RISK TAKING BEHAVIORS AMONG TURKISH UNIVERSITY STUDENTS: PERCEIVED RISK, PERCEIVED BENEFIT, AND IMPULSIVITY

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ABSTRACT

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The aims of the current study are to examine the relation of risk taking behaviors (RTBs) with perceived risk, perceived benefit, and impulsivity and also to investigate the moderator role of impulsivity on the relationships between engagement in RTBs and the predictors of the engagement in RTBs (i.e. perceived risk and benefit) after controlling the effects of age, gender, and self esteem. In order to measure engagement in RTBs, perceived risk, and perceived benefit, Modified Risk Involvement and Perception Scale (Özmen, 2006) was adapted to Turkish culture in Study 1 by using Middle East Technical University (METU) students. The sample of Study 2 was composed of 234 METU students and a questionnaire set including demographic information sheet, Modified Risk Involvement and Perception Scale (M-RIPS) (Özmen, 2006), Barratt Impulsiveness Scale version 11 (BIS-11) (Güleç et al., 2008), and Rosenberg Self Esteem Scale

(RSES) (Rosenberg, 1965) was administered. Multiple hierarchical regression analysis was conducted with perceived risk, perceived benefit, and impulsivity as independent variables and engagement in RTBs as the dependent variable. The findings suggested that perceived risk was negatively whereas perceived benefit and impulsivity was positively related to risk taking behaviors. Moreover, as compared to perceived risk, perceived benefit was a more powerful predictor of RTB. However, it was not found any moderator role of impulsivity on the relationships between engagement in RTBs and its predictors. The strengths and limitations, as well as implications of the findings were discussed.

Keywords: Risk taking behavior, perceived risk, perceived benefit, impulsivity

ÖZ

TÜRK ÜNİVERSİTE ÖĞRENCİLERİNDE
RİSKLİ DAVRANIŞLAR:
RİSK ALGISI, FAYDA ALGISI VE DÜRTÜSELLİK

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Bu çalışma, üniversite öğrencilerindeki riskli davranışların, algılanan risk, algılanan fayda ve dürtüsellik ile ilişkisini ve aynı zamanda dürtüselliğin riskli davranışlar ile onun yordayıcıları (algılanan risk ve fayda) arasındaki düzenleyici etkisini yaş, cinsiyet ve benlik saygısı gibi değişkenlerin etkisi kontrol altına alındıktan sonra araştırmayı amaçlamıştır. Riskli davranışları, algılanan riskin ve algılanan faydanın ölçülebilmesi için Modified Risk Involvement and Perception Scale (Özmen, 2006) (Risk Alma ve Risk Algısı Ölçeği Düzenlenmiş) Çalışma 1'de Orta Doğu Teknik Üniversitesi (ODTÜ) öğrencileri kullanılarak Türk kültürüne uyarlanmıştır. Çalışma 2'nin örneklemini 234 ODTÜ öğrencisi oluşturmaktadır ve bu çalışmada Risk Alma ve Risk Algısı Ölçeği Düzenlenmiş (Özmen, 2006), Barratt Dürtüsellik Ölçeği Versiyon 11 (Güleç, et. al., 2008), and Rosenberg Benlik Saygısı Ölçeği

(Rosenberg, 1965) uygulanmıştır. Algılanan risk, algılanan fayda ve dürtüsellik bağımsız değişkenler olarak, riskli davranışlar ise bağımlı değişken olarak alınıp çoklu hiyerarşik regresyon analizi yapılmıştır. Bulgular doğrultusunda, algılanan riskin negatif bir şekilde riskli davranışlarla ilişkili olduğu bulunmuşken, algılanan faydanın ve dürtüselliğin pozitif bir şekilde riskli davranışlarla ilişkili olduğu bulunmuştur. Bunun yanında, algılanan faydanın riskli davranışları yordamada algılanan riske göre daha etkili olduğu bulunmuştur. Fakat dürtüselliğin düzenleyici etkisi bulunamamıştır. Çalışmanın güçlü ve zayıf yanlarının yanı sıra, çıkarımlar da tartışılmıştır.

