicide	.83
sui6	←	Suicide	.81

Note. DERS = Difficulties in Emotion Regulation, PSS = Perceived Social Support.

Below in table 4.6., bivariate correlations between latent variables were presented. As can be seen, all the correlations, except for smoking to PSSFriend and alcohol to PSSSigOther, were significant with the magnitude ranging between .09 and .65.

Table 4.6

Bivariate Correlations among Latent Variables in Measurement Model

Latent Variable 1		Latent Variable 2	*r*
PSSFriend	<-->	DERS	-.22*
PSSFamily	<-->	DERS	-.21*
PSSSig.Other	<-->	DERS	-.11*
DERS	<-->	Suicide	.65*
Alcohol	<-->	DERS	.13*
Substance	<-->	DERS	.21*
Smoking	<-->	DERS	.18*
Smoking	<-->	PSSFriend	-.06
Substance	<-->	PSSFriend	-.15*
Alcohol	<-->	PSSFriend	-.12*
PSSFriend	<-->	Suicide	-.38*
PSSFriend	<-->	PSSSig.Other	.28*
PSSFriend	<-->	PSSFamily	.46*
Smoking	<-->	PSSFamily	-.12*
Substance	<-->	PSSFamily	-.14*
Alcohol	<-->	PSSFamily	-.12*
PSSFamily	<-->	Suicide	-.42*
PSSSig.Other	<-->	PSSFamily	.33*
Smoking	<-->	PSSSig.Other	.10*
Substance	<-->	PSSSig.Other	-.09*
PSSSig.Other	<-->	Suicide	-.30*
Alcohol	<-->	PSSSig.Other	-.02
Smoking	<-->	Suicide	.22*
Substance	<-->	Suicide	.27*
Alcohol	<-->	Suicide	.23*
Alcohol	<-->	Smoking	.49*
Alcohol	<-->	Substance	.43*
Smoking	<-->	Substance	.36*

Note. * $p < .05$.

4.4.1.3.2 Testing the measurement model 2

In this section, the relationships among latent variables, which were parceled priorly, were investigated. There were total eight sets with 1 of them indicates a second-order latent construct of *difficulties in emotion regulation strategies*; 4 of them belonging first order health-risk behaviors; *alcohol use*, *smoking*, *substance use* and *suicide tendency* and 1 of them indicates second order latent variable for *perceived social support.* Six-factor measurement model was tested via CFA and results were presented below (Figure 4.2).

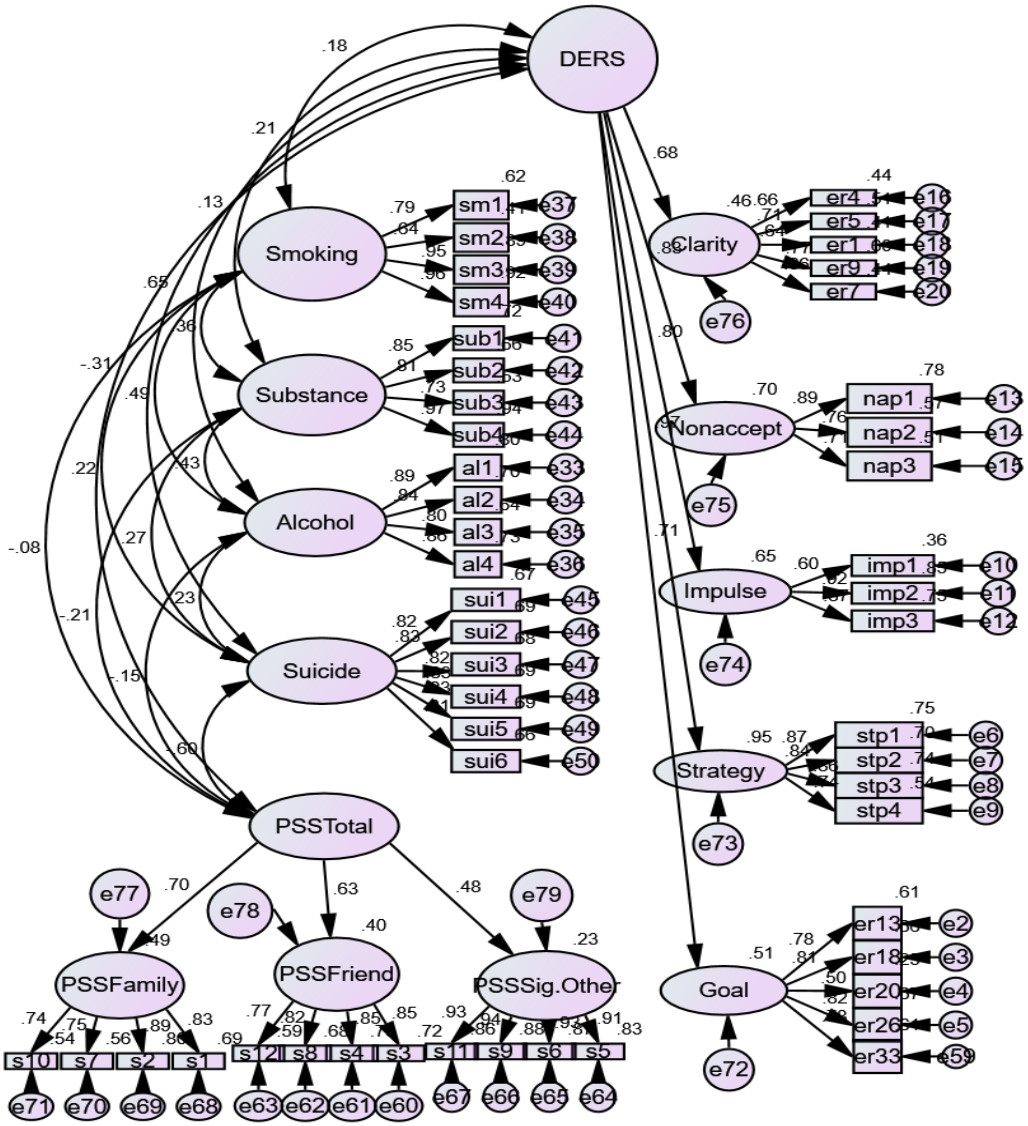

Figure 4.2. The measurement model 2

Results indicated that measurement model fit well to the data (x^2 = 2604.56, *df* = 1152, p = .00; x^2/df = 2.26; GFI = .85, CFI = .94, TLI = .93, SRMR = .05, RMSEA = .05). All the standardized factor loadings were significant with loadings ranging from .48 to .97 ($p <$ .05). Below in Table 4.7, the factor loadings from observed variables to related latent variables were presented.

Table 4.7

Standardized Factor Loadings between Observed and Latent Variables in Measurement Model 2

Variable 1		Variable 2	Factor Loading
Goal	←	DERS	.71
Strategy	←	DERS	.97
Impulse	←	DERS	.81
Nonaccept	←	DERS	.83
Clarity	←	DERS	.68
PSSFamily	←	PSSTotal	.70
PSSFriend	←	PSSTotal	.63
PSSSig.Other	←	PSSTotal	.48
er13	←	Goal	.78
er18	←	Goal	.81
er20	←	Goal	.50
er26	←	Goal	.82
er33	←	Goal	.78
stp4	←	Strategy	.74
stp3	←	Strategy	.86
stp2	←	Strategy	.84
stp1	←	Strategy	.87
imp3	←	Impulse	.87
imp2	←	Impulse	.92
imp1	←	Impulse	.60
nap2	←	Nonaccept	.76
nap1	←	Nonaccept	.89

Table 4.7 (Continued)

nap3	←	Nonaccept	.71
er4	←	Clarity	.66
er5	←	Clarity	.71
er1	←	Clarity	.64
er9	←	Clarity	.77
er7	←	Clarity	.66
al1	←	Alcohol	.90
al2	←	Alcohol	.84
al3	←	Alcohol	.80
al4	←	Alcohol	.86
sm1	←	Smoking	.79
sm2	←	Smoking	.64
sm3	←	Smoking	.95
sm4	←	Smoking	.96
sub1	←	Substance	.85
sub2	←	Substance	.81
sub3	←	Substance	.73
sub4	←	Substance	.97
s3	←	PSSFriend	.85
s4	←	PSSFriend	.85
s8	←	PSSFriend	.82
s12	←	PSSFriend	.77
s5	←	PSSSig.Other	.91
s6	←	PSSSig.Other	.93
s9	←	PSSSig.Other	.94
s11	←	PSSSig.Other	.93
s1	←	PSSFamily	.83
s2	←	PSSFamily	.89
s7	←	PSSFamily	.75
s10	←	PSSFamily	.74
sui1	←	Suicide	.82
sui2	←	Suicide	.83
sui3	←	Suicide	.82

Table 4.7 (Continued)

sui4	←	Suicide	.83
sui5	←	Suicide	.83
sui6	←	Suicide	.81

Below in table 4.8., bivariate correlations between latent variables were presented. As can be seen, all the correlations except for one (smoking to total perceived social support) were significant with the magnitude ranging from .13 to .65.

Table 4.8.

Bivariate Correlations among Latent Variables in Measurement Model

Latent Variable 1		Latent Variable 2	*r*
Suicide	<-->	DERS	.65*
Alcohol	<-->	DERS	.13*
Substance	<-->	DERS	.21*
Smoking	<-->	DERS	.18*
Smoking	<-->	Suicide	.22*
Substance	<-->	Suicide	.27*
Alcohol	<-->	Suicide	.23*
Alcohol	<-->	Smoking	.49*
Alcohol	<-->	Substance	.43*
Smoking	<-->	Substance	.36*
Smoking	<-->	PSSTotal	-.08
Substance	<-->	PSSTotal	-.21*
DERS	<-->	PSSTotal	-.31*
Suicide	<-->	PSSTotal	-.60*
Alcohol	<-->	PSSTotal	-.15*

Note. *$p < .05$.

4.4.1.3.3 Testing the Hypothesized Structural Model 1

First hypothesized structural model was built to test both the direct and indirect associations among the latent variables of the study. Along with that, three dimensions of social support (support from family, friends, and significant others) hypothesized to be mediator variables between DER and health-risk behaviors. The model was tested via bootstrapping method (1000 bootstrapped samples, 95% *CI*) to diminish potential detrimental effects stemming from multivariate non-normality. Hypothesized Structural Model 1 was presented in Figure 4.3.

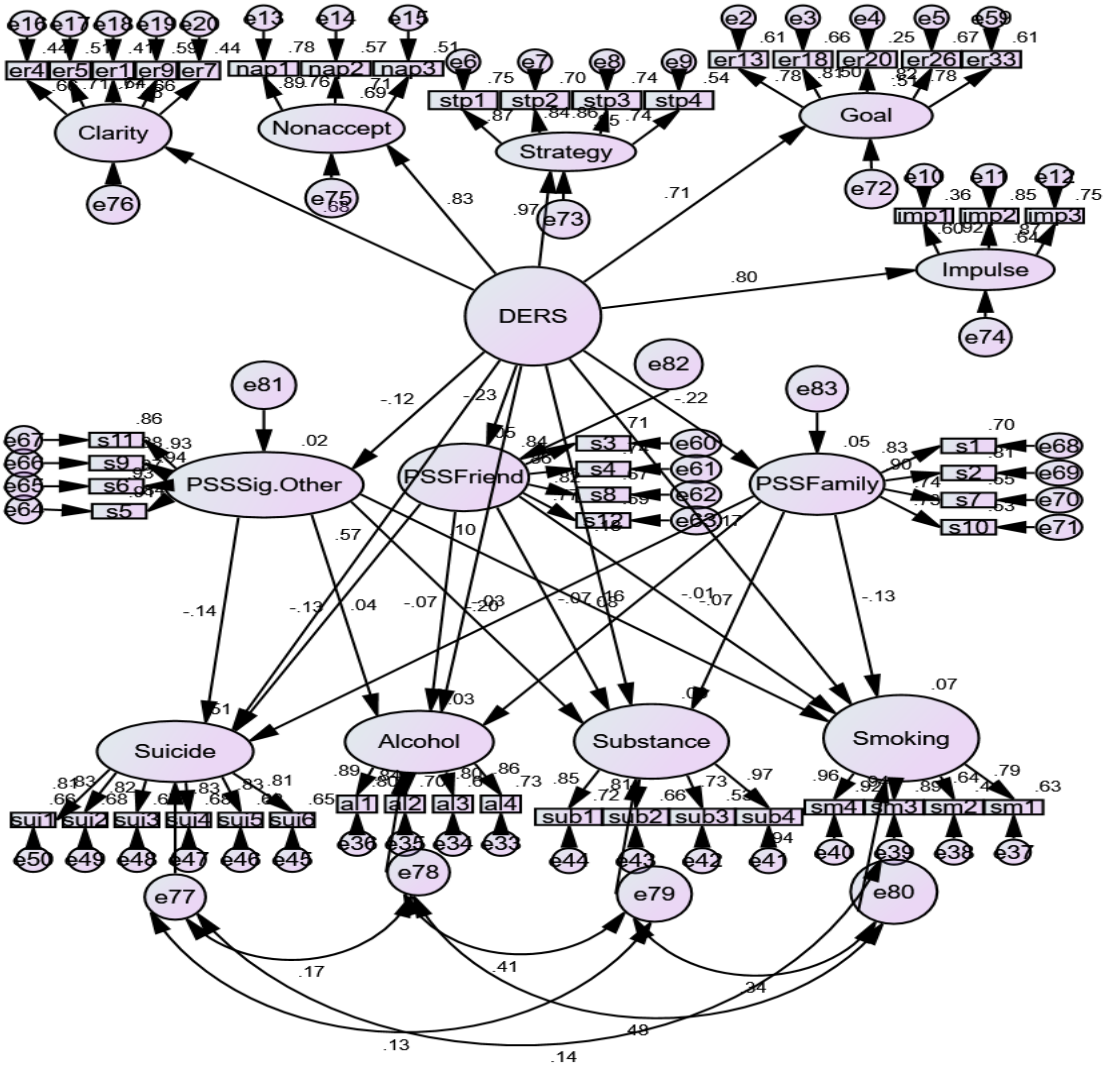

Figure 4.3. The hypothesized structural model 1

Results indicated that model yielded a good fit to the data, (x^2 = 2744.69, *df* = 1154, p = .00; x^2/df = 2.40; GFI = .84, CFI = .93, TLI = .93, SRMR = .07, RMSEA = .05). The standardized coefficients for the latent variables for Hypothesized Structural Model 1 was presented in Table 4.9.

The standardized parameter estimates for Model 1 were depicted in Figure 4.4. Black arrows indicate non-significant paths and blue arrows indicate significant paths among study variables.

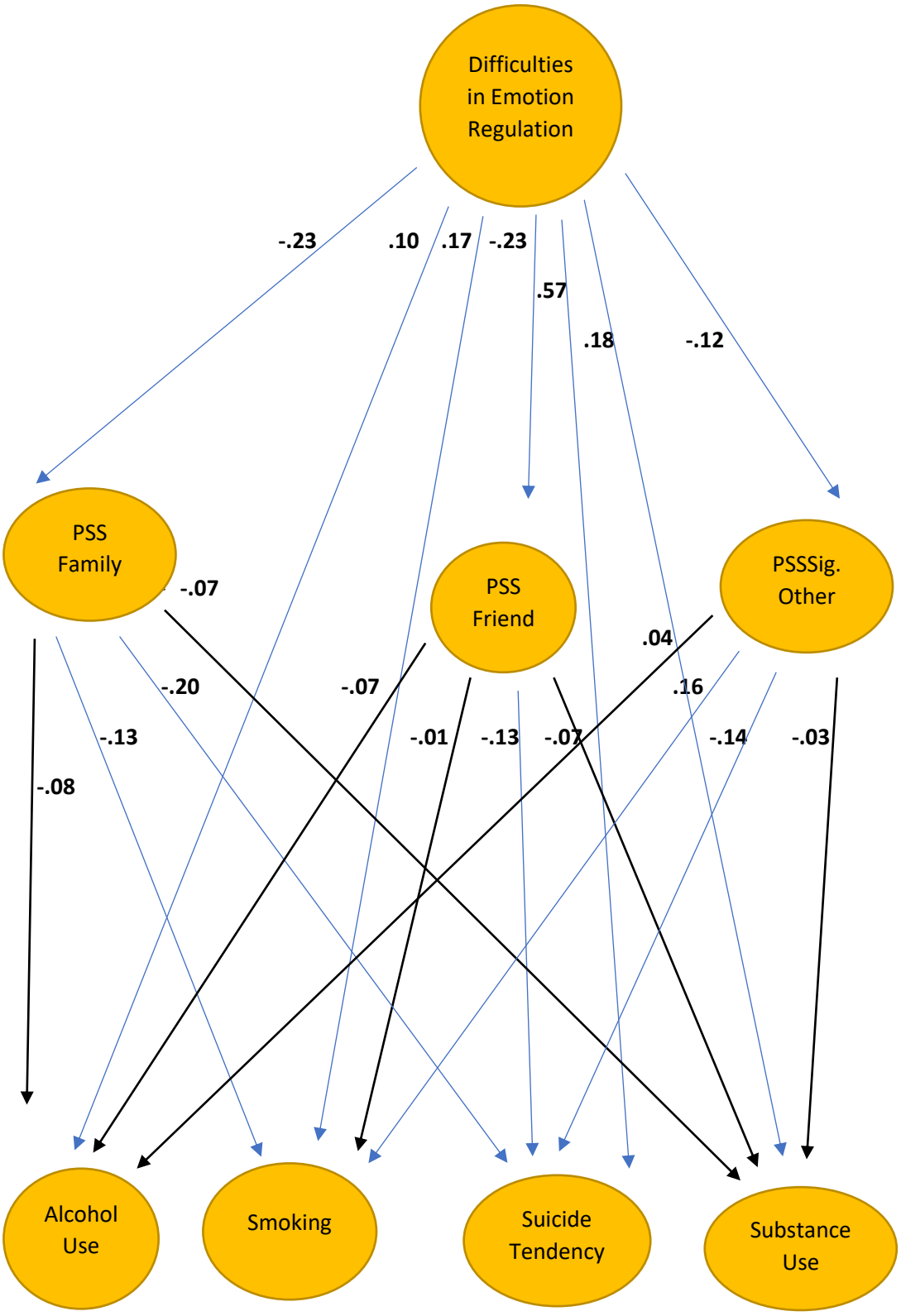

Figure 4.4. The standardized estimates for hypothesized structural model 1

Table 4.9 *The Standardized Coefficients for the Latent Variables for Hypothesized Structural Model 1*

Variable 1		Variable 2	St. Regression Weights	Standart Error
PSSSig.Other	←	DERS	-.12*	.15
PSSFriend	←	DERS	-.23*	.09
PSSFamily	←	DERS	-.23*	.09
Smoking	←	PSSFamily	-.13*	.07
Alcohol	←	PSSFamily	-.08	.07
Suicide	←	PSSFamily	-.20*	.05
Suicide	←	PSSFriend	-.13*	.04
Suicide	←	PSSSig.Other	-.14*	.02
Smoking	←	PSSSig.Other	.16*	.04
Suicide	←	DERS	.57*	.12
Alcohol	←	DERS	.10*	.14
Substance	←	DERS	.18*	.12
Smoking	←	DERS	.17*	.13
Alcohol	←	PSSSig.Other	.04	.04
Substance	←	PSSSig.Other	-.03	.03
Alcohol	←	PSSFriend	-.07	.07
Substance	←	PSSFriend	-.07	.06
Smoking	←	PSSFriend	-.01	.07
Substance	←	PSSFamily	-.07	.06

Note. * $p < .05$.

As a result, there were total 7 non-significant regression lines from mediator variables to endogenous variables of the study. Perceived social support from friends did not have any significant impact on alcohol use ($\gamma = -.07$, $p > .05$), substance use ($\gamma = -.07$, $p > .05$) and smoking ($\gamma = -.01$, $p > .05$). In a similar vein, perceived social support from significant others did not have any significant impact on alcohol use ($\gamma = .04$, $p > .05$), and substance

use (γ = -.03, p > .05). Lastly, perceived social support from family did not have any significant impact on alcohol use (γ = -.08, p > .05) and substance use (γ = -.07, p > .05).

The squared multiple correlations have been investigated to determine the amount of variance explained by the difficulties in emotion regulation and three dimensions of perceived social support predicting health-risk behaviors. Results are presented in the Table 4.10. In sum, difficulties in emotion regulation and three dimensions of perceived social support explained 51% of the variance in suicide tendency, 6% of the variance in substance use, 8% of the variance in smoking, and 3% of the variance in alcohol use.

Table 4.10 *The Squared Multiple Correlations for the Hypothesized Structural Model 1*

	Suicide tendency	Smoking	Substance Use	Alcohol Use
R^2 explained	.51	.08	.06	.03

4.4.1.4 Testing the Hypothesized Structural Model 2

In hypothesized structural model 1, it was aimed to examine mediator effects of different dimensions of perceived social support (family, friends and significant others) separately, while hypothesized structural model 2 was built to investigate whether total perceived social support scores mediate the relationship between difficulties in emotion regulation and health-risk behaviors stronger. The hypothesized structural model 2 was presented in Figure 4.4.

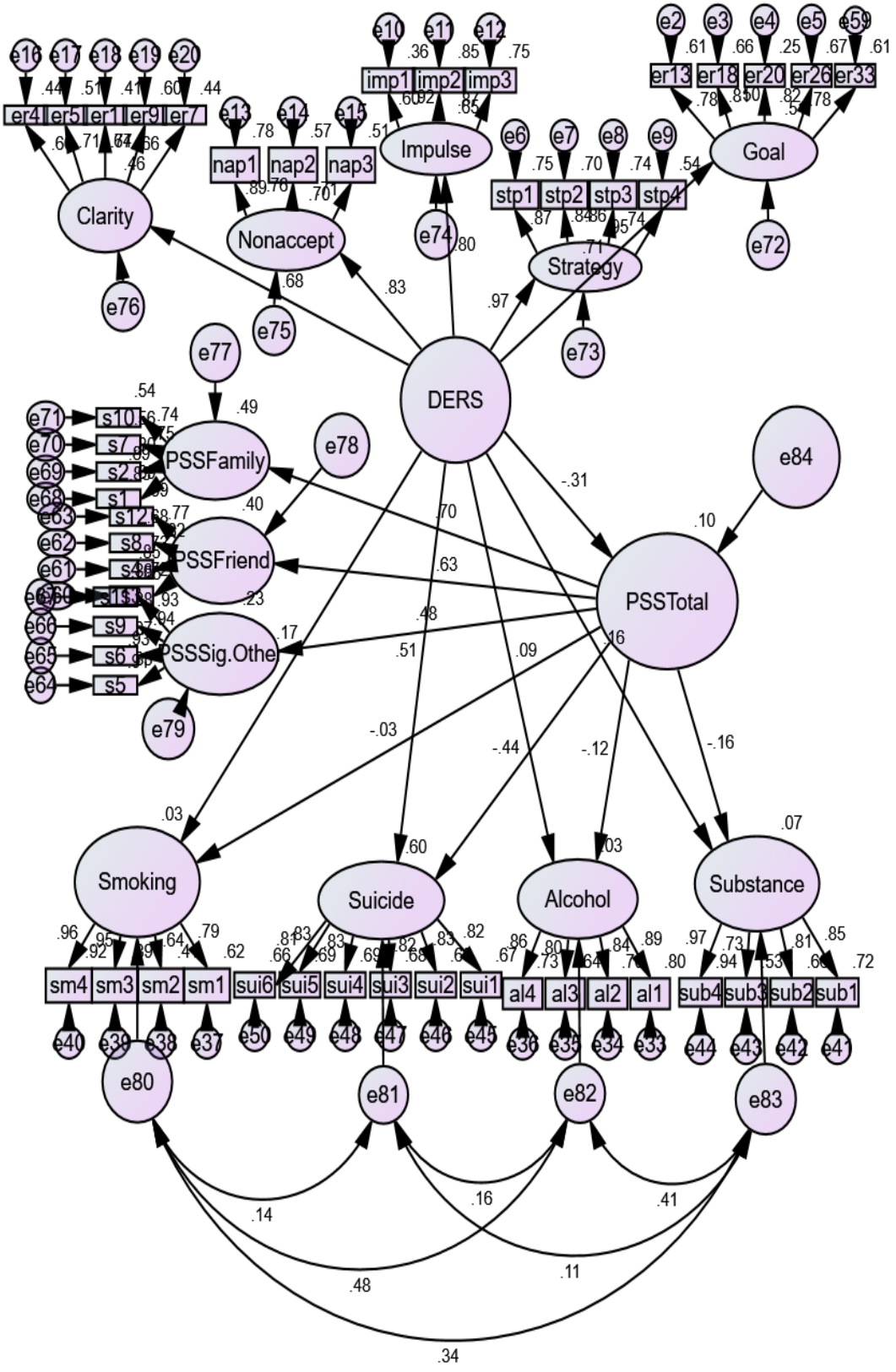

Figure 4.5. Hypothesized Structural Model 2

Hypothesized structural model 2 was built to test both the direct and indirect associations among the latent variables of the study. In this model, first-order latent dimensions of perceived social support have been merged into one second-order latent construct and named as perceived social support. The model was tested via bootstrapping method (1000 bootstrapped samples, 95 *% CI*) to prevent the detrimental effects of multivariate non-normality. Results indicated that model fit the data well, (x^2 = 2604.56, *df* = 1152, p = .00; x^2/df = 2.26; GFI = .85, CFI = .94, TLI = .93, SRMR = .05, RMSEA = .05). The standardized coefficients among latent variables of the Hypothesized Structural Model 2 was presented in Table 4.11.

Table 4.11

The Standardized Coefficients for the Latent Variables for Hypothesized Structural Model 2

Variable 1		Variable 2	St. Reg. Weights	St. Error
PSSTotal	←	DERS	-.31*	.10
Goal	←	DERS	.71*	.11
Strategy	←	DERS	.97*	.18
Impulse	←	DERS	.81*	.16
Nonaccept	←	DERS	.83*	.16
Clarity	←	DERS	.68*	.06
PSSFamily	←	PSSTotal	.70*	.10
PSSFriend	←	PSSTotal	.63*	.10
PSSSig.Other	←	PSSTotal	.48*	.17
Smoking	←	PSSTotal	-.03	.10
Suicide	←	PSSTotal	-.44*	.12
Alcohol	←	PSSTotal	-.12*	.14
Substance	←	PSSTotal	-.16*	.06
Substance	←	DERS	.16*	.08
Alcohol	←	DERS	.09	.19
Suicide	←	DERS	.51*	.15
Smoking	←	DERS	.17*	.14

Note. $p < .05$.

The standardized parameter estimates for Model 2 were depicted in Figure 4.5. Black arrows indicate non-significant paths and blue arrows indicate significant paths among study variables.

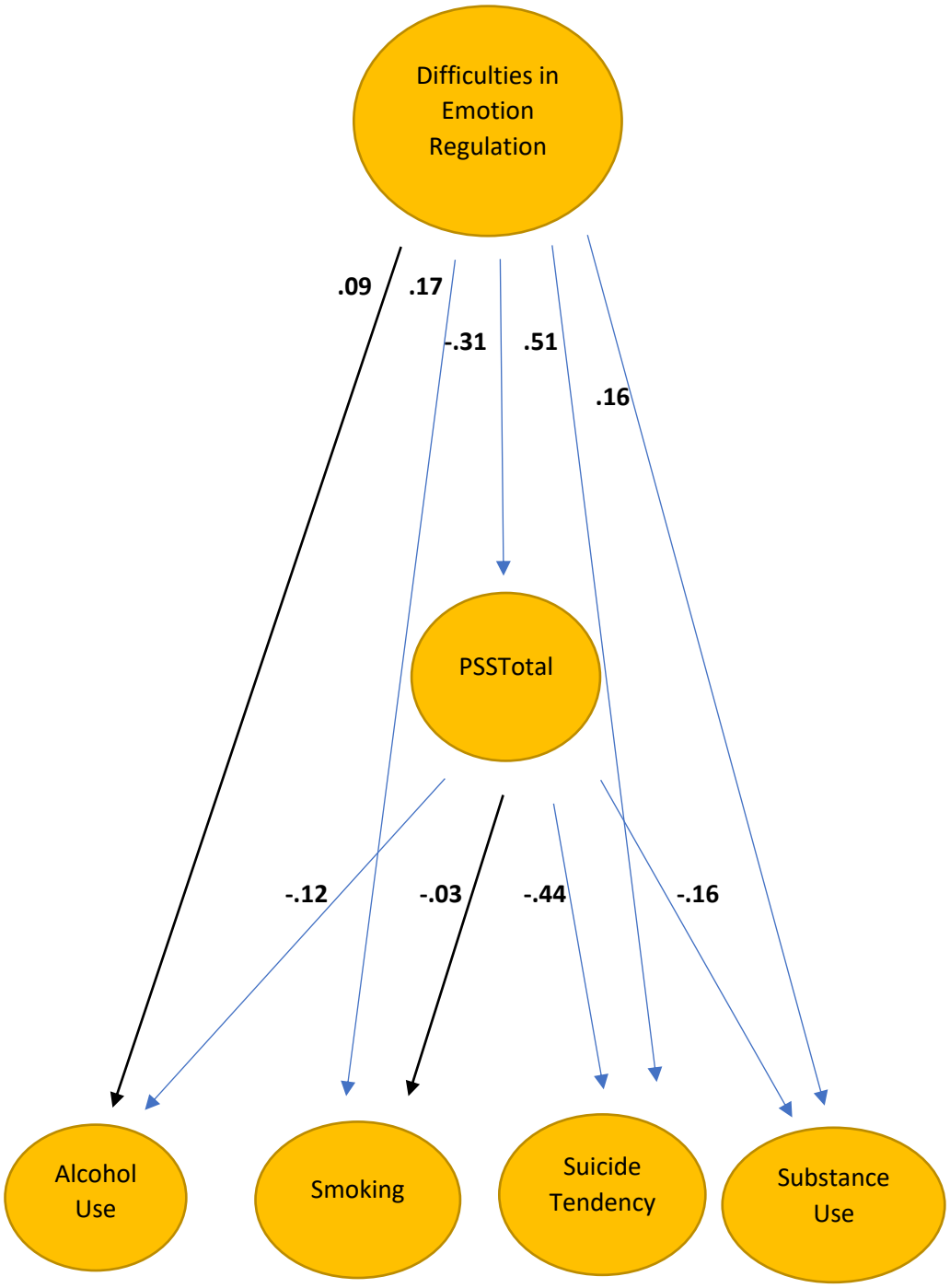

Figure 4.6. The standardized estimates for hypothesized structural model 2

As can be seen, there were two non-significant regression lines across the model. These two lines included perceived social support to smoking (γ = -.03, p > .05) and difficulties in emotion regulation to alcohol use (γ = -.09, p > .05).

The squared multiple correlations were investigated to determine the amount of variance explained by the difficulties in emotion regulation and total perceived social support predicting health-risk behaviors. Results are presented in the Table 4.12. In sum, difficulties in emotion regulation and three dimensions of perceived social support explained 60% of the variance in suicide tendency, 7% of the variance in substance use, 3% of the variance in smoking, and 3% of the variance in alcohol use.

Table 4.12

The Squared Multiple Correlations for the Hypothesized Structural Model 2

	Suicide tendency	Smoking	Substance Use	Alcohol Use
R^2 explained	.60	.03	.07	.03

4.4.2 Results of Mediation Analyses for the Structural Models

In this section, direct effects without the mediators, both the direct and indirect effects with the mediator variables were explored to investigate to what extent does the relationship between difficulties in emotion regulation and health-risk behaviors were mediated by perceived social support from family, friend, significant others and total perceived social support.

While conducting the mediation analyses, two methods have been utilized. To calculate direct effects without mediators, all of the mediator variables were removed from the structural model and direct effects were calculated. Furthermore, to calculate separate direct effects with mediators, all of but the specified direct effect lines from DER to targeted mediator were removed from the structural model (e.g., to calculate

DER→Perceived Social Support from Family→Smoking relationship, regression lines from DER to PSS from Friends and PSS from Significant Others were removed). Results were presented below.

4.4.2.1 Mediation Analyses for Alcohol Use

Table 4.13

Results of Mediation Analyses for Alcohol Use

Model	Relationship	Direct Effect Without Mediator	Direct Effect With the Mediator	Indirect Effect	Decision
1	DER→Family Support→Alcohol Use	.13* (p < .05)	.10*	.02 (p=.11)	No mediation
1	DER→Friend Support→Alcohol Use	.13* (p < .05)	.10*	.02 (p=.12)	No mediation
1	DER→Significant Other Support→Alcohol Use	.13* (p < .05)	.10*	-.004 (p=.30)	No mediation
2	DER→Total Support→Alcohol Use	.13* (p < .05)	.09 (N.s.)	.04* (p=.02)	Full-mediation

Note. * = $p < .05$.

In Table 4.13, significant direct effects from DER to Alcohol Use were presented. Direct effect from DER to Alcohol Use without including any mediator variable was significant ($ß = .13$, $p < .05$). That is, individuals who experience more difficulty in emotion regulation tended to engage in more alcohol use. When mediator variables of perceived social support from family, friends and significant others were put in, the direct effects from DER to Alcohol use were diminished equally across three areas ($ß = .10$, $p < .05$). However, the indirect effect of DER to Alcohol use through perceived social support from family ($ß = .02$, $p = .11$), friend ($ß = .02$, $p = .12$) and significant others ($ß = .004$, $p = .30$) was non-significant. Therefore, separate hypothetical constructs of social support did not mediate the relationship between difficulties in emotion regulation and alcohol use.

As for determining whether total perceived social support mediates the relationship between difficulties in emotion regulation and alcohol use, results revealed that direct effect from DER to alcohol use was significant prior to including perceived social support as mediator variable (*ß* = .13, $p < .05$). Including total perceived social support to the model decreased the relationship to a non-significant level (*ß* = .09, $p > .05$). Indirect effect from DER to alcohol use was also significant (*ß* = .04, $p < .05$). That is, total perceived social support fully mediates the relationship between difficulties in emotion regulation and alcohol use.

4.4.2.2. Mediation Analyses for Smoking

Table 4.14

Results of Mediation Analyses for Smoking

Model	Relationship	Direct Effect Without Mediator	Direct Effect With the Mediator	Indirect Effect	Decision
1	DER→Family Support→Smoking	.18*	.17*	.03* (p=.001)	Partial mediation
1	DER→Friend Support→ Smoking	.18*	.17*	.003 (p=.80)	No mediation
1	DER→Significant Other Support→ Smoking	.18*	.17*	-.02* (p=.01)	Partial mediation
2	DER→Total Support→ Smoking	.18*	.17*	.01 (p=.66)	No mediation

Note. * = $p < .05$.

In Table 4.14, significant direct effects from DER to smoking were presented. Direct effect from DER to smoking without including any mediator variable was significant (*ß* = .18, $p < .05$). Results indicated that individuals who experience more difficulty in emotion regulation tended to engage in more smoking behavior. When mediator variables of perceived social support from family, friends and significant others were put in the model, the direct effects from DER to smoking diminished equally across three areas by

.01 unit (ß = .17, $p < .05$). However, the indirect effect of DER to smoking through perceived social support from friend was non-significant (ß = .003, $p = .80$) indicating that perceived friend support did not play a mediator role in the relationship between DER and smoking. Moreover, the indirect effect of DER to smoking through family support (ß = .03, $p < .05$) and significant other support (ß = -.02, $p < .05$) was significant indicating that support from family and significant others acted as partial mediators between DER and smoking.

It was also revealed that direct effect from DER to smoking was significant prior to including total perceived social support as mediator variable (ß = .18, $p < .05$). Including total perceived social support to the model decreased the relationship by .01 unit with being still significant (ß = .17, $p < .05$). Indirect effect from DER to smoking through total perceived social support was non-significant (ß = .01, $p > .05$). That is, total perceived social support did not mediate the relationship between difficulties in emotion regulation and smoking.

4.4.2.3 Mediation Analyses for Suicide Tendency

Table 4.15

Results of Mediation Analyses for Suicide Tendency

Model	Relationship	Direct Effect Without Mediator	Direct Effect With the Mediator	Indirect Effect	Decision
1	DER→Family Support→Suicide	.65*	.59*	.04* (p=.00)	Partial mediation
1	DER→Friend Support→ Suicide	.65*	.60*	.03* (p=.00)	Partial mediation
1	DER→Significant Other Support→ Suicide	.65*	.60*	.02* (p=.01)	Partial mediation
2	DER→Total Support→ Suicide	.65*	.51*	.14* (p=.00)	Partial mediation

Note. * = $p < .05$.

In Table 4.15, significant direct effects from DER to suicide tendency were presented. Direct effect from DER to suicide tendency without including any mediator variable was significant (*ß* = .65, $p < .05$). Results indicated that individuals who experience more difficulty in emotion regulation tended to exhibit more suicidal tendency. When mediator variables of perceived social support from family, friends and significant others were put in, the direct effects from DER to suicide tendency were diminished indicating potential mediator effects of three hypothetical constructs. Perceived social support from family, friends and significant others decreased the relationship by .06 (*ß* = .59, $p < .05$), .05 (*ß* = .60, $p < .05$) and .05 (*ß* = .60, $p < .05$) respectively. As for the indirect effects, all the three indirect effects through perceived social support from family (*ß* = .04, $p < .05$), friends (*ß* = .03, $p < .05$) and significant other *(ß* = .02, $p < .05$) were significant. In sum, all of the three hypothesized constructs of perceived social support partially mediated the relationship between DER and suicide tendency. However, perceived social support from family was the strongest mediator among the three different sources of social support.

Results also revealed that direct effect from DER to suicide tendency was significant prior to including total perceived social support as mediator variable (*ß* = .65, $p < .05$). Including total perceived social support to the model decreased the relationship with being still significant (*ß* = .51, $p < .05$). Indirect effect from DER to suicidal tendency was also significant with the existence of total perceived social support (*ß* = .14, $p < .05$). That is, total perceived social support partially mediated the relationship between difficulties in emotion regulation and suicide tendency.

4.4.2.4 Mediation Analyses for Substance Use

Table 4.16

Results of Mediation Analyses for Substance Use

Model	Relationship	Direct Effect Without Mediator	Direct Effect With the Mediator	Indirect Effect	Decision
1	DER→Family Support→ Substance Use	.21*	.18*	.01 (p=.25)	No mediation
1	DER→Friend Support→ Substance Use	.21*	.18*	.02. (p=.15).	No mediation
1	DER→Significant Other Support→ Substance Use	.21*	.18*	.003 (p=.31).	No mediation
2	DER→Total Support→ Substance Use	.21*	.16*	.05* (p=.00)	Partial mediation

Note. * = $p < .05$.

In Table 4.16, significant direct effects from DER to substance use were presented. Direct effect from DER to substance use without including any mediator variable was significant (*ß* = .21, $p < .05$). That is, individuals who experience more difficulty in emotion regulation tended to engage in more substance use behavior. When mediator variables of perceived social support from family, friends and significant others were put in the model, the direct effects from DER to substance use diminished equally across three areas (*ß* = .18, $p < .05$). However, the indirect effect of DER to substance use through perceived social support from family (*ß* = .01, $p = .25$), friend (*ß* = .02, $p = .15$) and significant others (*ß* = .003, $p = .31$) was non-significant. Therefore, separate hypothetical constructs of social support did not mediate the relationship between difficulties in emotion regulation and substance use.

As for determining whether total perceived social support mediates the relationship between difficulties in emotion regulation and alcohol use, results revealed that direct effect from DER to substance use was significant prior to including perceived social support as mediator variable (*ß* = .21, $p < .05$). Including total perceived social support to

the model decreased power of the relationship to a significant level (ß = .16, $p < .05$). Indirect effect from DER to substance use was also significant (ß = .05, $p < .05$). That is, total perceived social support partially mediates the relationship between difficulties in emotion regulation and substance use.

4.4.3 Hypotheses Testing

In this section, the results regarding study hypotheses were explored in the light of the structural model 1 and model 2.

1. Hypothesis 1 postulated that direct effects from difficulties in emotion regulation and health-risk behaviors are positive and significant.

Hypothesis 1.1. assumed that direct effect from difficulties in emotion regulation to alcohol use is positive and significant. The hypothesis was supported. The direct effect was positive and significant, ß = .13, $p < .05$.

Hypothesis 1.2 assumed that direct effect from difficulties in emotion regulation to smoking is positive and significant. The hypothesis was supported. The direct effect was positive and significant, ß = .18, $p < .05$.

Hypothesis 1.3 assumed that direct effect from difficulties in emotion regulation to suicide tendency is positive and significant. The hypothesis was supported. The direct effect was positive and significant, ß = .65, $p < .05$.