Anahtar kelimeler: Riskli davranışlar, algılanan risk, algılanan fayda, dürtüsellik

To My Family

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TABLE OF CONTENTS

LIST OF TABLES

TABLES

CHAPTER I

INTRODUCTION

According to the 2006 Fact Sheet on Mortality, in 2003, 71 % of all deaths between the ages 10 and 24 were due to preventable reasons, such as motor vehicle accidents, unintentional injuries, homicide, and suicide (National Adolescent Health Information Center, 2006). More specifically, 27 % of deaths of young adults (20-24 years old) and 25 % of deaths of adolescents (15-19 years old) in 2003 were due to motor vehicle accidents (National Adolescent Health Information Center, 2006). Moreover, 17 % of female young adults and 25.7 % of male young adults were mentioned as alcohol or illicit drug abusers in 2006. Furthermore, the pregnancy rate (per 1000) for women between ages 15-19 was 75.4 in 2002 (National Adolescent Health Information Center, 2007). All life-altering or life-threatening consequences mentioned above result from risk taking behaviors (RTBs), and the prevalence rates of these behaviors are very high for young adults. Therefore, the question is why young people choose these behaviors despite of these negative outcomes. The aim of the present study is to examine possible predictors of risk taking behavior involvement in university students.

1.1. *Risk Taking Behaviors*

Risk taking behaviors (RTBs) are defined as "behaviors that involve potential negative consequences (loss) but are balanced some way by perceived positive consequences (gain)" (Moore & Gullone, 1996, p. 347). In the literature, these behaviors are labeled differently, such as health-endangering behaviors, problem behaviors, and reckless behaviors. These risk taking behaviors as mentioned in different studies include alcohol and substance (ecstasy, cocaine, and inhalant) use, unsafe driving, speeding, smoking (cigarette and marihuana), and unprotected sex (e.g. Essau, 2004; Parson, Seigel, & Cousins, 1997; Seigel et al., 1994), binge drinking and low seatbelt use (Ryb, Dischinger, Kufera, & Read, 2006), unprotected sunbathing, hitchhiking, drinking and driving, shoplifting, riding with a drunk driver, and walking alone at night (Seigel et al., 1994), high number of sexual partner (Boden & Horwood, 2006; Vollrath & Torgersen, 2008), frequently changing sexual partner (Vollrath & Torgersen, 2008), and high risk sports (rock or mountain climbing and snow or water sking), aggressive and illegal behaviors (grabbing, pushing, or shoving someone, disturbing the peace, damaging/destroying public property, hitting someone with weapon or object, and slapping someone, getting into a fight), and academic/work behaviors (missing class or work, not studying for exam or quiz, leaving tasks or assignments for the last minute, and failing to do assignment) (Fromme, Katz, & Rivet, 1997).

1.2. *Prevalence Rate*

The prevalence rates of risk taking behaviors leading to negative consequences like disease, injury, and death vary from one behavior to another; or from country to country. For example, in the USA 45 % of high school students have drunk alcohol, 40 % of them have used marijuana at least once during their lifetime, and 58 % have smoked at least one cigarette during their lifetime. Moreover, 37 % of sexually active students experienced their last sexual intercourse without a condom. Furthermore, 30 % of high school students have ridden with a drunk driver and 17 % of them carried a weapon (Grunbaum et al., 2004). In addition to these statistics, according to the results of the Monitoring the Future Study, 47 % of 12th grade students, 36 % of 10th grade students, and 19 % of 8th grade students used any illicit drug in 2007 (Johnston, O'Malley, Bachman, & Schulenberg, 2008).

In Turkey, similar RTBs have different prevalence rates. According to research conducted with 26.000 high school students by the Turkish Parliamentary Research Commission, 30 % of the high school students have drunk alcohol at least once in their lifetime, 37 % have tried cigarettes at least once, and finally, 4 % have used any substances/stimulators at least once (2007). In another study conducted by Ögel et al. (2004), it was stated that lifetime prevalence of alcohol use was 45 %, inhalant use was 5 %, marijuana use was 4 %, and heroin and ecstasy use was 2.5 % in high school students. Moreover, Bertan et al. (2004) stated that the percentage of university students who use seatbelts seldom and those do not use seatbelts have reported to be 13.5 % and 13.8 %, respectively as drivers; and similarly, the

percentage of these seatbelts use are 16 % and 16.4 %, respectively as passengers. Furthermore, 56.8 % of them have sometimes sped and 1.5 % have driven intoxicated. In addition to these statistics, there are also some studies examining the sexual behaviors of young people. It is revealed that 42.6 % of male and 27.8 % of female university students have experienced unprotected sex. Moreover, 50.4 % of male and 12.1 % female students have had sexual intercourse with an unknown person (Tezcan, Özcebe, Subaşı, Üner, & Telatar, 2006). Although these rates are lower than Western statistics, they could not be ignored and are very critical when negative consequences of RTBs are taken into consideration.