Hypothesis 1.4. assumed that direct effect from difficulties in emotion regulation to substance use is positive and significant. The hypothesis was supported. The direct effect was positive and significant, ß = .21, $p < .05$.

2. Hypothesis 2 postulated that difficulties in emotion regulation are significantly and indirectly associated with health-risk behaviors (alcohol use, smoking, suicide tendency, substance use) through different dimensions of perceived social support (family, friends significant others).

Hypothesis 2.1 assumed that difficulties in emotion regulation are significantly and indirectly associated with alcohol use through social support from family, friends and significant others. The hypothesis was rejected. Though inclusion of mediator variables diminished all of the direct effect coefficients to some extent, indirect effects were not significant when family (ß = .02, p = .11) friends (ß = .02, p = .12) and significant others (ß = -.004, p = .30) were treated as mediators between DER and alcohol use.

Hypothesis 2.2 assumed that difficulties in emotion regulation are significantly and indirectly associated with smoking through social support from family, friends and significant others. The hypothesis was partially confirmed. Indirect effect of DER to smoking through family support (ß = .03, p = .001) and significant others (ß = -.02, p = .01) was significant, whereas indirect effect through friend support (ß = .003, p = .80) was nonsignificant.

Hypothesis 2.3 assumed that difficulties in emotion regulation are significantly and indirectly associated with suicide tendency through social support from family, friends and significant others. The hypothesis was supported. The indirect effect of DER to suicide tendency through family support (ß = .04, p = .00), friend support (ß = .03, p = .00) and significant others support (ß = .02, p = .01) were significant.

Hypothesis 2.4 assumed that difficulties in emotion regulation are significantly and indirectly associated with substance use through social support from family, friends and significant others. The hypothesis was rejected. The indirect effect from DER to substance use through family support (ß = .01, p = .25), friend support (ß = .02, p = .15) and significant others (ß = .003, p = .31) were nonsignificant.

3. Hypothesis 3 postulated that difficulties in emotion regulation are significantly and indirectly associated with health-risk behaviors (alcohol use, smoking, suicide tendency, substance use) through overall perceived social support.

Hypothesis 3.1 postulated that difficulties in emotion regulation are significantly and indirectly associated with alcohol use through perceived social support. The hypothesis was supported. The indirect effect from DER to alcohol use through total perceived social support was significant, (*ß* = .04, *p* = .02).

Hypothesis 3.2 postulated that difficulties in emotion regulation are significantly and indirectly associated with smoking through perceived social support. The hypothesis was rejected. The indirect effect from DER to smoking through total perceived social support was non-significant, (*ß* = .01, *p* = .66).

Hypothesis 3.3 postulated that difficulties in emotion regulation are significantly and indirectly associated with suicide tendency through perceived social support. The hypothesis was supported. The indirect effect from DER to suicide tendency through total perceived social support was significant, (*ß* = .14, *p* = .00).

Hypothesis 3.4 postulated that difficulties in emotion regulation are significantly and indirectly associated with substance use through perceived social support. The hypothesis was supported. The indirect effect from DER to substance use through total perceived social support was significant, (*ß* = .05, *p* = .00).

4.4.4 Testing for Invariance

Under this section, invariance tests regarding both measurement and structural models were presented. Measurement invariance deals with whether measured constructs were similar across groups and comprises of four phases; testing for configural, metric, scalar and residual invariances. Structural invariance tests the differences among relationships of latent variables in the structural models for two or more independent groups.

4.4.4.1 Testing for Measurement Invariance

Measurement invariance deals with whether the factor loadings in measurement model is the same across groups within CFA framework. Putnick and Bornstein (2016) suggested that measurement invariance should be tested and established via four steps; testing configural, metric, scalar, and residual invariances. It should be noted that testing measurement invariance is a step-by-step process, and if one of the invariance testing results somehow to be rejected or is determined as non-invariant, then the next step cannot be calculated unless partial invariance is met for the certain type of invariance.

There are two methods regarding testing measurement invariance across literature. First method is comparing step-by-step chi-square values between invariance types. However, chi-square tests are sensitive to sample size and may lead ambiguous findings (Milfont & Fischer, 2010). Since the sample size of this study was fairly large (N = 619) and chi-square values were already inflated, it was decided to examine measurement invariance via fitness indicator difference tests. The rule of thumb is that when the difference in CFA is less than .01, TLI less than .01 and RMSEA less than .015, it indicates no significant difference (Cheung & Rensvold, 2002; Chen, 2007; Wang & Wang, 2012). The tables 4.18 and 4.19 depicting the results of invariance tests for two models were presented below. Required model-fit values were inserted according to Putnick and Bornstein's (2016) guideline.

4.4.4.1.1 Configural Invariance

Configural invariance is the weakest type of measurement invariance. This model is the very first step to prove invariance across groups (Horn, McArdle & Mason, 1983; Milfont & Fischer, 2010). It mainly involves testing whether the constructs have the same pattern of free and fixed loadings across groups (Putnick & Bornstein, 2016). In this study, both measurement models provided a satisfactory fit to the data indicating that male and female participants have interpreted the latent constructs in the same way. Results were summarized in Table 4.18 and Table 4.19.

4.4.4.1.2 Metric Invariance

Metric invariance refers to testing whether different groups responds to the items in the same way (Milfont & Fischer, 2010). Specifically, the main purpose is examining whether the factor loadings of measurement model were equivalent across groups. In this study, to test metric invariance, the loadings of each latent construct are constrained to be equal. Results for measurement Model 1and Model 2 revealed that the model having equal factor loadings indicated a satisfactory fit to the data. Furthermore, ΔCFI, ΔTLI and ΔRMSEA values for both models did not exceed the value of .01, .01 and .015, respectively. Therefore, metric invariance was also accepted for both models. Results were presented in Table 4.18 and Table 4.19.

4.4.4.1.3 Scalar Invariance

Scalar invariance is testing the equivalence of item intercepts across groups (Putnick & Bornstein, 2016). In this study, to test scalar invariance, another constraint, which is measurement intercepts, was added to the models while keeping the constraint from factor loadings as depicted in previous step. Results for Model 1 and Model 2 indicated that the models for testing scalar invariance yielded a satisfactory fit to the data. In addition, ΔCFI, ΔTLI and ΔRMSEA values for both models did not exceed the value of .01, .01 and .015, respectively. Therefore, metric invariance was also ensured for both models. Results were presented in Table 4.18 and Table 4.19.

4.4.4.1.4 Residual Invariance

The final and most stringent step in testing measurement invariance is residual invariance indicating both the sum of specific variance and error variance is similar across groups (Putnick & Bornstein, 2016).To test residual invariance for Model 1 and Model 2, along with the factor loadings and intercepts, residuals of the constructs were constrained to see if the model fit to the data. When the model fit indices were evaluated according to the abovementioned thresholds, ΔCFI for Model 1 was .022 and Model 2 was .023; ΔTLI for Model 1 was .018 and Model 2 was .02; ΔRMSEA was .004 for both models. Results

were presented in Table 4.18 and Table 4.19. Table 4 and Table 5. Thus, residual invariance was not approved. However, Putnick and Bornstein (2016) indicated that when non-invariance is determined across groups either in configural, metric and scalar levels, researchers should either assume that the construct is non-invariant or explore the sources of non-invariance by releasing or adding constraints until a partial invariance is achieved. As for residual invariance, however, since it is the most stringent type of invariance and testing for residual invariance is not a prerequisite for testing mean differences, interpretations based on it (e.g., concluding that the model is completely non-invariant) is impractical (Vandenberg & Lance, 2000). Therefore, the measurement model of this study was invariant indicating that psychometric equivalence was supported, and constructs of the study did not differ across gender. Results were presented in Table 4.18 and Table 4.19.

4.4.3.2 Testing for Structural Invariance

In the previous section, it was concluded that the measurement model was invariant across gender. Next step was to examine structural invariance across different models. However, it should be noted that unlike in measurement invariance, non-invariance of the structural parameters does not indicate a problem with the model being studied, rather, it indicates that the comparison groups were heterogenous across the variables being measured (Wang & Wang, 2012).

Along with the measurement invariance (configural, metric and scalar invariances), factor variance covariance invariance needs to be examined to check for stability of the factor relationship across groups. To prove factor variance covariance invariance, both chi-square difference test and fitness indicator difference test were implemented. To conclude that the structural invariance is achieved, chi-square difference between configural model and factor variance covariance invariance model should not be significant. First up, chi-square difference excel sheet developed by Gaskin (2018) was utilized. Results indicated that the difference was significant for Model 1, $\Delta x^2 = 480.76$, $\Delta df = 118$, and Model 2, $\Delta x^2 = 307.11$, $\Delta df = 104$. However, as previously stated, chi-square values are too sensitive to sample size and multivariate normality (Milfont & Fischer, 2010). As a second option,

differences in fitness indicators including CFI, TLI and RMSEA were compared and the rule of thumb is that when the difference in CFA is less than .01, TLI less than .01 and RMSEA less than .015, it indicates no significant difference (Cheung & Rensvold, 2002; Chen, 2007; Wang & Wang, 2012). Results revealed that Model 1 where different agents of perceived social support put in as mediators did not meet the criteria. The changes in CFA, TLI and RMSEA were .016, .012, and .002, respectively. As for Model 2, changes in CFA, TLI and RMSEA were .008, .006 and .001, respectively, implying that the criteria were met. Therefore, the factor variance covariance invariance was met for Model 2, but not for Model 1. As previously stated, non-invariance of structural parameters does not indicate a problem in the model being studied (Wang & Wang, 2012). Rather, the differences in groups may offer opportunities to shed a light on where those differences stem from, and eventually contribute to the theory. To conclude, for Model 1 where different theoretical dimensions of perceived social support come into play simultaneously, different structural equation models would be more suitable. However, for Model 1 where perceived social support was built as a second-order latent variable, one structural equation would be enough for both genders. Standardized factor loadings for final models regarding gender and the whole sample as well was presented in Table 4.17.

Table 4.17

Standardized Factor Loadings for Final Model 1 and Model 2

Factors	Items	St. Factor Loadings for all samples	Standardized Factor Loadings	
			Male sample	Female sample
Clarity				
	er4	.66	.70	.64
	er5	.71	.72	.71
	er1	.64	.68	.63
	er9	.77	.80	.76
	er7	.66	.65	.67
Nonaccept				
	nap1	.89	.86	.90
	nap2	.76	.73	.77
	nap3	.71	.64	.74
Impulse				
	imp1	60	.55	.62
	imp2	92	.90	.93
	imp3	87	.83	.88
Strategy				
	stp1	.87	.89	.85
	stp2	.84	.85	.83
	stp3	.86	.85	.87
	stp4	.74	.75	.73
Goal				
	er13	.78	.77	.79
	er18	.81	.79	.82
	er20	.50	.50	.50
	er26	.82	.86	.80
	er33	.78	.79	.77
PssFamily				
	s10	.74	.79	.76
	s7	.75	.85	.77
	s2	.89	.68	.90
	s1	.83	.67	.86

Table 4.17 (Continued)

PssFriend	s12	.77	.82	.78
	s8	.82	.74	.81
	s4	.85	.88	.85
	s3	.85	.87	.83
PssSig.Other				
	s9	.94	.86	.97
	s6	.93	.95	.92
	s5	.91	.91	.92
	s11	.93	.86	.95
Alcohol				
	al1	.90	.93	.87
	al2	.84	.84	.83
	al3	.80	.83	.77
	al4	.86	.86	.85
Smoking				
	sm1	.79	.77	.80
	sm2	.64	.57	.66
	sm3	.95	.96	.94
	sm4	.96	.95	.97
Suicide				
	sui1	.82	.82	.82
	sui2	.83	.83	.83
	sui3	.82	.83	.82
	sui4	.83	.84	.83
	sui5	.83	.83	.83
	sui6	.81	.80	.82
Substance				
	sub1	.85	.88	.81
	sub2	.81	.79	.82
	sub3	.73	.73	.69
	sub4	.97	.97	.98
PSSTotal*				
	PssFamily	.70	.64	.69
	PssFriend	.63	.68	.59
	PssSig.Other	.48	.61	.42

*Note** = Only included in the Model 2.

Table 4.18

Measurement Invariance Results for Males vs. Females in Model 1

	Model Fit Measures						Model Differences					
Model	χ^2	*df*	RMSEA	CFI	TLI	SRMR	Δ χ^2	Δ *df*	Δ RMSEA	Δ CFI	Δ TLI	Δ SRMR
Separate Groups												
Males	1925.70	1142	.06	.90			-	-	-	-	-	-
Females	2144.13	1142	.05	.94			-	-	-	-	-	-
Configural Invariance	4071.56	2284	.036	.922	.916	.066	-	-	-	-	-	-
Metric Invariance	4142.81	2322	.036	.920	.916	.066	71.25	38	.000	.002	.000	.004
Scalar Invariance	4359.92	2372	.037	.913	.910	.068	217.11	50	.001	.007	.007	.002
Residual Invariance	4967.30	2467	.041	.891	.892	.078	607.38	95	.004	.022	.018	.010
Factor VCI*	4552.32	2402	.038	.906	.904	.094	480.76	118	.002	.016	.012	.0272

**Note*. Factor VCI = Factor Variance Covariance Invariance.

Table 4.19

Measurement Invariance Results for Males vs. Females in Model 2

	Model Fit Measures						Model Differences					
Model	χ^2	*df*	RMSEA	CFI	TLI	SRMR	$\Delta\chi^2$	Δdf	ΔRMSEA	ΔCFI	ΔTLI	ΔSRMR
Separate Groups												
Males	1931.91	1152	.06	.90			-	-	-	-	-	-
Females	2168.03	1152	.05	.94			-	-	-	-	-	-
Configural Invariance	4101.65	2304	.036	.921	.917	.068	-	-	-	-	-	-
Metric Invariance	4172.80	2342	.036	.920	.916	.067	156.54	38	.001	.00	.004	.003
Scalar Invariance	4391.19	2392	.037	.913	.911	.070	218.39	50	.001	.007	.005	.002
Residual Invariance	4991.48	2477	.041	.890	.891	.077	600.29	85	.004	.023	.02	.007
Factor VCI*	4408.76	2408	.037	.913	.911	.075	307.11	104	.001	.008	.006	.007

**Note*. Factor VCI = Factor Variance Covariance Invariance.

4.5. Summary of the Results

First up, descriptive analyses revealed that gender significantly differentiated smoking, alcohol use and substance use among college students. Males reported higher scores in all of the three domains.

As for the results of mediation analyses, even though family support and significant others support partially mediated the relationship between difficulties in emotion regulation and smoking, total perceived social support and friend support were not able to mediate that relationship. For alcohol use, only the total perceived social support was strong enough to mediate the relationship between difficulties in emotion regulation and alcohol use, and the mediation was full. In terms of suicide tendency, total perceived support and all of the three theoretical dimensions of it were significant partial mediators in the relationship

between difficulties in emotion regulation and suicide tendency. Lastly, in a similar vein with alcohol use, only total perceived support partially mediated the relationship between difficulties in emotion regulation and substance use.

Both measurement models and hypothesized structural models have satisfactorily fit to the data. All the item loadings on corresponding latent variables were also significant across two measurement models implying that hypothesized constructs were relevant to their measured parcels. Furthermore, all of the bivariate correlations except for two and all of the bivariate correlations except for one were significant for hypothesized structural model 1 and hypothesized structural model 2, respectively. Invariance test results revealed that both measurement models did not differ in terms of gender. As for structural invariance, unlike hypothesized structural model 2, model 1 was significantly different for males and females.

Lastly, model 1 where divergent aspects of perceived social support explained 51%, 8%, 6% and 3% of variance in suicide tendency, smoking, substance use, and alcohol use. Model 2 where total perceived social support was added as a single mediator, 60%, 3%, 7% and 3% of variances were explained in suicide tendency, smoking, substance use and alcohol use.

CHAPTER 5

DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS

In this chapter, the results of the present study were discussed. In the first section, findings and hypotheses of the study were discussed via incorporating those findings with related literature. Second section presents the possible contributions of current study to theory, research, and practice. In the last section, recommendations for further studies were offered taking into consideration the limitations and gaps of the present study.

5.1 Discussion on Hypothesized Model

The purpose of the study was to examine the mediator role of perceived social support between difficulties in emotion regulation and health-risk behaviors among university students. More particularly, it was aimed to investigate to what extent does perceived social support from family, friend and significant others mediate the relationship between emotion regulation difficulties (DER) and such health-risk behaviors as smoking, alcohol use, suicide tendency and substance use. In accordance with the purpose of the study, Structural Equation Modeling was performed to clarify the abovementioned relationship.

In order to test the hypotheses of the study, a structural model was hypothesized and tested. The proposed model satisfactorily fit the present dataset and results revealed that social support and/or its theoretical dimensions plays a mediator role between difficulties in emotion regulation and health-related risk-taking behaviors was partially in line with the tenets of Jessor's Problem Behavior Theory (Jessor, 1977).

First of all, one of the fundamental propositions of Problem Behavior Theory (PBT) was that certain personal control structures (e.g., emotion regulation) and environmental structures (e.g., perceived/received social support) is associated with the occurrence of problem behaviors (Jessor et al., 1992). In line with the general hypothesis of the study, PBT's hypothesis was mostly supported through the tested model since significant associations were found among difficulties in emotion regulation, social support-and its theoretical dimensions, and health-related risk behaviors including alcohol use, smoking, suicide tendency, and substance use. While previous studies have found similar associations among study variables, what was special about this study is the attempt to clarify if/to what extent both do separate (family, friends, significant others) and total sense of being supported mediate the relationship between difficulties in emotion regulation and health-related risk behaviors.

5.2 Discussion on Gender Invariance

The main goal of this study was to examine the mediator role of perceived social support between difficulties in emotion regulation and health-risk behaviors among university students. Along with the main goal of the study, the proposed models were tested in terms of gender invariance.

Gender differences in health-related risk-behavior which was examined throughout this study has been a growing source of interest over the years. In terms of alcohol use, smoking and substance use, males obtained higher scores when it compared to females across the literature. This finding was compatible with several international (Wilsnack et al., 2009; Wilsnack et al., 2000; Mäkelä et al., 2006; Lash et al., 1998; Allen et al., 2016; Van Etten, Neumark & Anthony, 1999) and national (Atlam & Yüncü, 2017; Oğuz, Çamcı, & Kazan, 2018; Yıldırım, 1997; Körük, 2017) studies as well. As for the reasons why, there were gender differences in alcohol, smoking and substance use, several explanations have been offered by researchers. For instance, societies may differentiate gender roles via labeling health-related risk behaviors as a demonstration of "masculinity" (Driessen, 1992; Roberts, 2004; Lash et al., 1998). Another explanation could be that the attitudes towards engaging in health-related risk behaviors are different for men and

women, because males assume that they gain reputation if they engage in such activities as drug use, alcohol use, and fighting (Suitor, Minyard & Carter, 2011). Moreover, norms in Turkish society being more tolerant towards a male being smoker or alcohol user (Altındağ et al., 2005) may be the other reason explaining gender differences in health-related risk behaviors among university students. Though there were significant gender differences in terms of smoking, alcohol use and substance use, findings of the study revealed that males and females did not differ across suicidal tendency scores which is an unexpected finding in the light of the literature since it was widely concluded that females are more prone to suicidal ideation (Villanueva, Arteaga & Fernandez-Montalvo, 2018). However, Ibrahim et al. (2016) indicated that males obtain significantly higher scores than females in terms of suicidal tendency. In conclusion, results were contradictory and no sufficient information can be found across the literature as to why males and females did or did not differ in terms of suicidal tendency.

In terms of the measurement models, all models were invariant across gender indicating that all of the variables belonging to both models were interpreted as the same way by males and females. As for structural invariance, Model 1 was non-invariant across gender. That is, when dimensions of perceived social support were added to the model divergently, correlation coefficients and squared correlation coefficients were not similar across gender. One reason behind this could be that the items belonging to three different dimensions of perceived social support were loaded differently for males and females. Therefore, if divergent aspects of social support were to utilize as mediators, two different models for two genders would be more appropriate to draw conclusions. However, Model 2 where perceived social support was put in the model as one single latent variable, the model became structurally non-invariant indicating that one model would be adequate to reach conclusions regarding gender.

5.3. Discussion on Study Hypotheses

Hypothesis 1. Direct effects from difficulties in emotion regulation and health-related risk behaviors are positive and significant. The hypothesis consisted of four sub-hypothesis and all of the four hypotheses were supported.

Hypothesis 1.1 postulating that the direct effect from DER to alcohol use was significant and positive was confirmed. The literature regarding this relationship have also yielded similar results (Dragan et al., 2015; Fox et al., 2008; Cooper et al., 1995; Kuvaas et al., 2014; Dvorak et al., 2014). What is interesting for the researcher was that relatively less power of aforementioned relationship. The results revealed that standardized regression coefficient for difficulties in emotion regulation (DER) to alcohol use was .13, and the total variance explained in alcohol use was 2%. The conclusion from a significance test depends on sample size; however, small effects can be highly statistically significant if sample size is large enough and very large effects may be nonsignificant for a small sample size (MacKinnon, 2008). Therefore, result pertaining to DER and alcohol use relationship should be interpreted carefully. The reason behind such a low association could be that university students may view alcohol use as an ordinary part of the life (Borsari & Carey, 2003) rather than labeling it to regulate their negative or unpleasant emotions and as a problem behavior. This result may also stem from the statistical procedure that was utilized. In the model, the fact that exogenous variables had more predictive power on other dependent variables (e.g., R^2 explained for suicide tendency was .42) may have hindered the true effect of DER on alcohol use.

Hypothesis 1.2 indicating that the direct effect from DER to smoking is positive and significant was approved. Several studies confirmed the association between emotion regulation problems and smoking (Magar et al., 2008; Fucito et al., 2010; Rogers et al., 2018; Keenan, 2013). Not surprisingly, one of the most common conclusions derived from these studies where emotion regulation problems and smoking relationship has been examined was that individuals who smoke regard smoking as a way to escape from negative emotions and induce positive mood. Furthermore, the standardized regression coefficients for DER-smoking relationship was .18, and the total variance explained in smoking was 3%, indicating that this relationship too, was relatively a weaker one. In the model, the fact that exogenous variables had more predictive power on other dependent variables (e.g., R^2 explained for suicide tendency was .42) may have hindered the true effect of DER on alcohol use in a similar vein with the abovementioned hypothesis 1.1.

Hypothesis 1.3 proposing that the direct effect from DER to suicide tendency is positive and significant was supported. One of the most surprising findings of this study was that the immense power of DER in explaining the variety in suicide tendency among university students. Without the inclusion of perceived social support and/or its theoretical dimensions, the R^2 explained in suicide tendency was 42%. Moreover, direct effect from DER to suicide tendency was .65 which was relatively a strong effect when it compared to other endogenous variables of the study. A pile of studies revealed that the association between maladaptive emotion regulation strategies and suicidal ideation (Weinberg & Klonsky, 2009; Rajappa et al., 2011; Neacsiu et al., 2017). Specifically, difficulties in finding appropriate strategies to regulate emotions (*strategy* subscale) was strongest predictor of suicidal ideation in Rajappa et al.'s (2011) study. In this study, *strategy* subscale has also had the highest factor loading among other four subscales in second-order structure of DER. Taken together, *strategy* subscale seems to be a unique predictor of suicide tendency among university students.

Hypothesis 1.4 indicating that the direct effect from DER to substance use is positive and significant was supported. The magnitude of this relationship was .21. When it compared to alcohol use and smoking, the direct effect from DER to substance use was relatively larger indicating that DER strongly predicted the substance use among university students than alcohol use and smoking. Several studies proved that the DER and substance use relationship does exist (Fox et al., 2007; Bonn-Miller et al., 2011). Furthermore, the variance explained by DER in substance use was 5% indicating that the relationship between DER and substance use was a relatively weaker one in a similar vein with the endogenous variables of alcohol and smoking.

Hypothesis 2. Difficulties in emotion regulation are significantly and indirectly associated with health-related risk behaviors (alcohol use, smoking, suicide tendency, substance use) through different dimensions of perceived social support (family, friends, significant others). Hypothesis 2 consisted of four sub-hypothesis and results revealed that the hypotheses were partially supported.

Hypothesis 2.1 suggesting that difficulties in emotion regulation are significantly and indirectly associated with alcohol use through social support from family, friends and significant others was rejected. That is, none of the theoretical constructs of perceived social support did mediate the relationship between DER and alcohol use.

Hypothesis 2.2 indicating that difficulties in emotion regulation are significantly and indirectly associated with smoking through social support from family, friends and significant others was partially supported. While perceived social support from family and significant others partially mediate the relationship between DER and smoking, perceived friend support did not mediate this relationship. However, all of the mediator variables (family, friends and significant others) were able to decrease the relationship between DER and smoking by .01.

Hypothesis 2.3 suggesting that difficulties in emotion regulation are significantly and indirectly associated with suicide tendency through social support from family, friends and significant others was supported. That is, all of the three theoretical aspects of perceived social support was able to partially mediate the relationship between DER and suicide tendency. Moreover, results of mediation analyses revealed that family support bring about the sharpest drop by decreasing direct effect coefficient from .65 to .59. Taking into consideration the sample size for the study, even little drops may be statistically meaningful in terms of understanding/clarifying the relationship among variables.

Hypothesis 2.4 presuming that difficulties in emotion regulation are significantly and indirectly associated with substance through social support from family, friends and significant others was rejected. In other words, neither of the theoretical subconstructs of perceived social support was able to mediate the relationship between DER and substance use.

The hypothesis indicating that different aspects of perceived social support mediate the relationship between DER and health-related risk behaviors was partially supported. While the mediator effect of family support affirmed in DER-suicide tendency and DER-

smoking relationships, indirect effects were not significant in relationship between DER-substance use and DER-alcohol use. That is, individuals having difficulties in emotion regulation tended to engage in all of the health-related risk behaviors; however, perceived family support provided a buffering effect only for suicide tendency and smoking. While several studies confirmed the overall perceived social support and health-related risk behavior association, there was a scarce of information about if/how diverse agents of social support predict health-related risk behaviors among different samples. Lai and Ma (2016), for example, demonstrated that family support mediates the relationship between life satisfaction and hopelessness on smoking, alcohol use, and suicidal thoughts; friend support mediates the relationship only for alcohol use, and lastly, when support from significant others was put in as mediator, there were no significant indirect effects among study variables. That is, family was the most prominent source of support when it compared to other dimensions of perceived social support. In current study, perceived support from family mediated the DER-suicide tendency and DER-smoking relationships to a larger extent when it compared to other sources of social support (Significant other support was also the mediator between DER-smoking relationship decreasing the direct effect to .17 in a similar vein with the family support. However, according to three decimal calculation, the direct effect subsided to .168 and .172, respectively for family support and significant other support indicating that the drop was sharper for family support). In a similar vein with the findings of this study, Woods-Jaeger et al. (2016) concluded that although the correlation between family support and alcohol use/alcohol related consequences were negative and significant, family support did not predict alcohol use and alcohol-related consequences. Furthermore, according to the findings of the current study, perceived friend support mediated only the relationship between DER-suicide tendency. Interestingly, Walsh et al. (2010) concluded that perceived social support from friends was associated with higher levels of health-related risk behaviors such as smoking, binge drinking and being drunk. In this study, all the direct effects from perceived social support from friends to health-related risk behaviors was negative and significant. However, mediation analyses revealed that the sense of to be supported by friends was not a health protective factor in terms of engaging in alcohol use, smoking and substance use. In addition, Young, Berenson, Cohen, and Garcia (2005) concluded that peer support

was protective against depressive symptoms (which may be closely related to suicidal thoughts) among adolescents with high parental support but may act as a risk factor for adolescents with low parental support. Similarly, Lai and Ma (2016) revealed that peer support had positive effect on the level of drinking if the friends were drinking which reinforces the abovementioned proposition that feeling of to be supported by friends may have reverse effects on health-related risk behaviors. Therefore, along with the abovementioned results of the study, it can be concluded that family support is relatively a stronger protective factor for adolescents and young adults with regards to alcohol use, smoking and substance use when it compared to friend and significant other support.

Hypothesis 3. Difficulties in emotion regulation are significantly and indirectly associated with health-related risk behaviors (alcohol use, smoking, suicide tendency, substance use) through overall perceived social support. The hypothesis was partially supported. Under the heading of Hypothesis 3, four separate sub-hypotheses were constructed.

Hypothesis 3.1 was that difficulties in emotion regulation are significantly and indirectly associated with alcohol use through perceived social support. The hypothesis was supported. That is, an overall sense of to be supported by family, friends and significant others was able to fully mediate the relationship between DER and alcohol use by decreasing the direct effect from significant ($ß$ = .13, p < .05) to a non-significant level, ($ß$ = .09, p > .05). Considering the fact that the threshold value for to be nonsignificant was .10, direct effect with the mediator was barely below the aforementioned line indicating that the effect was not that dramatic. However, the conclusion from a significance test depends on sample size, however, small effects can be highly statistically significant if sample size is large enough and very large effects may be nonsignificant for a small sample size (MacKinnon, 2008). Therefore**,** finding related to perceived social support being a full mediator between DER and alcohol use should be interpreted carefully. Moreover, as aforementioned, none of the theoretical sub-dimensions of perceived social support (family, friends, significant others) was able to mediate the DER-alcohol use relationship. However, overall sense of being supported by family, friends and significant others was able to fully mediate this relationship. That is, theoretically,

lacking support from either dimension may put individuals at greater risk for engaging in alcohol use.

Hypothesis 3.2 indicating that difficulties in emotion regulation are significantly and indirectly associated with smoking through perceived social support was rejected. Results revealed that even though the overall sense of being supported by family, friends and significant others was able to decrease DER and smoking relationship to some extent, it was not adequate to depict perceived social support as a mediator between these two. What is interesting was that while overall perceived social support was able to mediate the relationship between DER and other three dependent variables of this study (alcohol use, suicidal tendency and substance use) either partially or fully, it was not enough for perceived social support to be a mediator variables between DER and alcohol use among university students.

Hypothesis 3.3 suggested that difficulties in emotion regulation are significantly and indirectly associated with suicide tendency. The hypothesis was confirmed. Along with the significant indirect effect through perceived social support, direct effect from DER to suicide tendency with the inclusion of perceived social support was subsided from .65 to .51 indicating that there was a partial mediation. The other remarkable finding of this study for the researcher was that the amount of drop in the relationship between DER and suicide tendency through total perceived social support. It should be noted that the drop between DER and suicide tendency relationship was the sharpest throughout the study indicating that overall perceived social support was the most effective mediator for suicide tendency when it compared to smoking, alcohol use and substance use.

Hypothesis 3.4 predicted a significant indirect association exists between DER and substance use. The hypothesis was supported. That is, perceived social support partially mediated the relationship between DER and substance use via decreasing direct effect from .21 to .16. As aforementioned, different dimensions of perceived social support was not able to mediate the relationship between DER and substance use. However, an overall sense of being supported by family, friends and significant others was able to partially mediate this relationship indicating that the theoretical domain-specific characteristics of

perceived social support is not as effective as total sense of being supported by family, friends and significant others in protecting individuals from substance use.

Hypothesis 3 assumed that total perceived support mediates the relationship between DER and health-related risk behaviors was partially supported. The relationships between DER and alcohol use, DER and suicide tendency and lastly, DER and substance use were mediated via overall perceived social support. Although direct associations between DER-alcohol use (Dragan et al., 2015; Fox et al., 2008; Cooper et al., 1995; Kuvaas et al., 2014; Dvorak et al., 2014), DER-suicide tendency/suicide ideation (Weinberg & Klonsky, 2009; Rajappa et al., 2011; Neacsiu et al., 2017) and DER-substance use (Fox et al., 2007; Bonn-Miller et al., 2011) were pointed out throughout the literature, findings related to mediator role of perceived social support was relatively scarce. For instance, a body of studies indicated that individuals having higher levels of perceived social support were less likely to use drug and alcohol (Nikmanesh & Honakzehi, 2016; Laudet, Morgen & White, 2006) pointing out the possible mediator effect of perceived social support. In a similar lines with this study, Yang et al. (2018) found that social support acted as a mediator between stress and life satisfaction among people with substance use disorder. One of the surprising findings of this study was that the drastic indirect effect of DER to suicide tendency via perceived social support ($ß = .14$, $p < .05$) indicating that the concept of social support was a highly relevant variable in explaining the relationship between DER and suicide tendency. In another work, Endo et al. (2013) found out that people having suicide ideation reported lesser support from family than other groups and more dissatisfaction in terms of the amount of social support provided. Arria et al. (2009) concluded that affective dysregulation and social support were significant predictors of suicidal ideation, and lack of social support was the foremost risk factor in suicide tendency irrespective of including depressive symptoms to the model. In the very same study, it was underlined that majority of individuals with suicide ideation did not meet the criteria for depressive symptoms. Therefore, it was proposed that social workers should not solely rely on tools which were developed for measuring depressive symptoms to determine students at risk for suicide.

5.4 Implications for Theory, Research and Practice

In this section, implications for theory, research and practice were presented in the light of the findings of the curent study.

5.4.1 Implications for Theory

The model proposed for the study was built by taking into consideration the propositions of Jessor's Problem Behavior Theory (PBT) (Jessor et al., 1992), and the findings of this study have important implications for understanding PBT within a sample of university students. First up, according to PBT, any form of social support (e.g., perceived or received) was an environmental factor that is potentially able to protect individuals from engaging in risk behaviors. To date, a very limited number of studies aimed to evaluate the mediator role of divergent aspects of perceived social support in explaining health-related risk behaviors (e.g., Lai & Ma, 2016). This study verified that along with its different theoretical dimensions, perceived social support was able to buffer individuals from DER related alcohol consumption, smoking, preoccupation with suicidal thoughts and substance use to some extent. One interesting finding of this study was that the immense amount of variance explained in suicide tendency via both DER and after inclusion of perceived social support and/or its theoretical dimensions (DER explained 42%; DER, perceived social support from family, friends and significant others explained 51%; and lastly, DER and overall perceived social support explained 60% of variance in suicide tendency). Thus, it can be speculated that there are relatively less factors explaining variance in suicide tendency apart from DER and perceived social support when it is compared to other areas of health-related risk behaviors such as alcohol use, smoking, and substance use. Other proposition of PBT was that the certain personal/self-control structures (e.g., difficulties in emotion regulation) may put individuals at greater risk for engaging in risk behaviors which was also confirmed through this study. Another proposition of PBT is that certain demographic variables were related to engaging in risky behavior. In this study, although it was not aimed to examine the predictor role of gender on health-related risk behaviors, it was determined that males obtained higher scores in alcohol use, smoking and substance use when it compared to other categories for those

variables. To the researcher's knowledge, there were no studies examining the mediator effect of perceived social support and/or its theoretical dimensions in the relationship between DER and health-related risk behaviors.

5.4.2 Implications for Research

As for research implications, the results of the present study provided several empirical conclusions both for predictive and mediator relationships among study variables together with the theoretical contributions to the field. Firstly, direct effects from DER to alcohol use, smoking, suicide tendency, and substance use was significant and positive indicating significant predictive characteristics of the DER and perceived social support on health-related risk behaviors. The strongest relationship was between DER and suicide ideation followed by substance use, smoking and alcohol use. 42%, 51% and 60% of the variance in suicide tendency was explained via DER, DER and three different aspects of social support (Model 1) and lastly, DER and overall perceived social support (Model 2) implying that DER and total perceived social support was the most prominent predictors of suicide tendency. The DER-alcohol use, DER-smoking, and DER-substance use relationship and as well as the variance explained both as a result of inclusion and exclusion of perceived social support/and its hypothetical dimensions was relatively weak indicating that there are other variables that may possibly interfere in those relationships. For instance, as mentioned, certain personality characteristics such as sensation-seeking and impulsivity were stated as robust predictors of several risky behaviors proved by large body of research. Moreover, although the findings were mixed, certain demographic variables such as low family income, low parental education and family members' smoking, alcohol use and substance use statuses have been found to be associated with engagement in those behaviors among youth as well (Chassin, Presson, Sherman & Edwards, 1992; Waldron & Lye, 1990; Yurt-Öncel, Gebizlioğlu & Aliev-Alioğlu, 2011; Cerda et al., 2011; İlhan et al., 2011). Therefore, researchers are suggested to keep in mind that the amount of variance explained in alcohol use, smoking and substance use was relatively low in current model and including abovementioned variables to the equations or models may provide more inclusive results in terms of explaining health-risk behaviors.

When it comes to implications for mediation results, first of all, the unique finding that none of the theoretical aspects of social support was able to mediate the DER-alcohol use and DER-substance use relationship while overall sense of to be supported was identified as a mediator across abovementioned associations was quite surprising for the researcher. That is, relying solely on family, friends or significant others as a protective factor for alcohol and substance use seems a futile attempt. Rather, total sense of to be supported by others indicates a more reliable tool in protecting individuals since overall perceived social support was switched DER-alcohol use relationship from significant to a non-significant level and decreased DER-smoking relationship to some extent along with a significant indirect effect. Secondly, it was revealed that only perceived support from family and significant other were able to mediate the relationship between DER and smoking indicating that friend support as well as overall sense of to be supported were less likely to keep individuals away from smoking although they both decreased the direct effect from DER to smoking up to a certain extent. Lastly, all of its three hypothetical subdimensions and overall perceived social support itself as well were able to mediate the relationship between DER and suicide tendency. Namely, perceived social support and of all dimensions of it can be labeled as one of the strongest protective factors against suicide tendency among university students. However, according to the results, total perceived social support can protect individuals to a larger extent when it compared to its different domains. As for those domains, family support was the strongest mediator/protective factor that theoretically lessens the probability of suicide among youth.

5.4.3 Implications for Practice

Present findings concluded that difficulties in emotion regulation (DER) such as having hard time in understanding and being aware of emotions, acceptance of negative emotions as well, ability to engage in goal-directed behaviors, refrain from impulsive behavior under the effect of negative emotions, and lastly, finding strategies to regulate emotions when upset were significant factors contributing to the occurrence of health-related risk behaviors such as alcohol use, smoking, suicide tendency, and substance use. However, most of the DER related health-risk behaviors were able to be mediated through perceived

social support and/or its theoretical subconstructs. Those findings can be made use of psychological counselors in several ways. First, prevention programs related to health-risk behaviors including alcohol use, smoking, substance use, and suicidal tendency may involve special emphasis on emotion, emotion regulation processes and perceived social support on behalf of being more effective. Similarly, psychological counselors working with individuals who are at risk for or currently engaging-in health-related risk behaviors could also give utmost importance to abovementioned concepts of emotion, emotion regulation and social support. Furthermore, along with its theoretical dimensions, perceived social support was a highly related concept with both DER and health-related risk behaviors proved by significant indirect effects within two structural models where total support and subdimensions of perceived social support were examined separately. Therefore, psychological counselors could provide benefit from the results of the present study while making their conceptualizations via collecting information about sources and/or total amount of social support received by clients because it may be relatively easier to utilize coping strategies such as seeking social support rather than regulating emotions. Last but not the least, instructing clients about emotions and emotion regulation processes (i.e., providing hints about the fact that negative emotions are a part of human nature as well or what matters is context of emotions rather than labeling them as either positive or negative) could be another implication for practitioners.

Furthermore, Westefeld et al. (2005) indicated that college students are mostly unaware of services for suicide prevention across the campus and curious about didactic information about the concept of suicide. Therefore, findings of this study may offer promising strategies to prevent suicide among college students. First up, even though it was pointed out by many studies that suicide tendency was highly correlated with depression and/or depressive symptoms, the participants of this study were recruited from a non-clinical population indicating that prevention programs for suicide should focus on entire students in the campus rather than focusing primarily on individuals who show signs of depression according to the results of standardized tests. Moreover, counseling and research centers could develop programs to provide information via educating parents and students about both possible signs and effective coping strategies for suicide ideation

and how to enhance students' social support networks. That is, it would be logical to arrange sources in a way that they are able to promote social support in all dimensions to prevent individuals from suicide.

5.5 Recommendations for Future Research

Present study was the very first attempt to clarify mediator role of perceived social support and its theoretical dimensions in the relationship between difficulties in emotion regulation (DER) and health-related risk behaviors such as alcohol use, smoking, suicide tendency and substance use among college students in Turkey. Firstly, it should be noted that the design of the study was correlational implying that none of the relationships indicates causation. Therefore, examining causal relationships among study variables via longitudinal and experimental studies is recommended.