1.3. *Predictors of RTBs*

Since consequences of RTBs are life-threatening and prevalence rates of RTBs are high, the investigation of RTBs in terms of their predictors or contributing factors is critical in order to prevent the engagement in RTBs and to protect people from negative consequences of RTBs. There are several studies that examined the cognitive, emotional, psychobiological, and social factors in relation to RTBs (Boyer, 2006). Cognitive factors are related to decision making skills consisting of risk and benefit perception, estimation and vulnerability to negative and desirable outcomes (Boyer, 2006; Parson, Siegal, & Cousins, 1997). Among these cognitive factors, in the current study, only perceived risk and perceived benefit will be examined. Emotional factors include emotional regulation, promoting positive or avoiding negative affective states and mood (Boyer, 2006; Caffray & Scneinder, 2000; Keren & Haside, 2007). Psychobiological factors, on the other hand, are

related to biological traits of risk taking, such as brain region and neurotransmitters (Boyer, 2006; Zukerman & Kuhlman, 2000). Finally, social factors consist of the relationship with parents and peers (Boyer, 2006; Keren & Haside, 2007). In addition to these four factors, personality factors are also examined in relation to RTBs; and impulsivity, sensation seeking, locus of control, and self esteem were found to be closely related to RTBs (Rolison & Scherman, 2002; Wyatt, 2001; Zukerman & Kuhlman, 2000). Nevertheless, both impulsivity and self esteem as personality factors will be focused on in the present study.

1.3.1. *Perceived Risk and Perceived Benefit*

Before people involve in certain behaviors like risk taking behaviors, they consider whether the outcomes of this behavior will be positive or negative. In other words, people make cost and benefit analysis of their action by taking into consideration the potential pleasure and danger resulting from certain kind of behaviors like RTBs (Parson, Siegal, & Cousins, 1997; Fromme, Katz, & Rivet, 1997). Therefore, it has been thought that people's risk and benefit perception in RTBs is associated with engagement in RTBs. In the studies it was shown that perceived risk and perceived benefit, as cognitive factors, are predictors of RTBs. However, in the literature there are mixed findings related to this issue.

First of all, in Teese and Bradley (2008), it was stated that to understand the emerging adults' reckless behavior, risk taking behaviors, it should be focused on the decision-making perspective. Thus, perceived risk and benefit as a cognitive domain were examined. It was found that there is a significant positive correlation

between RTB involvement and perceived benefit; conversely, a significant negative correlation between RTB involvement and perceived risk. In other words, when people perceive more benefit, or when people perceive less risk, they engage in RTBs more frequently. In addition these results, it was stated that perceived risk is a significant predictor of only driving behavior, whereas perceived benefit is a predictor of substance use, sexual and driving behaviors. Moreover, Omari and Ingersall (2005) tested the psychological model of risk taking behaviors among Japanese college students. It was found direct contribution of risk perception to health-endanger behaviors, risk taking behaviors, and also mediator role of risk perception on the relationship self esteem and health-endanger behaviors. The involvement in RTBs becomes more frequent, when the perception of risk becomes less. Furthermore, Essau (2004) examined risk taking behaviors in terms of thrill seeking risk, reckless behaviors, rebellious behaviors, and antisocial behavior, and he found a negative correlation between risk perception and involvement in these risk taking behaviors. Hence, German adolescents who perceived more risk, engaged in less risk taking behavior. In addition, in Ryb, Dischinger, Kufera, and Read (2006) article it was mentioned that subjects who are rated low in terms of risk perception exhibit more RTBs involvement. Low risk perception is significantly correlated with specifically speeding for the thrill, low seatbelt use, drinking and driving, riding with a drunk driver, and binge drinking. Moreover, Rolison and Scherman (2002) examined the relationship between risk taking involvement of older adolescents and some variables, such as perceived risk, perceived benefit, locus of control, and sensation seeking. It was found that perceived risk and perceived benefit are significant predictors of engagement in

RTBs. Furthermore, Goldberg, Halpern-Felsher, and Millstein (2002) conducted a study with adolescents in order to test not only the contribution of perceived risk but also the contribution of perceived benefit to risk taking behaviors. It was found that perceptions of benefit and risk significantly predict engagement in RTBs, specifically drinking and smoking behaviors. Additionally, Widdice, Cornell, Lian, and Halpern-Felsher (2006) examined the possible risk and benefit related to sexual behavior. It was stated that 99% of participants mention some health related risks of having sex such as pregnancy or having a child, and getting a sexually transmitted disease (STD) while 76% of participants state some possible benefits of having sex like improved relationship or fun and pleasure. In addition to these studies, adolescents' risk and benefit perception specifically related to smoking was examined in the study conducted by Halpern-Flesher, Biehl, Kropp, and Rubinstein (2004). It was stated that adolescent who smoke or intent to smoke report less risk and more benefit related to smoking. Finally, Nickoletti and Taussig (2006) investigated the negative and positive outcome expectancies of maltreated adolescent from risky behaviors. It was found that positive outcome expectancies, perceived benefit, are related to more engagement in sexual behaviors, delinquent behaviors such as shoplifting and physical aggression, and substance use. However, it was not found any relationship between negative outcome expectations, perceived risk, and these risky behaviors with one exception; that is, less involvement in shoplifting is related to negative outcome expectation. Thus, the main conclusion that can be drawn from the related literature is that risk and benefit perception play an important role in decision making processes related to RTBs involvements.

Risk taking behaviors have been predicted by perceived risk and benefit. However, the degree of the predictive power of these perceptions could vary based on the type of behaviors. For example, Goldberg, Felsher, and Millstein (2002) found that perceived benefit is a more powerful predictor of smoking than perceived risk. Moreover, it was mentioned that the relation between RTB involvement and perceived benefit is stronger than RTB involvement and perceived risk. In other words, involvement in RTBs is more strongly predicted by perceived benefit than perceived risk (Parson, Siegal, & Cousins, 1997; Seigel et al., 1994). On the other hand, Rolison and Scherman (2002), as mentioned before, conducted a study with older adolescents and they found that perceived risk is a more significant predictor of RTBs than perceived benefit. However, Nickoletti and Taussig (2006) stated that the degree of prediction level of perceived benefit, which is positive expectation, could differ based on whether perceived risk, which is negative expectation, is high or low. Hence, perceived benefit is more powerful in terms of predicting the risky sexual behaviors and shoplifting when perceived risk is less; but, it does not predict when perceived risk is high. Contrarily, perceived benefit is more powerful in terms of predicting physical aggression when perceived risk is high than when perceived risk is low. Thus, although both perceived benefit and risk play significant role in predicting of the engagement in RTBs, perceived benefit appears to have a more significant role when risk is perceived less.

1.3.2. *Impulsivity*

In addition to these cognitive factors, impulsivity, "the tendency to make decisions hastily rather than reflectively" (Eysenck & Eysenck, 1977; cited in Boyer, 2006, p. 308), has contributed to engagement in several RTBs as a personality factor. Impulsive people prefer immediate outcomes even if these are smaller because they are too impatient for waiting other alternatives that are delayed but larger. Impulsive people do not make appropriate decisions under the effects of impulsivity because they do not properly analyze the outcomes of their behaviors. Therefore, it is thought that people, who are high on impulsivity, engage in more risk taking behaviors (d'Acremont & van der Linden, 2005; cited in Umeh, 2009). As indicated by many researchers, individuals with high impulsivity scores engage in more RTBs than individuals with low impulsivity scores (Ryb, Dischinger, Kufera, & Read, 2006; Stanford, Greve, Boudreoux, & Mathias, 1996). Moreover, in the study conducted by Wulfert and colleagues (2002) it was found that high school students who choose smaller but immediate benefit; in other words, impulsive high school students engage in high level of risk taking behavior, such as smoking cigarette and substance and alcohol use. Furthermore, Vollrath and Torgersen (2008) examined the personality types and risk taking behaviors in Norwegian college students. It was stated that impulsivity is related to higher number of new sexual partners, binge drinking, and smoking. Similarly, two studies were conducted with cocaine users (Moller, et al. 2001; Moller, et al. 2002). It was found significant positive relationship between impulsivity and cocaine use. It means that when impulsivity level increases, cocaine use does also increase.

Similarly, Teese and Bradley (2008) found that impulsivity is a predictor of substance use and unprotected sexual behavior. Moreover, a study conducted by Hayaki, Anderson, and Stein (2006) examined specifically the relationship between impulsivity and risky sexual behaviors. It was stated that impulsivity is associated with risky sexual behaviors such as having multiple sex partners and intercourse without a condom. Thus, impulsivity appears to be related to engagement in RTBs.