Problem Behavior Theory hypothesizes that a pile of personal, environmental and behavioral variables may play a role as to why individuals engage in problem behaviors. For the purposes of this study, difficulties in emotion regulation which shares several common grounds with the concept of self-control (a personal variable) and perceived social support (an environmental variable) were incorporated in to explain the variance in health-related risk behaviors. Therefore, it is recommended for future studies that it should also be taken into account that the other variables in personal, environmental or behavioral systems that may potentially able to explain more variance in terms of explaining problem behaviors. Moreover, no demographic variables such as number of siblings, education status of parents, socio-economic status or residency status of students was implemented in the model even though the descriptive statistics and differences between groups were provided up to some extent. Future studies could also count in abovementioned demographic variables while predicting problem behaviors.

The Difficulties in Emotion Regulation Scale were utilized as a second-order variable in both structural models. There were two reasons behind this practice. First, it was for the sake of obtaining a more trimmed and simplified model since the structural models have already had an inflated chi-square value. Secondly, it was predicted that multicollinearity

(e.g., suppression effect, Simpson's paradox) would be a problem if subscales of DER were put in model as separate constructs since bivariate correlations among the subscales were relatively high. Thus, future studies could seek out whether different subscales of DER have significant predictive power on health-related risk behaviors after overcoming the issues of multicollinearity if there is any.

Except for suicide tendency, current study regarded health-related risk behavior constructs as pure actions rather than including cognitions and motivations behind those deeds that may possibly be related to the occurrence of them. For instance, as previously stated, adding metacognitions towards alcohol use to the model along with its pure-action construct was turned the direct effect from non-significant to a significant level in Dragan's (2015) study. In this study, such an expansion would also have increased the direct effects; however, as for the sake of obtaining a simpler model, since chi-square values were already inflated, researcher did not include any variables specifying the motivations towards health-related risk behaviors. Therefore, further studies could attempt to build more detailed models focusing on motivational aspects of those behaviors.

A non-random sampling method was utilized, and the participants were not distributed proportionately. Female participants consisted most of the participants- for the present study. Thus, generalizability of the findings seems irrelevant and not possible. For this reason, further investigations could aim to utilize a random sampling method and collect data in a way that the sample would be able to represent the gender distribution across the population better.

Lastly, self-report measures were utilized as a data collection instruments for the current study. However, substance use, in particular, vast majority of the health-related risk behaviors were quite open to social desirability. Therefore, future studies could take into consideration the illusive characteristics of social desirability via controlling detrimental effects of this concept.

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APPENDICES

A. SAMPLE ITEMS FROM UNIVERSITY FORM OF RISK BEHAVIORS SCALE

Kendini İfade Etme Ölçeği **Sevgili Öğrenciler,** **Aşağıda yer alan maddelerden size en uygun düşen seçeneği (X) ile işaretleyiniz.**		Her zaman	Genellikle	Bazen	Nadiren	Hiçbir zaman
14	Bir kutlamada alkol almadan eğlenmeyeceğimi düşünürüm.					
15	Çevremdeki kişiler onaylamasa da alkol kullanmaktan çekinmem.					
19	Kontrolümü kaybedecek kadar alkol aldığım olur.					
20	Sigara kullanıyorum.					
21	Yakın arkadaşlarımın bir kısmı sigara içer.					
22	Sigara içmek istediğimde kendime engel olamam.					
30	Sabahları mutsuz bir şekilde uyanırım.					
31	Sorunlarım karşısında kendimi çaresiz hissederim.					
34	Hayattan bıkmış durumdayım.					
35	Karamsar biri olduğumu düşünürüm.					
52	Esrar ya da benzeri bir maddeyi kullanırım					
58	Sadece heyecan yaşamak için uyuşturucu madde kullanırım.					
59	Arkadaş grubum madde kullanmama karşı çıkmaz.					

B. SAMPLE ITEMS FROM DIFFICULTIES IN EMOTION REGULATION SCALE

1- Ne hissettiğim konusunda netimdir.	1----------**2**----------3----------**4**----------5 hemen hemen hiç (%0-%10) **bazen (%11-%35)** yaklaşık yarı yarıya (%36-65) **çoğu zaman (%66-%90)** hemen hemen her zaman (%91-%100)
2-Ne hissettiğimi dikkate alırım.	1----------**2**----------3----------**4**----------5 hemen hemen hiç (%0-%10) **bazen (%11-%35)** yaklaşık yarı yarıya (%36-65) **çoğu zaman (%66-%90)** hemen hemen her zaman (%91-%100)
13-Kendimi kötü hissettiğimde işlerimi bitirmekte zorlanırım.	1----------**2**----------3----------**4**----------5 hemen hemen hiç (%0-%10) **bazen (%11-%35)** yaklaşık yarı yarıya (%36-65) **çoğu zaman (%66-%90)** hemen hemen her zaman (%91-%100)
21-Kendimi kötü hissettiğimde bu duygumdan dolayı kendimden utanırım.	1----------**2**----------3----------**4**----------5 hemen hemen hiç (%0-%10) **bazen (%11-%35)** yaklaşık yarı yarıya (%36-65) **çoğu zaman (%66-%90)** hemen hemen her zaman (%91-%100)
33-Kendimi kötü hissettiğimde başka bir şey düşünmekte zorlanırım.	1----------**2**----------3----------**4**----------5 hemen hemen hiç (%0-%10) **bazen (%11-%35)** yaklaşık yarı yarıya (%36-65) **çoğu zaman (%66-%90)** hemen hemen her zaman (%91-%100)
34-Kendimi kötü hissettiğimde duygumun gerçekte ne olduğunu anlamak için zaman ayırırım.	1----------**2**----------3----------**4**----------5 hemen hemen hiç (%0-%10) **bazen (%11-%35)** yaklaşık yarı yarıya (%36-65) **çoğu zaman (%66-%90)** hemen hemen her zaman (%91-%100)

C. SAMPLE ITEMS FROM MULTIDIMENSIONAL SCALE OF PERCEIVED SOCIAL SUPPORT

ÇBASDÖ

Aşağıda 12 cümle ve her bir cümle altında da cevaplarınızı işaretlemek için 1'den 7 'ye kadar rakamlar verilmiştir. Her cümlede söylenenin sizin için ne kadar çok doğru olduğunu veya olmadığını belirtmek için o cümle altındaki rakamlardan yalnız bir tanesini işaretleyiniz. Bu şekilde 12 cümlenin her birine bir işaret koyarak cevaplarınızı veriniz.

Lütfen hiçbir cümleyi cevapsız bırakmayınız. Sizce doğruya en yakın olan rakamı işaretleyiniz.

1. **Ailem (örneğin, annem, babam, eşim, çocuklarım, kardeşlerim) bana yardımcı olmaya çalışır.**

   Kesinlikle hayır 1 2 3 4 5 6 7 Kesinlikle evet

2. **İhtiyacım olan duygusal yardım ve desteği ailemden (örneğin, annem, babam, eşim, çocuklarım, kardeşlerim) alırım.**

   Kesinlikle hayır 1 2 3 4 5 6 7 Kesinlikle evet

3. **Arkadaşlarım bana gerçekten yardımcı olmaya çalışırlar.**

   Kesinlikle hayır 1 2 3 4 5 6 7 Kesinlikle evet

4. **İşler kötü gittiğinde arkadaşlarıma güvenebilirim.**

   Kesinlikle hayır 1 2 3 4 5 6 7 Kesinlikle evet

D. KİŞİSEL BİLGİ FORMU

Kişisel Bilgi Formu

Değerli katılımcı,

Aşağıdaki ölçekler üniversite öğrencilerinde duygu düzenleme güçlüklerine bağlı ortaya çıkan risk alma davranışında algılanan sosyal desteğin aracı rolünü incelemektir. Verdiğiniz yanıtlar gizli tutulacak ve elde edilen sonuçlar sadece akademik çalışma amacı ile kullanılacaktır. Doğru ya da yanlış cevap yoktur. Soruları içtenlikle yanıtlamanız araştırmanın sonuçlarının gerçeği yansıtması açısından değerlidir. Katkılarınız için teşekkür ederim. Araştırma ile ilgili daha fazla bilgi edinmek ya da araştırma sonuçlarından haberdar olmak için berkan.demir@metu.edu.tr adresine ulaşabilirsiniz.

Berkan DEMİR

Orta Doğu Teknik Üniversitesi

Rehberlik ve Psikolojik Danışmanlık Anabilim Dalı

1) Cinsiyetiniz: ( ) Erkek ( ) Kadın

2) Yaşınız:.....

3) Eğitim Durumunuz ( ) Hazırlık ( ) 1.sınıf ( ) 2.sınıf ( ) 3.sınıf ( ) 4.sınıf

4) Çevrenizle karşılaştırdığınızda sosyoekonomik düzeyinizi nasıl değerlendirirsiniz?

( ) Alt ( ) Alt-orta ( ) Orta ( ) Orta-Üst ( ) Üst

5) İkamet ettiğiniz yer:

( ) Tek başıma ve evde

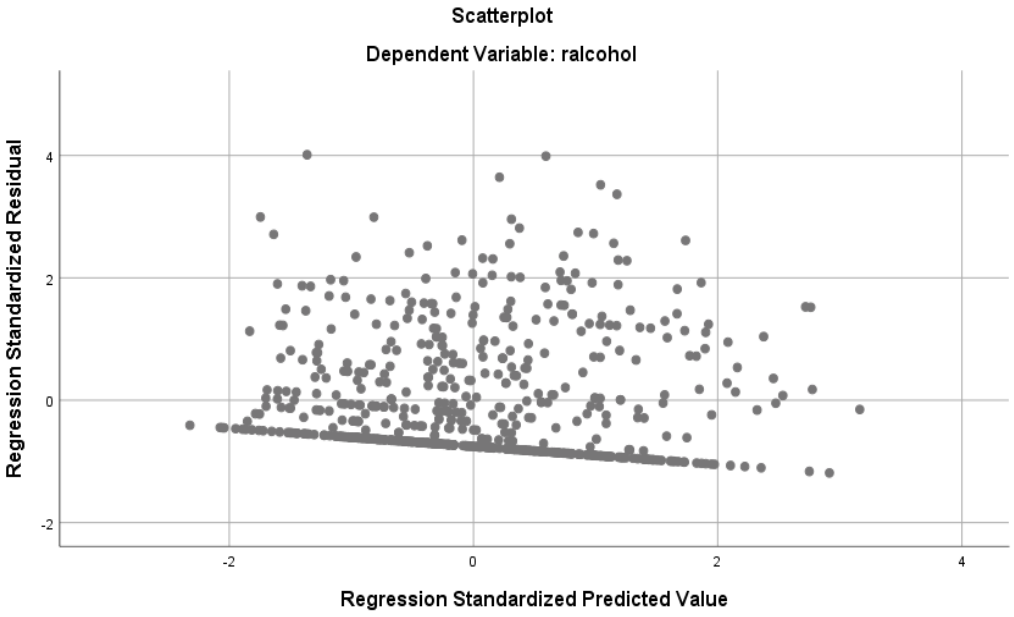
( ) Arkadaşlarımla ve evde

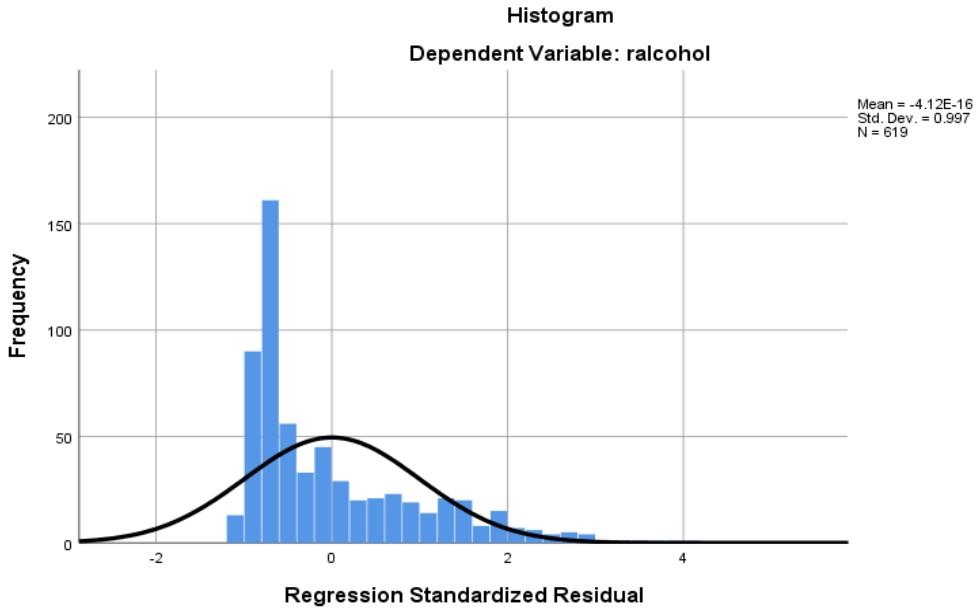
( ) Ailemle

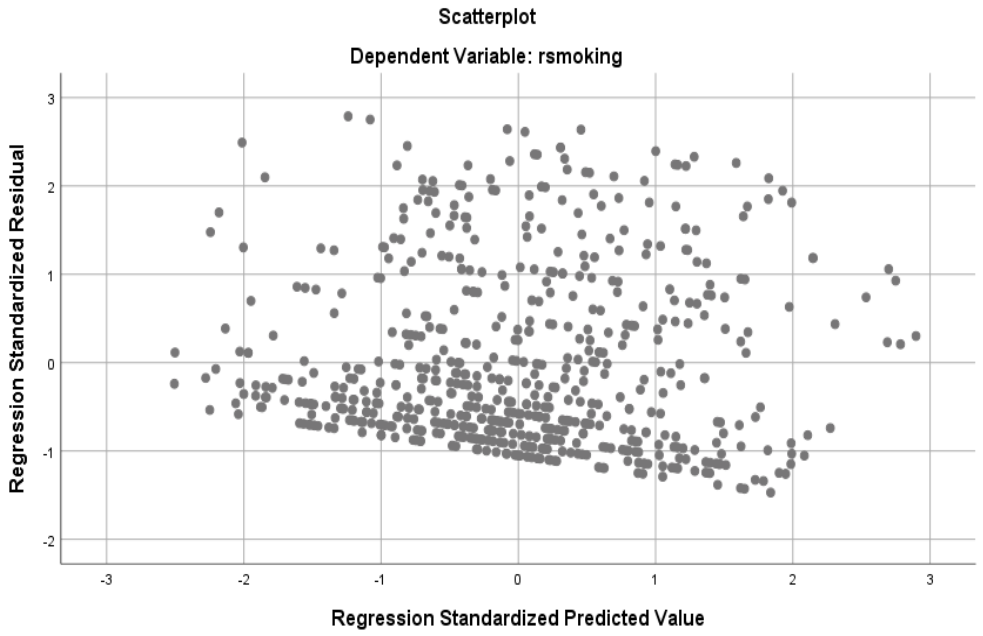
( ) Yurtta

( ) Diğer (belirtiniz):.....

E. NORMAL PROBABILITY PLOTS AND HISTOGRAMS OF STANDARDIZED RESIDUALS FOR DEPENDENT VARIABLES OF THE STUDY






Scatterplot
Dependent Variable: rsmoking
Regression Standardized Residual
Regression Standardized Predicted Value
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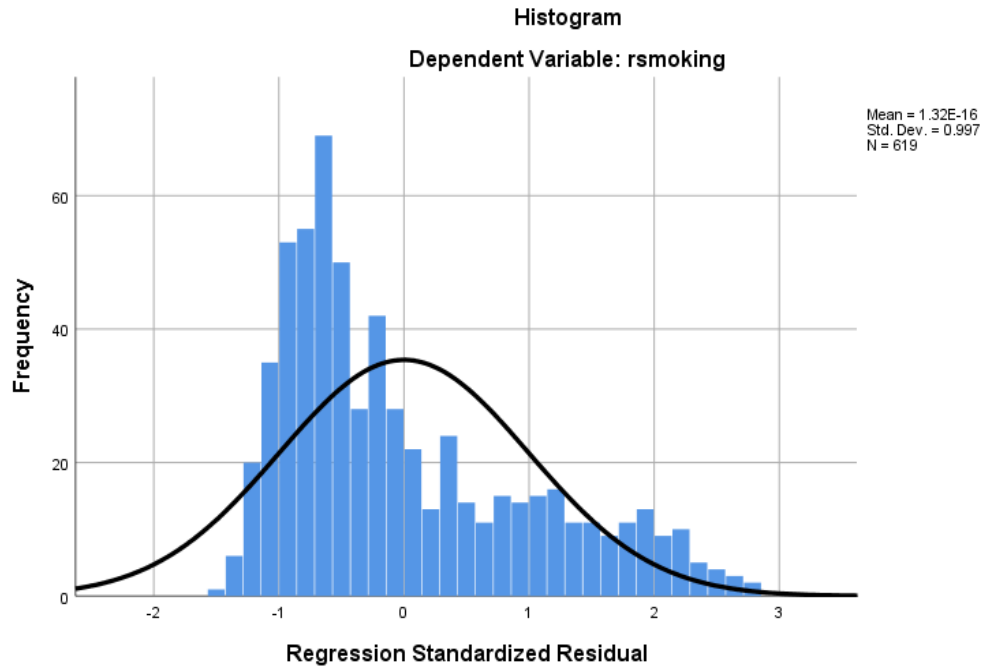
-1
-2
-3
-2
-1
0
1
2
3


Histogram
Dependent Variable: rsmoking
Mean = 1.32E-16
Std. Dev. = 0.997
N = 619
Frequency
Regression Standardized Residual
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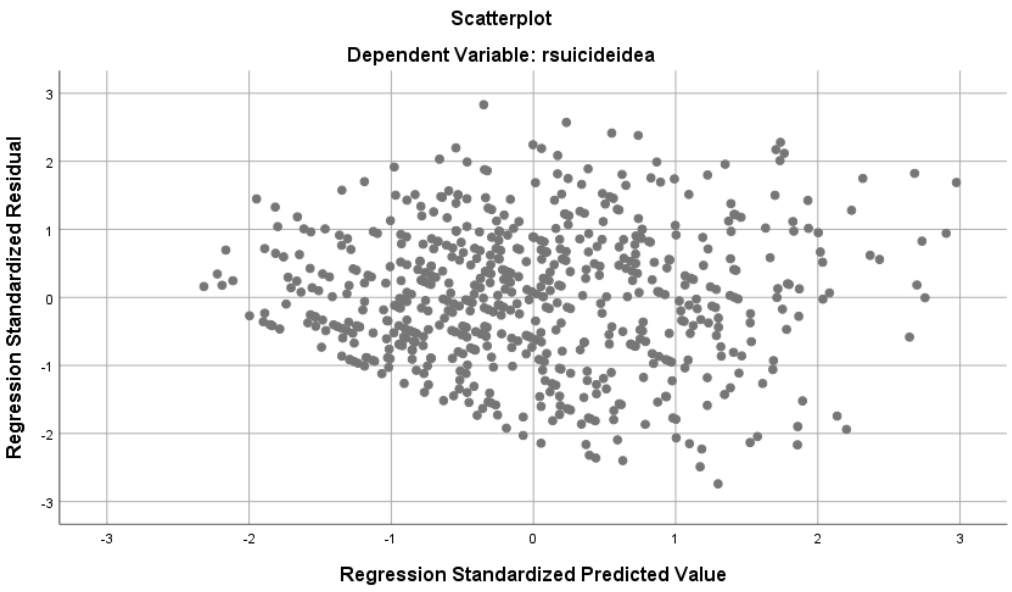
40
20
0
-2
-1
0
1
2
3


Scatterplot
Dependent Variable: rsuicideidea
Regression Standardized Residual
Regression Standardized Predicted Value
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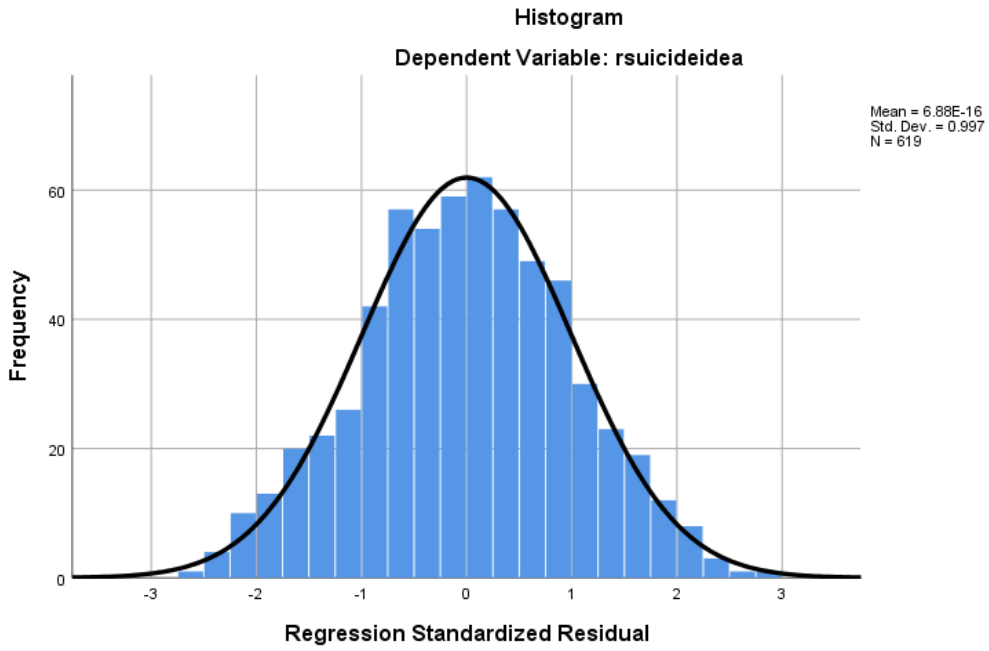
2
1
0
-1
-2
-3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Std. Dev. = 0.997
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Regression Standardized Residual
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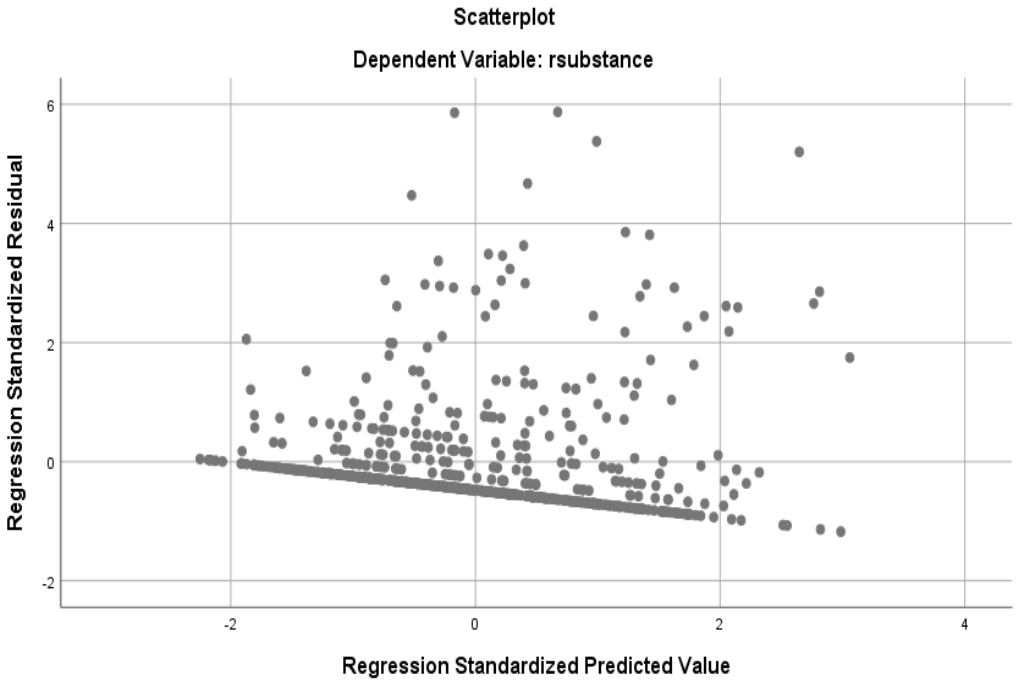
0
1
2
3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Regression Standardized Residual
Regression Standardized Predicted Value
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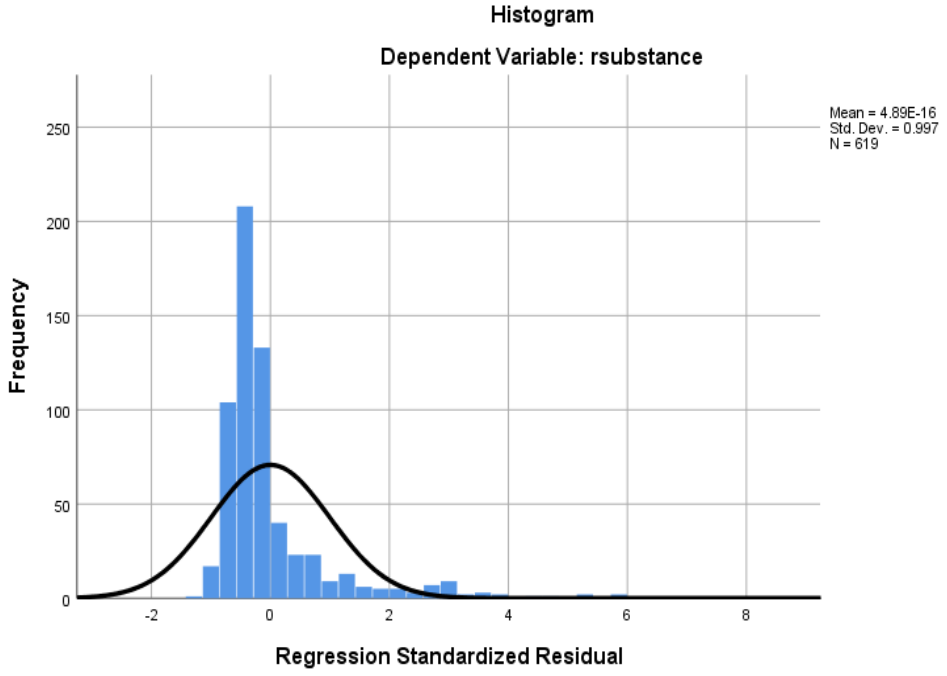
4
2
0
-2
-2
0
2
4


Histogram
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Std. Dev. = 0.997
N = 619
Frequency
Regression Standardized Residual
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200
150
100
50
0
-2
0
2
4
6
8

F. MIDDLE EAST TECHNICAL UNIVERSITY HUMAN SUBJECTS ETHICS COMMITTEE APPROVAL LETTER

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ
APPLIED ETHICS RESEARCH CENTER

ORTA DOĞU TEKNİK ÜNİVERSİTESİ
MIDDLE EAST TECHNICAL UNIVERSITY

DUMLUPINAR BULVARI 06800
ÇANKAYA ANKARA/TURKEY
T: +90 312 210 22 91
F: +90 312 210 79 59
ueam@metu.edu.tr

Sayı: 28620816 / 622

11 ARALIK 2018

Konu: Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgi: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Doç.Dr. Zeynep HATİPOĞLU SÜMER

Danışmanlığını yaptığınız Berkan DEMİR'in **"Üniversite Öğrencilerinde Duygu Düzenleme Güçlükleri ile Risk Alma Davranış Arasındaki İlişkide Algılanan Sosyal Desteğin Aracı Rolü"** başlıklı araştırması İnsan Araştırmaları Etik Kurulu tarafından uygun görülerek gerekli onay **2018-EGT-178** protokol numarası ile araştırma yapması onaylanmıştır.

Saygılarımla bilgilerinize sunarım.

Prof. Dr. Tülin GENÇÖZ
Başkan

Prof. Dr. Ayhan SOL
Üye

Prof. Dr. Ayhan Gürbüz DEMİR
Üye

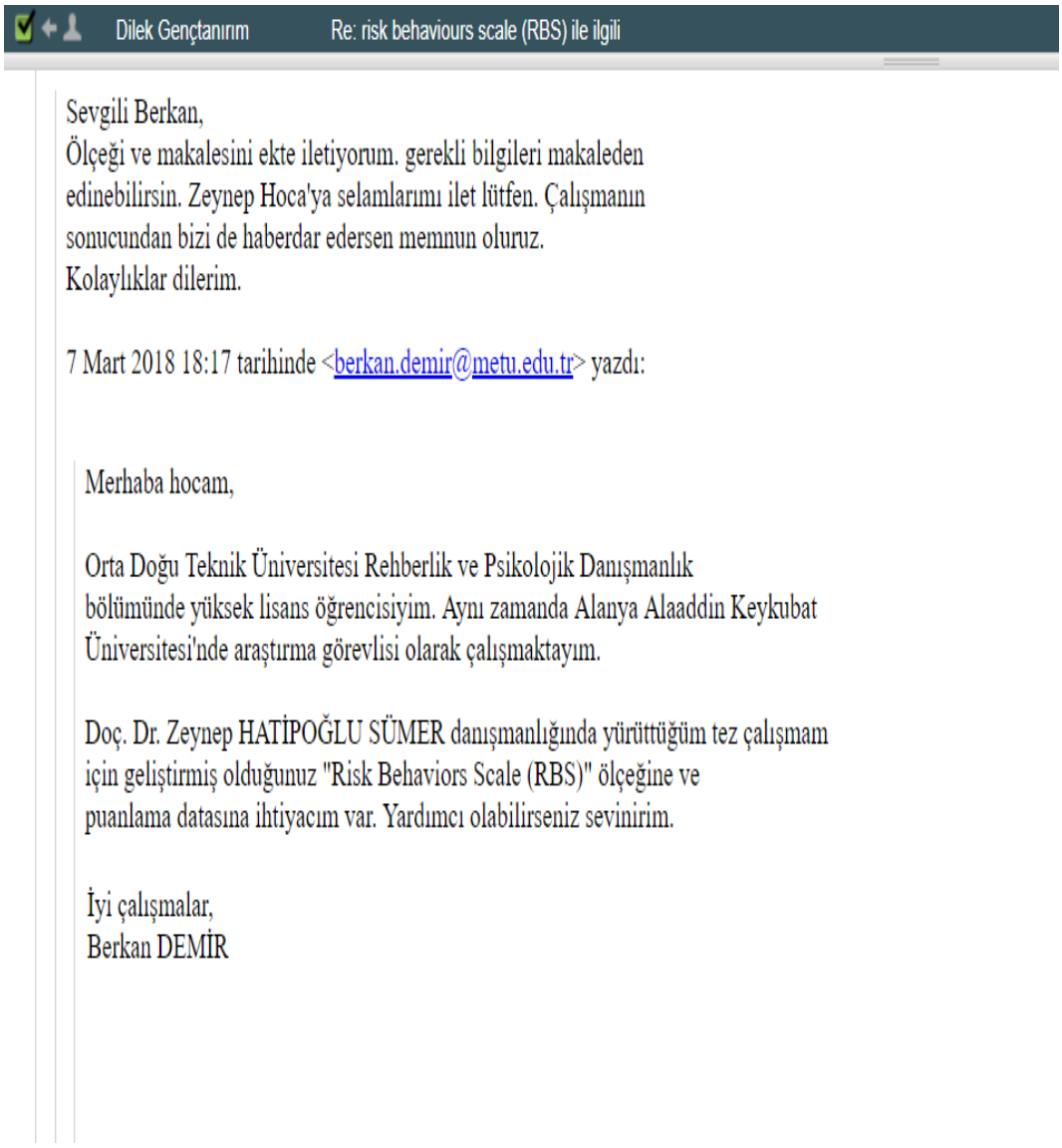
Prof.Dr. Yaşar KONDAKÇI (4.)
Üye

Doç.Dr. Üyesi Ali Emre TURGUT
Üye

Doç. Dr. Emre SELÇUK
Üye

Doç.Dr. Üyesi Pınar KAYGAN
Üye

G. UNIVERSITY FORM OF RISK BEHAVIORS SCALE PERMISSION LETTER



Dilek Gençtanırım Re: risk behaviours scale (RBS) ile ilgili

Sevgili Berkan,
Ölçeği ve makalesini ekte iletiyorum. gerekli bilgileri makaleden edinebilirsin. Zeynep Hoca'ya selamlarımı ilet lütfen. Çalışmanın sonucundan bizi de haberdar edersen memnun oluruz.
Kolaylıklar dilerim.

7 Mart 2018 18:17 tarihinde <berkan.demir@metu.edu.tr> yazdı:

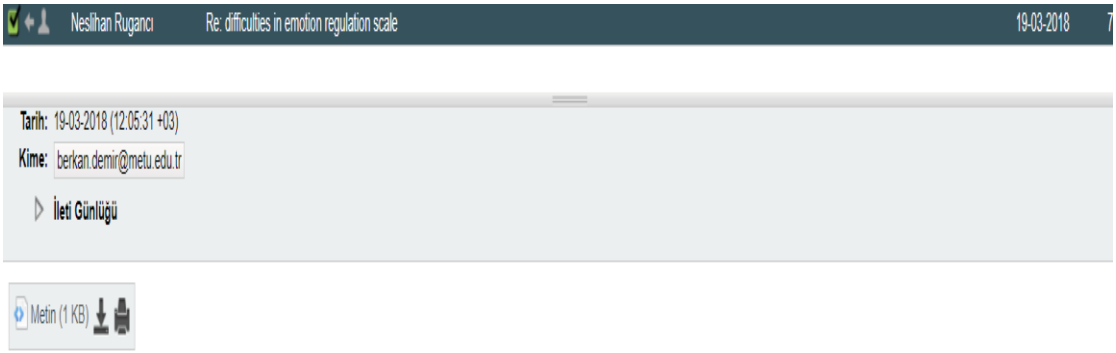
Merhaba hocam,

Orta Doğu Teknik Üniversitesi Rehberlik ve Psikolojik Danışmanlık bölümünde yüksek lisans öğrencisiyim. Aynı zamanda Alanya Alaaddin Keykubat Üniversitesi'nde araştırma görevlisi olarak çalışmaktayım.

Doç. Dr. Zeynep HATİPOĞLU SÜMER danışmanlığında yürüttüğüm tez çalışmam için geliştirmiş olduğunuz "Risk Behaviors Scale (RBS)" ölçeğine ve puanlama datasına ihtiyacım var. Yardımcı olabilirseniz sevinirim.

İyi çalışmalar,
Berkan DEMİR

H. DIFFICULTIES IN EMOTION REGULATION SCALE PERMISSION LETTER



Neslihan Rugancı Re: difficulties in emotion regulation scale 19-03-2018

Tarih: 19-03-2018 (12:05:31 +03)
Kime: berkan.demir@metu.edu.tr
İleti Günlüğü

Metin (1 KB)

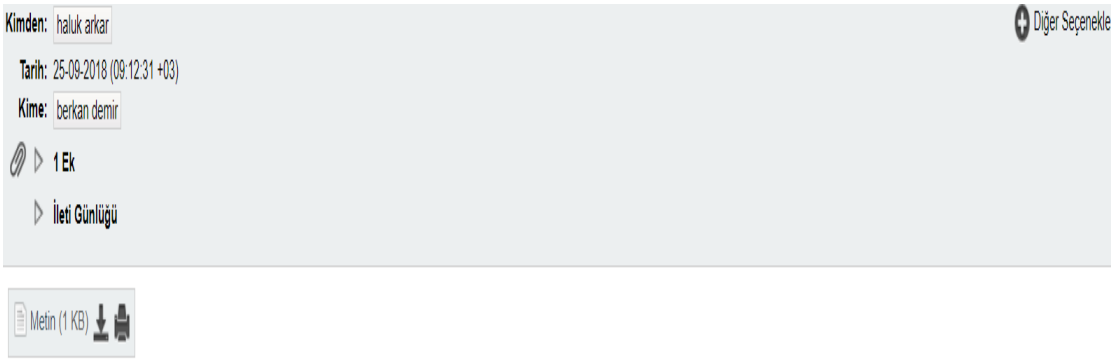
Tabii ki Berkan. Yürümekte olan çalışmaların örtüşmemesi için konuyu öğrenebilir miyim?

Neslihan Rugancı, Phd
Klinik Psikolog/Clinical Psychologist

19 Mar 2018 11:46 tarihinde <berkan.demir@metu.edu.tr> yazdı:

> Merhaba hocam,
>
> Orta Doğu Teknik Üniversitesi Rehberlik ve Psikolojik Danışmanlık bölümünde yüksek lisans öğrencisiyim, Alanya Alaaddin Keykubat Üniversitesi'nde ise araştırma görevlisi olarak çalışmaktayım.
>
> Doç. Dr. Zeynep HATİPOĞLU SÜMER danışmanlığında yürüttüğüm tez çalışmam için uyarlamış olduğunuz "Difficulties in Emotion Regulation Scale"e ve puanlama dosyasına ihtiyacım var. Ölçeğinizden yararlanmama izin verirseniz çok memnun olurum hocam.
>
> İyi çalışmalar
> Berkan DEMİR

I. MULTIDIMENSIONAL SCALE OF PERCEIVED SOCIAL SUPPORT PERMISSION LETTER



Kimden: haluk arkar

Diğer Seçenekler

Tarih: 25-09-2018 (09:12:31 +03)

Kime: berkan demir

1 Ek

İleti Günlüğü

Metin (1 KB)

Sayın Berkan Demir,
Çokboyutlu Algılanan Sosyal Destek ölçeğini çalışmanızda kullanabilirsiniz. Ölçeği ve puanlamasını aşağıdaki kaynakta bulabilirsiniz. Başarılar dilerim.
Prof. Dr. Haluk Arkar
Eker, D., H. Arkar ve H. Yaldız, "Çok boyutlu algılanan sosyal destek ölçeğinin gözden geçirilmiş formunun faktör yapısı, geçerlik ve güvenirliği",Türk Psikiyatri Dergisi, 12, 17-25 (2001).

----- Orijinal Mesaj -----
Kimden: "berkan demir" <berkan.demir@metu.edu.tr>
Kime: "haluk arkar" <haluk.arkar@ege.edu.tr>
Gönderilenler: 24 Eylül Pazartesi 2018 14:25:02
Konu: çok boyutlu algılanan sosyal destek ölçeği hakkında

Merhaba hocam,

Orta Doğu Teknik Üniversitesi Rehberlik ve Psikolojik Danışmanlık
bölümü yüksek lisans öğrencisiyim. Doç. Dr. Zeynep HATİPOĞLU SÜMER
süpervizörlüğünde yürüttüğüm tez çalışmam için geliştirmiş olduğunuz
Çok Boyutlu Algılanan Sosyal Destek Ölçeği'ne ihtiyacım var.
Ölçeğinizden yararlanmama izin vermeniz mümkün mü?

İyi çalışmalar,
Berkan DEMİR

J. TURKISH SUMMARY / TÜRKÇE ÖZET

TÜRKÇE ÖZET

DUYGU DÜZENLEME GÜÇLÜKLERİ İLE SAĞLIKLA İLGİLİ RİSK ALMA DAVRANIŞLARI ARASINDAKİ İLİŞKİ: ALGILANAN SOSYAL DESTEĞİN ARACI ROLÜ

1. GİRİŞ

Öğrencilerin çeşitli zoruklar yaşadıkları ve kişisel (örneğin, kimlik edinmeye çabalama), sosyal (örneğin hem samimi hem de günlük ilişkiler kurma ve sürdürme) ve akademik kaygılara ayak uydurmaya çalıştıkları üniversite yılları gelişimsel özellikleri bakımından ergenlik ve genç yetişkinlik dönemleri arasına denk düşer. Üniversite öğrencilerinin yaşamları genellikle yoğundur, çünkü okula devam etmek ve sınavlara girmekle birlikte birçok öğrenci bir işte çalışır, hem samimi hem de daha genel sosyal ilişkiler kurmaya çabalar ve bilinçli seçimler yaparak bu seçimlerin sonucundaki sorumluluğu üstlenerek özerk bir yaşam biçimine doğru adım atmayı hedefler.

Chickering'in (1993) teorisine göre, öğrenciler üniversite yıllarında üç tip yeterlilik üzerinde çalışırlar. Birincisi, başarılı bir şekilde mezun olmak için gerekenlere sahip olduklarına inanmaları için yeterince ehil olduklarını kanıtlama arzusu olduğunu işaret eden entelektüel yeterliliktir. Bu dönemde entelektüel yeterliliğin en iyi kanıtı akademik sınavlarda ne kadar iyi performans gösterdikleridir. İkinci alan olan fiziksel/el becerisi

yetileri üniversite hayatı boyunca geliştirilmesi hedeflenen diğer bir unsurdur. Fiziksel yeterlilik alanında, öğrencilerin kendilerini akranları kadar güçlü, çekici ve fiziksel olarak tercih edilen birisi olarak hissetmeye yönelik istekleri yer almaktadır. Son olarak, sosyal ağlar, romantik ilişkiler veya diğer sosyal etkileşimlerle ait olma hissini yaşamakla karakterize olan kişilerarası yeterlilik alanı bulunmaktadır. Özetle, genç yetişkinlik ve üniversite dönemi kişilerin kimliklerini bütünleştirmeye, entelektüel gelişimlerini zenginleştirmeye ve aynı zamanda kişisel inanç ve değerler kümesini içselleştirmeye çabaladığı oldukça zorlu bir dönemdir (Blimling, 2010).

Literatürde, risk alma davranışı kategorisine dahil edilen davranışlar oldukça belirginken "risk alma" terimi için çeşitli tanımlar öne sürülmüştür. Örneğin, Jessor ve diğ. (1991) ve Arnett (1992) risk alma davranışını tanımlamak için farklı terimler kullanmıştır ("problem davranış" ve "dikkatsiz davranış"). Jessor ve diğ. (1991), problemli alkol kullanımı, esrar kullanımı, diğer yasadışı uyuşturucuların kullanımı, sigara içme ve genel norma uyum göstermeyen davranışları kapsayan beş ayrı alan tanımlamıştır. Arnett (1992) ise, olumsuz sonuçlar-ciddi kişisel yaralanma ya da ölüm, istenmeyen hamilelik ya da yasal sistem tarafından tutuklanma potansiyeli ile ilgili daha güçlü çağrışımlar barındıran "dikkatsiz davranış" terimini kullanmıştır. Zuckerman (1979)'e göre risk alma, kişilikle ilgili yatkınlıktı ve davranışın sonucunda olumsuz sonuç ortaya çıkma olasılığının önceden tahmin edilmesini kapsıyordu. Bu tanıma göre risk alma davranışları, paraşütle atlama, tüple dalış yapma, kumar oynama, cinsel çeşitlilik arama, alkol kullanımı ve yemek yeme alışkanlıklarını kapsamaktaydı. Yine benzer şekilde, The Youth Risk Behavior Surveillance System (YRBSS) en ideal (optimal) sağlıklılık durumu için özellikle önemli olan 6 riskli davranış alanı tanımladı; (1) kasıtsız sakatlanma ve saldırganlıkla ilgili davranışlar, (2) sigara kullanımı, (3) alkol ve uyuşturucu kullanımı, (4) cinsel yolla bulaşan hastalıklara ya da istenmedik gebeliğe yol açan cinsel aktiviteler, (5) sağlıksız beslenme alışkanlıkları ve (6) fiziksel olarak haraketsiz kalmak (Eaton et al., 2012) risk alma davranışları kapsamında yer alan davranışlardır. Siegel, Cousins, Rubovits, Parsons, Levery ve Crowley (1994) risk alma davranışlarını düşük ve yüksek düzeyde riskli davranışlar olmak üzere iki kategoriye ayırmıştır. Düşük düzeyde riskli davranışlar reçeteli ilaçları almak ya da geceleri yalnız yürümek gibi davranışlar olmakla birlikte,

yüksek riskli davranışlar arasında korunmadan cinsel ilişkiye girmek ve kokain kullanımı gibi davranışlar yer almaktadır. Görüldüğü üzere, yasadışı uyuşturucu kullanımı ve suistimali, görece daha az önemli suç faaliyetleri ve cinsellikle ilgili riskli davranışlar gibi yukarıda bahsedilen kavramsallaştırmalara dahil edilen birçok davranış ortaktır.

Literatürde riskli davranışların yordayıcıları kısaca üç kategoride sınıflandırılabilir. Görece daha önceki risk davranışlarının kavramsallaştırılması heyecan arayışı ve dürtüsellik gibi kişilik özelliklerine odaklanmış olsa da daha güncel çalışmalar risk alma olgusunu açıklamak için karar verme ve başa çıkma stilleri, inanç ve değerleri içeren bilişsel modeller ortaya atmıştır. Diğer bir yaklaşım ise, problem davranışları kavramsallaştırırken sosyal destek, akran ilişkileri, dini etkinliklere katılım gösterme ve sosyoekonomik durum gibi çevresel faktörleri de dahil eden Jessor ve Jessor (1977) tarafından önerilen Problem Davranış Kuramıdır.

Problem Davranış Kuramına göre çeşitli demografik ve dışsal faktörler (sosyoekonomik durum, akran ilişkileri vb.) riskli davranışların ortaya çıkmasına katkıda bulunur. Kuramın temel amacı riskli davranışları açıklarken 'kişisel sistem', 'algılanan çevre sistemi' ve 'davranış sistemi' arasındaki ilişkiyi incelemektir. Jessor, Donovan ve Costa (1991) bir davranışın problem davranış özelliği gösterip göstermediğini belirlemek için bu üç sistem arasındaki etkileşimin dikkate alınması gerektiğini vurgulamıştır.

Risk alma davranışlarındaki cinsiyet farkı ilgili literatürde dikkat çeken araştırma konularının başında gelmektedir. Çeşitli çalışmalar, erkeklerin kadınlara göre daha yüksek derecede risk alma davranışı sergilediklerini ortaya koymuştur (Wilsnack vd., 2009; Wilsnack vd., 2000; Mäkelä vd., 2006; Lash vd., 1998; Allen vd., 2016; Van Etten, Neumark ve Anthony, 1999; Atlam ve Yüncü, 2017; Oğuz, Çamcı, ve Kazan, 2018; Yıldırım, 1997; Körük, 2017). Driessen (1992) bu durumun olası bir sebebinin de risk alma davranışlarını sergilemenin erkekler tarafından bir tür "erkeksilik" göstergesi olarak algılanması olabileceğini öne sürmüştür.

Diğer gelişimsel dönemlerle karşılaştırıldığında üniversite yılları risk alma davranışlarını gösterme sıklığı konusunda potansiyel bir artışı beraberinde getirmektedir. Örneğin, her dört üniversite öğrencisinden biri alkol kullanımı sonucunda ortaya çıkan dersleri kaçırma, sınıfın gerisine kalma, sınavlarda düşük performans gösterme ve düşük not alma gibi olumsuz akademik sonuçları rapor etmiştir (Wechsler, Dowdall, Maenner, Gledill-Hoyt ve Lee, 1998). Benzer şekilde, üniversite öğrencilerinin %33'ü tütün ya da tütün ürünlerini ayda en az bir kere kullanmaktadır (The Harvard School of Public Health, 2013). Buna ek olarak, The Monitoring Future (Johnston, O'Malley, Bachman ve Schulenberg, 2008) adlı çalışmaya göre, üniversite öğrencilerinin %37'si son 1 yılda herhangi bir yasadışı uyuşturucu madde kullanmış ve %19'u da esrar dışında bir uyuşturucu madde kullanmıştır. Son olarak, Data Courtesy of Substance Abuse and Mental Health Services Administration (SAMSHA, 2016) kurumunun yaptığı araştırmaya göre, 18-25 yaş arasındaki bireyler diğer tüm yaş gruplarındaki bireylere göre 3,5 kat daha fazla intihar girişiminde bulunmuştur. İlgili alanyazın ışığında, istatiksel verilerin çoğu üniversite dönemindeki öğrencilerinin risk alma davranışlarındaki belirgin artışı doğrulamaktadır.

Duygular üniversite dönemindeki gelişimin ayrılmaz bir parçasıdır. Blimling (2010) gelişimsel olarak üniversite döneminde bulunan bireylerin duygusal gelişiminde 2 evre olduğunu öne sürmektedir. Birincisi, duygu kontrolü açısından dışsal faktörlerden içsel süreçlere yönelmektir. İkincisi ise, 'farklılaştırma ve bütünleştirme' olarak tanımlanan toplum üyelerinden gelen geri bildirimler aracılığıyla duygusal tepkiyi harekete geçiren uyarıcılar sonucunda ortaya çıkan davranışlarda düzeltme yoluna gitmektir. Duygu düzenleme, bireylerin arzu ettikleri sonuca ulaşmaları için duygu durumlarında yaptıkları değişiklikleri sağlayan mekanizmalar olarak tanımlanabilir (Aldao vd., 2010). Gratz ve Roemer (2004) duygu düzenleme zorluklarının duyguların farkında olmada ve duyguları anlamada, duygusal açıdan sıkıntı yaşarken davranışları kontrol etmede, olumsuz olaylar sonucunda ortaya çıkan duyguların yoğunluğunu değiştirebilmek için uyum sağlayıcı stratejilere erişmekte yaşanan zorluklardan oluşan çok boyutlu bir yapıda olduğunu belirtmektedir.

Geçmiş yıllardaki çalışmalar, duygu durumlarının ve duygu düzenlemenin sigara kullanımı (Gerhick vd., 2007; Abrantes vd., 2008), alkol kullanımı ve bağımlılığı (Fox vd., 2007; Fox vd., 2008; Petit vd., 2015), uyuşturucu kullanımı ve suistimali (Neacsiu, 2017), intihar düşünceleri ve girişimleri (Zlotnick, Donaldson, Spirito ve Pearlstein, 1997), saldırganlık (Gratz, Paulson, Jakupcak ve Tull, 2009) gibi çeşitli risk alma davranışlarıyla anlamlı ve pozitif yönde ilişkili olduğunu ortaya koymuştur.

Thoit (2010) sosyal desteği birey için önemli olan diğer kişilerden aldığı duygusal, bilgilendirici ya da pratik destek olarak tanımlamıştır. Bu destek, direkt olarak edinilebilir şekilde ya da ihtiyaç olduğunda mevcut olduğuna yönelik var olan bir algı şeklinde olabilir.

Algılanan sosyal desteğe ilişkin ampirik kanıtlar bu kavramın farklı örneklem gruplarında çeşitli risk davranışlarına karşı koruyucu bir nitelik taşıdığını ortaya koymuştur (Reininger vd., 2012; Spohr vd., 2016). Diğer yandan, algılanan sosyal desteğin teorik boyutları düşünüldüğünde, algılanan arkadaş desteğinin sigara kullanımı, intihar düşünceleri, madde kullanımı ve saldırgan/anti sosyal davranışlar sergileme gibi sağlıkla ilgili riskli davranışları sergileme olasılığını arttırabileceği de belirtilmektedir (Yun vd., 2010; Ford, 2009).

Sonuç olarak, üniversite yıllarını da kapsayan beliren yetişkinlik dönemi, gelişimsel görevlerin çeşitliliğinin ve karmaşıklığının bir sonucu olarak ortaya çıkan kişilerdeki stres düzeyini arttırıcı bir potansiyel taşımaktadır. Bu dönem boyunca bireyler kişisel, sosyal ve akademik alanlarda yeterli hissedebilmek için çaba sergiler. Fakat, bu çaba ve stres bireylerin riskli davranışları sergileme eğilimlerini arttırabilir ve bireyleri sağlıklı ya da başarılı olmak gibi uzun vadeli hedeflere ulaşmaya çabalamak yerine daha kısa vadeli haz durumlarını tatmin etmeye yönlendirip duygu düzenleme becerilerine ket vurabilir. Bu sebeple, duygu düzenleme güçlüklerinin üniversite öğrencilerinin sağlıkla ilgili risk alma davranışlarını yordamasında anlamlı bir rol oynayabileceği, algılanan sosyal destek ve teorik boyutlarının ise bu ilişkiyi zayıflatmada aracı bir rol üstelenebileceği düşünülmektedir.

1.2 Araştırmanın Amacı

Bu çalışmanın amacı, duygu düzenleme güçlükleri ile sağlıkla ilgili risk alma davranışlarındaki (alkol kullanımı, sigara kullanımı, intihar düşünceleri ve madde kullanımı) arasındaki ilişkide algılanan sosyal desteğin ve algılanan sosyal desteğin teorik boyutlarının (aile desteği, arkadaş desteği, özel bir insan desteği) aracılık rolünü incelemektir. Bu amaç doğrultusunda, aşağıdaki sorulara yanıt aranmıştır.

1. Duygu düzenlemedeki zorluklar sağlıkla ilgili risk alma davranışlarını ne ölçüde doğrudan yordamaktadır?

2. Duygu düzenlemedeki zorluklar ile sağlıkla ilgili risk alma davranışları arasındaki ilişkide algılanan sosyal desteğin teorik boyutları bu ilişkiyi ne ölçüde dolaylı olarak yordamaktadır?

3. Duygu düzenlemedeki zorluklar ile sağlıkla ilgili risk alma davranışları arasındaki ilişkide algılanan sosyal destek tek bir boyut olarak düşünüldüğünde bu ilişkiyi ne ölçüde dolaylı olarak yordamaktadır?

4. Önerilen modeller cinsiyete göre farklılaşmakta mıdır?

1.3 Araştırmanın Hipotezleri

Yukarıdaki araştırma soruları bağlamında aşağıdaki hipotezler test edilmiştir.

1. Duygu düzenleme güçlükleri ile sağlıkla ilgili risk alma davranışları arasında doğrudan, pozitif ve anlamlı bir ilişki vardır.

2. Duygu düzenleme güçlükleri ile sağlıkla ilgili risk alma davranışları algılanan sosyal desteğin farklı boyutları aracılığı ile dolaylı olarak ilişkilidir.

3. Duygu düzenleme güçlükleri ile sağlıkla ilgili risk alma davranışları toplam algılanan sosyal destek aracılığı ile dolaylı olarak ilişkilidir.

4. Önerilen model cinsiyete göre farklılaşmamaktadır.

1.4 Araştırmanın Önemi

Bu araştırmanın kuramsal çerçevesini Problem Davranış Kuramı (Jessor vd., 1991) oluşturmaktadır. Problem Davranış Kuramı'na göre çeşitli bilişsel, çevresel ve gelişimsel faktörler riskli davranışların oluşmasında katkı sahibidir. Daha önce de vurgulandığı gibi kuramın temel amacı, riskli davranışları açıklamaya çalışırken 'kişisel sistem', 'algılanan çevre sistemi' ve 'davranış sistemi' arasındaki ilişkiden yararlanmaktır. Literatürdeki birçok çalışma çeşitli kişisel ve çevresel faktörlerin risk alma davranışıyla yakından ilişkili olduğunu ortaya koymuştur, fakat pek az çalışma riskli davranışları Problem Davranış Kuramı içindeki sistemleri tek bir yapısal eşitlik modeline uyarlayıp bu değişkenler arasındaki aracı rolü incelemiştir. Buna ek olarak, algılanan sosyal desteğin farklı boyutlarının duygu düzenlemede güçlükler ve risk alma davranışı arasındaki ilişkide hipotetik olarak aracı rolü oynaması yoluyla da bu çalışmanın var olan literatüre özgün bir katkı sağlayacağı düşünülmektedir.

Daha geniş bir perspektiften bakıldığında riskli davranışlar, bireyleri mevcut potansiyellerini kullanmaktan alıkoyan engelleyici davranışlar olarak görülebilir. Birçok çalışma sağlıkla ilişkili risk alma davranışlarının akademik alanda başarısızlık (Jeynes, 2002; Hernández-Serrano vd., 2018; Diego vd., 2003; Cox vd., 2007), işsizlik (Vogli ve Santinello, 2005) ve intihar olasılığıyla (Dragisic vd., 2015; Thompson Jr. vd., 2015) ilişkili olduğunu ortaya koymuştur. Bu sebeple, bu çalışmadan elde edilecek bulguların duygu düzenleme güçlükleri ile sağlıkla ilişkili risk alma davranışları arasındaki ilişkiyi açığa çıkararak bu davranışları azaltma/minimuma indirme ile ilgili içgörü sağlayabileceği ve üniversite öğrencilerinin daha verimli ve üretken bireyler olarak yetişmesine ket vuran faktörleri aydınlatabileceği düşünülmektedir.

Bu çalışmadan elde edilecek bulgular, sağlıkla ilgili risk alma davranışları ile ilgili önleyici programlar geliştiren araştırmacılara ve uygulamacılara yardımcı olacak bilgiler sunabilir. Özellikle, algılanan sosyal destek ve algılanan sosyal desteğin teorik boyutlarının sağlıkla ilgili risk alma ve duygu düzenlemede güçlükler arasında aracı rolü sağladığı bulgular kayda değer niteliktedir.

Son olarak, Türkiye'de gerçekleştirilen risk alma davranışı ile ilgili araştırmaların pek azında duygu düzenlemede güçlüklerin doğrudan rolü (Arabacı, Dağlı ve Taş, 2018) ya da algılanan sosyal desteğin aracı rolü (Gençtanırım-Kurt & Ergene, 2017; Körük, 2017) incelenmiştir. Dolayısıyla bu çalışma, sağlıkla ilgili risk alma davranışlarını görece kapsamlı bir model oluşturarak açıklamaya çalışan ve bu davranışları yordayıcı değişkenleri ortaya çıkarmayı amaçlayarak literatürdeki boşluğu doldurmayı hedefleyen ilk yerel çalışmalardan biridir.

2. YÖNTEM

2.1 Araştırmanın Deseni

Bu çalışmanın amacı, üniversite öğrencilerindeki duygu düzenleme güçlükleri ile sağlıkla ilgili risk alma davranışları arasındaki ilişkide algılanan sosyal destek ve algılanan sosyal desteğin farklı boyutlarının aracı rolünü incelemektir. Araştırma deseni ise ilişkiseldir (Fraenkel, Wallen ve Hyun, 2012).

2.2 Örneklem

Bu araştırmanın iki farklı örneklem grubu bulunmaktadır. İlk örneklem grubunu Orta ve Güney Anadolu'da bulunan çeşitli üniversitelerde lisans öğrenimini sürdürmekte olan 330 öğrenci oluşturmaktadır. İkinci örneklem grubundan ise çevrim içi yolla veri toplanmıştır. İkinci örneklem grubunda 295 öğrenci bulunmaktadır. Her iki örneklemden veri toplanırken kolay örnekleme metodu kullanılmıştır. Katılımcıların 422'si (%68.2) kadın,

197 (%31.8)'si ise erkektir (Tablo 3.1). Katılımcıların yaşları 18 ile 36 arasında değişmekle birlikte yaş ortalaması 20.61, standart sapması ise 2.08'dir.

2.3 Veri Toplama Araçları

Bu çalışmada, Riskli Davranışlar Ölçeği Üniversite Formu (Gençtanırım, 2014), Duygu Düzenlemede Zorluklar Ölçeği (Rugancı ve Gençöz, 2010), Çok Boyutlu Algılanan Sosyal Destek Ölçeği (Eker, Arkar ve Yaldız, 2001) ve araştırmacı tarafından geliştirilen Demografik Bilgi Formu veri toplama araçları olarak kullanılmıştır.

2.4 Veri Toplama Süreci

Araştırmanın gerçekleştirilebilmesi için öncelikli olarak ODTÜ İnsan Araştırmaları Etik Kurulu'ndan daha sonra eş zamanlı olarak uygulama yapılan üniversitelerin etik kurullarından gerekli izinler alınarak uygulamaya geçilmiştir. Uygulamalar 2018-2019 öğretim yılı bahar döneminde gerçekleştirilmiştir. Verilerin bir kısmı da çevrim içi şekilde toplanmıştır. Tüm katılımcılar çalışmanın amacı, gönüllülük, istedikleri zaman çalışmayı bırakabilecekleri, gizlilik ve çalışmanın sonuçlarından haberdar olabilecekleri gibi konular hakkında bilgilendirilmiştir. Ölçeklerin uygulanması yaklaşık olarak 20 dakika sürmüştür.

2.5. Veri Analizi

Bu çalışmanın amacı, üniversite öğrencilerinin sağlıkla ilgili risk alma davranışlarını açıklamayı amaçlayan bir model geliştirmek ve geliştirilen modelin uyum sağlayıp sağlamadığını test etmektir. Yine oluşturulan modelin cinsiyet açısından farklılaşıp farklılaşmadığını belirlemek de çalışmanın bir diğer amacıdır. Bu amaçlar doğrultusunda oluşturulan modelleri test etmek ve modellerin cinsiyet açısından farklılaşıp farklılaşmadığını belirlemek için Yapısal Eşitlik Modellemesi (YEM) kullanılmıştır. Verilerin analizinde AMOS paket programından yararlanılmıştır.

2.6 Çalışmanın Sınırlılıkları

Bu araştırmada temel olarak veri toplama yönteminden kaynaklanan bazı sınırlılıklar bulunmaktadır. İlk olarak, tesadüfi bir örneklemi metodu olmayan kolay örnekleme metodu kullanılmıştır. Fraenkel (2011) kolay örnekleme yönteminin çalışmanın tarafsızlığını birkaç hususta tehlikeye attığını belirtmektedir. İlk olarak, çalışmanın yapıldığı günde sınıfta olmayan öğrencilerden veri toplanamamıştır. Çalışmanın başlığı düşünüldüğünde, yüksek düzeyde risk-alma davranışı gösteren öğrencilerin bu davranışları sergilemeyen ya da daha az sergileyen akranlarına göre daha fazla devamsızlık yapmaları beklendik bir durumdur. Bu sebeple, toplanan veriler risk-alma davranışı sergileyen bireylerin özelliklerini nispeten daha az yansıtabilir. İkinci sınırlılık, bu çalışmadaki katılımcıların seçilmesinde kolay örnekleme metodu kullanıldığı için bulguların tüm üniversite öğrencilerine genellenebileceği açık değildir. Çalışmanın bir diğer sınırlılığı veri toplama aracı olarak sadece öz-bildirim formlarının kullanılmasıdır.

BULGULAR

Elde edilen verinin, oluşturulan YEM'e uygunluğunu değerlendirmek için kullanılan model uyum indeksleri YEM grafiklerinin altında mevcuttur (Şekil 4.3 ve Şekil 4.4). Modellerin cinsiyet açısından farklılaşıp farklılaşmadığını araştırmak için yapılan çoklu grup analizlerinde Model 1'in cinsiyet açısından farklılaştığı, Model 2'nin ise cinsiyet açısından farklılaşmadığı sonucuna ulaşılmıştır. Ayrıca, her iki cinsiyete ait regresyon katsayıları Tablo 4.17'de sunulmuştur.

YEM analizi sonuçlarına göre her iki model de toplanan veriye yeterli uyum göstermektedir. Model 1'in serbestlik derecesi 2.40, CFI ve TLI değerleri .93, SRMR değeri .07 ve RMSEA değeri .05 olarak bulunmuştur. Model 2'nin serbestlik derecesi 2.26, CFI değeri .94, TLI değeri .93, SRMR ve RMSEA değerleri .05 olarak bulunmuştur.

Her iki model de çok değişkenli normallik varsayımına uyum göstermediği için aracılık analizleri Byrne (2010) tarafından önerilen bootstrapping yöntemi kullanılarak gerçekleştirilmiştir. Model 1'den elde edilen sonuçlara göre duygu düzenlemede zorluklar ve algılanan sosyal desteğin alt boyutları alkol kullanımındaki varyansın %3'ünü, sigara kullanımındaki varyansın %8'ini, intihar düşüncelerindeki varyansın %51'ini ve madde kullanımındaki varyansın %6'sını açıklamıştır. Model 2'den elde edilen sonuçlara göre ise duygu düzenlemde zorluklar alkol ve sigara kullanımındaki varyansın %3'ünü, intihar düşüncelerindeki varyansın %60'ını ve madde kullanımındaki varyansın %7'sini açıklamıştır (Tablo 4.10 ve Tablo 4.12).

Aracılık analizi sonuçlarına göre, duygu düzenleme zorlukları ile sigara kullanımı arasındaki ilişkide algılanan aile desteği ve algılanan önemli bir insan desteği kısmi aracılık rolü üstlenmişken, algılanan arkadaş desteği ve toplam algılanan sosyal destek bu ilişkide aracılık rolü üstlenmemiştir (Tablo 4.14). Duygu düzenleme zorlukları ile alkol kullanımı arasındaki ilişkide algılanan sosyal desteğinin alt boyutlarının hiçbiri bu ilişkide aracılık rolü üstlenmemiş, yalnızca algılanan toplam sosyal destek bu ilişkide aracılık rolü üstlenmiştir (Tablo 4.15). Duygu düzenleme zorlukları ile intihar olasılığı arasındaki ilişkide hem algılanan sosyal desteğin farklı boyutları hem de toplam algılanan sosyal destek bu ilişkide kısmı aracılık görevi görmektedir (Tablo 4.16). Duygu düzenleme zorlukları ve madde kullanımı arasındaki ilişkide algılanan sosyal desteğin teorik boyutları bu ilişkide bir aracılık rolü üstlenmemiştir, fakat toplam algılanan sosyal destek bu ilişkide kısmı aracılık rolü üstlenmiştir (Tablo 4.17).

4. TARTIŞMA

4.1 Araştırma Bulgularının Tartışılması

Bu çalışmanın amacı üniversite öğrencilerinde duygu düzenleme güçlüklerine bağlı ortaya çıkan sağlıkla ilgili risk alma davranışlarında algılanan sosyal destek ve algılanan sosyal desteğin teorik boyutlarının bu ilişkiye aracılık etmedeki rolünü incelemektir. Çalışmanın kuramsal çerçevesi ve test edilen modeller Problem Davranış Kuramı esas alınarak oluşturulmuştur.

4.1.1 Modele İlişkin Tartışma

Bu çalışmanın amacı algılanan sosyal destek ve alt boyutlarının duygu düzenlemede zorluklar ile sağlıkla ilgili risk alma davranışı arasındaki ilişkide oynadığı aracı rolü incelemektir. Araştırma soruları ve yapısal eşitlik modellemeleri, Jessor (1977) tarafından geliştirilen Problem Davranış Kuramının sayıltıları göz önüne alınarak gerçekleştirilmiştir. Çalışma sonucunda elde edilen bulgular da bu kuramın sayıltılarıyla paralellik göstermektedir.

Problem Davranış Kuramına göre, belirli "kişisel kontrol (örneğin, öz-kontrol veya duygu düzenleme)" ve "çevresel (örneğin, algılanan sosyal destek)" faktörler riskli davranışların ortaya çıkmasında pay sahibidir (Jessor vd., 1992). Problem Davranış Kuramının bu önermesi test edilen modeller aracılığıyla doğrulanmıştır, çünkü duygu düzenlemede güçlükler, algılanan sosyal destek ve sağlıkla ilgili risk alma davranışları arasında anlamlı ilişkiler bulunmuştur. Literatürde de bu çalışmada ulaşılan bulgulara benzer bulgular bulunmaktadır, fakat bu çalışmanın görece özgül yanı, algılanan sosyal desteğin teorik boyutlarının aracılık etkisini ayrı ayrı incelemeyi hedeflemesidir.

4.1.2 Cinsiyet Değişmezliğine İlişkin Tartışma

Bu çalışma bağlamında incelenen risk alma davranışlarındaki cinsiyet farklılıkları birçok araştırmaya konu olmuştur. Bulgular, alkol, sigara ve madde kullanımı açısından erkeklerin daha yüksek skorlar elde ettiğini ortaya koymuştur. Cinsiyet farkına ilişkin bu bulgu, literatürdeki birçok uluslararası (Wilsnack vd., 2009; Wilsnack vd., 2000; Mäkelä vd., 2006; Lash vd., 1998; Allen vd., 2016; Van Etten, Neumark ve Anthony, 1999) ve ulusal (Atlam ve Yüncü, 2017; Oğuz, Çamcı, ve Kazan, 2018; Yıldırım, 1997; Körük, 2017) çalışma ile benzerlik göstermektedir. Bu farklılığın sebebine ilişkin pek çok bakış açısı bulunmaktadır. Örneğin, toplumsal cinsiyet açısından bakıldığında, bazı toplumlar risk alma davranışlarını bir "erkeklik" temsili olarak etiketliyor olabilir (Driessen, 1992; Roberts, 2004; Lash vd., 1998). Bir diğer açıklama, risk alma davranışlarına ilişkin

kadınların ve erkeklerin tutumlarının birbirinden farklı olduğunu ve erkeklerin alkol, sigara, uyuşturucu kullanımı gibi davranışları sergilediğinde itibar kazandığını öne sürer (Suitor, Minyard ve Carter, 2011). Buna ek olarak, Türk toplumuna ait normlar, erkeklerin alkol ya da sigara kullanımına daha toleranslı bakmaktadır (Altındağ vd., 2005). Bu çalışmanın bulguları, erkek ve kadınların skorlarının intihar düşünceleri açısından farklılaşmadığını ortaya koymuştur. Literatürde de kimi çalışmalar kadınların daha yüksek düzeyde intihar eğilimine sahip olduğunu rapor ederken (Villanueva, Arteaga ve Fernandez-Montalvo, 2018) kimi çalışmalarda erkeklerin daha yüksek skorlar elde ettiklerini ortaya koymuştur (Ibrahim vd., 2016). Sonuç olarak, literatürdeki intihar eğilimindeki cinsiyet farklılıkları ile ilgili bulgular alkol, sigara ve uyuşturucu kullanımındaki cinsiyet farklılığındaki kadar güçlü değildir.

Ölçme modellerindeki cinsiyet değişmezliğine bakıldığında, her iki model de cinsiyet açısından değişmezdir. Yani, her iki modeldeki değişkenler de erkekler ve kadınlar tarafından aynı şekilde algılanmıştır. Yapısal eşitlik modellemelerindeki cinsiyet değişmezliğine bakıldığında ise Model 1'in cinsiyet açısından değişmez olmadığı sonucuna ulaşılmıştır. Algılanan sosyal desteğin farklı boyutları modele ayrı ayrı eklendiğinde, modeldeki korelasyon katsayıları ve kare korelasyon katsayıları erkekler ve kadınlar açısından farklılık göstermektedir. Bunun altında yatan sebeplerden biri, algılanan sosyal desteğin farklı boyutları için modeldeki madde yüklerinin erkekler ve kadınlar için aynı olmaması olabilir. Model 2'nin iste cinsiyet açısından değişmez olduğu sonucuna ulaşılmıştır.

4.1.3 Hipotezlere İlişkin Tartışma

Bu çalışmadan elde edilen bulgulara göre, duygu düzenleme güçlükleri ile sağlıkla ilgili risk alma davranışları (alkol kullanımı, sigara kullanımı, intihar eğilimi, madde kullanımı) arasında doğrudan, anlamlı ve olumlu yönde ilişkiler vardır (Hipotez 1). Bu bulgu, literatürdeki diğer çalışmalar ile paralellik göstermekdir (Dragan vd., 2015; Fox vd., 2008; Cooper vd., 1995; Kuvaas vd., 2014; Dvorak vd., 2014; Magar vd., 2008; Fucito vd., 2010; Rogers vd., 2018; Keenan, 2013; Weinberg ve Klonsky, 2009; Rajappa vd., 2011;

Neacsiu vd., 2017; Fox vd., 2007; Bonn-Miller vd., 2011). Yani, duygu düzenlemede daha yüksek güçlük yaşayan üniversite öğrencilerinin sağlıkla ilgili risk alma davranışlarına daha yatkın olduğu sonucuna ulaşılabilir.

Algılanan sosyal desteğin farklı boyutlarının duygu düzenlemede güçlükler ve sağlıkla ilgili risk alma davranışları arasında aracı bir rol oynadığı araştırma bulguları tarafından büyük oranda desteklenmektedir (Hipotez 2). Algılanan aile desteği ve algılanan özel bir insan desteği sigara kullanımı ve intihar eğilimi; algılanan arkadaş desteği ise sadece intihar eğilimi için aracılık rolü üstlenmiştir. Literatürde algılanan sosyal desteğin alt boyutlarının aracı rolünün incelendiği çalışmalar sayılı olmakla birlikte (örneğin, Lai ve Ma, 2016) elde edilen bulgular bu çalışmanın bulguları ile tutarlıdır. Algılanan aile desteğinin risk alma davranışları üzerindeki önleyici etkisi çeşitli çalışmalar tarafından doğrulanmıştır. Benzer şekilde, bu çalışmada da tüm alt boyutlar düşünüldüğünde, en güçlü aracılık etkisi algılanan aile desteği yoluyla sağlanmıştır. Bu durum, risk alma davranışlarında korucuyu etkenlerden en önemlilerinden birinin aile desteği olduğunu ortaya koymaktadır.

Algılanan sosyal desteğin tek bir boyut olarak düşünülüp duygu düzenlemede güçlükler ve sağlıkla ilgili risk alma davranışları arasında aracı bir rol oynadığı hipotezi de bu çalışma sonucunda büyük oranda doğrulanmıştır (Hipotez 3). Algılanan sosyal destek tek bir boyut olarak düşündüğünde, duygu düzenlemede zorluklar ile alkol kullanımı, intihar eğilimi ve madde kullanımı arasındaki ilişkide aracılık rolü oynamıştır. Sigara kullanımı için ise aracılık rolü bulgusuna rastlanmamıştır. Literatürdeki çalışmalara bakıldığında, algılanan sosyal desteğin alkol ve sigara kullanımı, uyuşturucu kullanımı ve intihar eğilimiyle negatif ve anlamlı yönde ilişkili olduğu bulguları mevcuttur (Nikmanesh ve Honakzehi, 2016; Laudet, Morgen ve White, 2006; Yang ve., 2018). Bu bağlamda, bu çalışmanın sonuçları ile literatürdeki bulgular paralellik göstermektedir.

4.2 Kurama, Araştırmaya ve Uygulamaya Yönelik Çıkarımlar

Bu araştırma, Problem Davranış Kuramının öncülleri temel alınarak gerçekleştirilmiştir. Çalışmanın sonucunda elde edilen bulgular Problem Davranış Kuramının önermelerine paralellik göstermekte olup bulguların mevcut olan literatüre katkıda bulunması hedeflenmektedir. Çalışmanın kurama kattığı bir diğer özgün katkı, duygu düzenlemedeki güçlükler ve algılanan sosyal desteğin intihar eğilimi üzerinde açıkladığı varyanstır. Sigara, alkol ve madde kullanımına kıyasla, çalışmanın bağımsız değişkenlerinin intihar eğilimi üzerinde açıkladığı varyans Model 1'de %51, Model 2'de %60'tır. Bu bağlamda, duygu düzenlemede güçlüklerin ve sosyal desteğin intihar eğilimini açıklamada oldukça güçlü rol sahibi oldukları sonucunda varılabilir. Problem Davranış Kuramının bir diğer önermesi, "çevresel sistem" bileşeninde yer alan algılanan sosyal desteğin risk alma davranışlarını sergilemede önleyici bir rol üstlendiğidir. Bu araştırmanın bulguları algılanan sosyal desteğin sağlıkla ilgili risk alma davranışlarının tümü için doğrudan etkileri azaltıcı bir rolü olduğunu doğrulamıştır.

Uygulamaya yönelik çıkarımların ilki, çalışmadan elde edilen bulgular yoluyla sağlıkla ilgili risk alma davranışları (alkol kullanımı, sigara kullanımı, intihar olasılığı, madde kullanımı) ile ilgili geliştirilen önleme programlarında bu çalışmada kullanılan bağımsız değişkenlerin önemi vurgulanabilir. Benzer bir şekilde, sağlıkla ilgili risk alma davranışında bulunan ya da bulunma olasılığı olan danışanlarla çalışan psikolojik danışmanlar duygu düzenlemede güçlükler ve algılanan sosyal destek kavramlarına azami derecede önem vererek çalışmalarını yürütebilir. Alanda çalışan psikolojik danışmanlar için bir diğer çıkarım, özellikle ilgili riskli davranışlarda bulunan ya da bulunma olasılığı olan danışanlarla ilgili bilgi toplanırken ve vaka kavramsallaştırması yapılırken algılanan sosyal destek kavramına ayrıca önem atfedilebilir. Son olarak, sahada çalışan psikolojik danışmanlar, sağlıkla ilgili risk alma davranışında bulunan ya da bulunma olasılığı olan danışanları duygu ve duygu düzenleme stratejileri ile ilgili bilgilendirebilir.

Bir diğer husus, Westefeld vd. (2005) üniversite öğrencilerinin kampüs içerisinde sağlanan intihar koruma çalışmalarıyla ilgili bilgi sahibi olmadıklarını, fakat intihar

konsepti ile ilgili bilgi edinmek istediklerini belirtmiştir. Bu çalışmadan elde edilen bulgular, üniversite öğrencilerini intihar kavramı hakkında bilgilendirecek etkinlikler için katkı sağlayabilir. Alanyazındaki çoğu çalışma intihar eğiliminin depresyon ve depresif semptomlarla karakterize olduğunu belirtse de bu çalışmanın katılımcıları klinik olmadığı düşünülen popülasyon içerisinden seçilmiştir. Bu sebeple, önleme çalışmaları sadece klinik belirtiler gösteren ya da kimi standardize edilmiş testlerden alınan puanlara göre depresyon eğilimi gösteren bireylerin yanında tüm üniversite öğrencilerini kapsamalıdır.

4.3 Gelecek Çalışmalar İçin Öneriler

Mevcut çalışmanın duygu düzenlemede güçlükler ve sağlıkla ilgili risk alma davranışları arasındaki ilişkide algılanan sosyal destek ve teorik boyutlarının aracı rolünün ayrı ayrı incelemesi açısından özgün bir nitelikte olduğu düşünülmektedir. Fakat, araştırma deseni olarak korelasyonel yöntem kullanılmıştır. Bu sebeple, bulgularda ortaya çıkan ilişkilerden hiçbiri nedensellik ifade etmez. İleriki çalışmalarda risk alma davranışında nedensel sonuçlar ortaya koyabilmek adına deneysel yöntemler kullanılması tercih edilebilir.

Problem Davranış Kuramı, risk alma davranışlarını açıklamak için çok sayıda kişisel, çevresel ve davranışsal değişkenden yararlanmıştır. Bu çalışmanın kapsamına alınan değişkenler öz-kontrolün alt boyutlarından sayılabilecek duygu düzenleme güçlükleri ve algılanan sosyal destektir. Bu nedenle, risk alma davranışını açıklamaya çalışan ileriki çalışmalarda Problem Davranış Kuramı alt sistemleri içerisinde yer alan diğer kişisel ve çevresel faktörler çalışmalara dahil edilebilir. Özellikle, bağımsız değişkenlerin alkol, sigara ve madde kullanımında açıkladığı varyansların görece düşüklüğü (%2 ile %7 arasında) göz önüne alındığında, bu davranışların ortaya çıkmasına katkıda bulunan duygu düzenleme ya da algılanan sosyal destek dışında diğer değişkenlerin araştırılması gelecek çalışmalar için uygun olabilir.

Bu çalışmada, Duygu Düzenlemede Güçlükler Ölçeğinden elde edilen skorlar ikinci derece gizil değişken olarak atanmıştır. Bunun altında yatan iki sebep vardır. İlki, modelin

ki-kare değerleri zaten yüksek olduğu için, modeli daha fazla karıştırmak yerine daha basit ve kırpılmış bir model elde etmektir. İkinci sebep ise çoklu doğrusal bağlantı problemlerinden kaynaklanmaktadır. Ölçeğin alt boyutları arasındaki yüksek korelasyon, her bir boyutun etkisini ayrı ayrı incelemeyi zorlaştırmıştır. Bu sebeple, gelecek çalışmalar-özellikle intihar olasılığı için-çoklu doğrusallık probleminin aşılmasının ardından duygu düzenlemede güçlüklerin alt boyutlarının bu davranışları nasıl yordadığına yönelebilir.

İntihar olasılığı hariç, çalışmanın tüm bağımlı değişkenleri (alkol, sigara ve madde kullanımı) tamamen birer eylem olarak görülmüş, bu davranışların altında yatan bilişlere ve motivasyonlara yönelik herhangi bir durum göz önüne alınmamıştır. Gelecek çalışmalar, bu davranışları eylem olarak görmenin yanında, davranışların altında yatan motivasyonları ve bilişleri incelemeye yönelik araştırmalar ortaya koyabilir.

Bu çalışmada sadece öz-bildirim formları yoluyla veri toplanmıştır. Fakat, başta madde kullanımı olmak üzere sağlıkla ilgili risk alma davranışlarının birçoğu sosyal istenirlik kavramının etkisi altında cevaplanmaya açıktır. Bu nedenle, gelecek çalışmalar sosyal istenirlik kavramının olumsuz/yanıltıcı etkilerini aşmak için değişik metotlarla çalışmalar yürütebilir.

Son olarak, bu araştırmanın örneklemini kolay örnekleme yoluyla seçilen 647 üniversite öğrencisi oluşturmaktadır. Kullanılan örnekleme yönteminin seçkisiz olmasından dolayı sonuçların genellenebilme ihtimali çok düşüktür. Bu nedenle, bundan sonraki çalışmalarda seçkisiz örnekleme yöntemlerinden birinin kullanılması önerilmektedir. Bu çalışmanın örneklem grubu eğitim gören üniversite öğrencileridir. İleriki çalışmalarda aynı modellemeler ve hipotezler daha farklı örneklem gruplarında test edilerek ulaşılan sonuçların genellenebilirliği arttırılabilir.

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TEZİN TÜRÜ : **Yüksek Lisans** / Master ■ **Doktora** / PhD ☐

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