In addition to the relationship between impulsivity and risk taking behavior involvement, it is thought that impulsivity, as a personality factor, is associated with risk and benefit perception because impulsivity is a reflection of the "tendency to seek out or at least not avoid novelty" (Breakwell, 2007, p: 53); and this tendency could influence the decision making mechanism related to risk taking. Specifically, impulsivity is identified by some domains which are *sense of urgency*, *lack of prior thought*, *need for immediate gratification*, and *seeking sensation*. It is thought that lack of prior thought domain, which refers to "behaving without thinking the available options and their consequences", and need for immediate gratification domain, which refers to "a preference for small but immediate incentives over larger but long-term gains" (Umeh, 2009), influence the decision mechanisms of people and so, they choose immediate and short term outcomes. Moreover, according to Fromme, Katz, and Rivet (1997) there is a positive correlation between expected benefit from risk taking behaviors and impulsivity; conversely, a negative correlation between expected risk and impulsivity. When impulsivity is increased, perceived benefit does also increase; however, perceived risk is decreased. On the other hand, it was claimed that there is no connection between impulsivity and risk perception. Zuckerman et al. (1990) argued that sensation seeking, which is one

domain of impulsivity, was not related to risk perception. Thus, by taking these mixed arguments into consideration, it has been important to assess whether impulsivity as a personality factor has a role on the relationship between risk taking involvement and perception of risk and benefit.

1.3.3. *Self Esteem*

Another personality factor related to risk taking behaviors is self esteem. In literature, there are various definitions of self esteem. Guindon (2002) integrated these definitions to be consistent in the literature. Thus, self esteem is defined as "the attitudinal, evaluative component of the self; the affective judgments placed on the self-concept consisting of feelings of worth and acceptance, which are developed and maintained as a consequences of awareness of competence, sense of achievement, and feedback from external world" (p.207). The literature focused on the relationship between self esteem and risk taking behavior involvement. The findings of these studies are contradictory. Some of them stated no relationship; on the other hand, others mentioned significant relationship between them. For example, it was pointed out that self esteem is not associated with using alcohol (Stefenhage & Stefenhage, 1985), using drug (Mc Gree & Williams, 2000; cited in Büyükgöze Kavas, 2009), and smoking cigarette (Büyükgöze Kavas, 2009).

However, various studies mentioned significant relationship between self esteem and RTB involvement. First of all, Jessor, Donavan, and Costa (1991) examined the relationship between personality variables including self esteem and problem behaviors covering risk taking behaviors. They indicated that low self

esteem is related to problem behaviors in young adulthood namely, alcohol and drug use and cigarette smoking. Moreover, Gerrard, Gibbons, Reis-Bergan, and Russel (2000) conducted a longitudinal study about self esteem, self serving cognitions, and health risk taking behavior. The results of their study indicated that adolescents with low self esteem drink alcohol more frequently and excessively than adolescents with high self esteem. Similar findings were found by Büyükgöze Kavas (2009). Consumption levels of alcohol and drug use of Turkish late adolescents (between17- 24 ages) with low self esteem are higher than the ones with high self esteem. Another study conducted by Boden and Horwood (2006) indicated that low self esteem at age 15 is related to unprotected sex during 17-25 ages, and higher number of sexual partner during 15-21 ages. Thus, in the light of the literature suggesting a close relationship between self-esteem and engagement in RTBs, in the current study, self-esteem will be statistically controlled to prevent its possible confounding effect.

1.3.4. *Demographic Variables*

In literature, age and gender, as demographic variables, are thought to be related to risk taking behavior involvement. First of all, the involvement level in risky behavior and risk perception varies based on age. Essau (2004) found age difference in risk taking behavior involvement. Older adolescents (15-17 ages) were more likely than younger adolescents (12-14 ages) to report risk taking behavior. Similarly, the results of study conducted by Özmen with Turkish adolescents indicated a positive correlation between age and risk taking behavior involvement.

In other words, involvement level of older adolescents in RTBs was higher. Moreover, Wild, Flisher, Bhana, and Lombard (2004) found that both boys and girls in the Grade 11 are more likely than the ones in the Grade 8 to engage in risk taking behaviors such as alcohol and drug use, risky sexual behavior, and suicidality. In addition to involvement in RTBs, Goldberg, Halpern-Felsher, and Millstein (2002) mentioned the differences of risk and benefit perception across age groups. It was found that students in fifth grade perceive less benefit than the ones in seventh grade, and similarly, students in seventh grade perceive less benefit than the ones in ninth grade. On the contrary, it was found a negative relationship between ages and perceived risk. As the age increases, perceived risk does decrease. Thus, in the light of literature, it is proposed that age is related to engagement in RTBs and perception of risk.

In addition to age difference, there is also a gender difference in risk taking behavior involvement, risk perception, and impulsivity levels. Firstly, Essau (2004) found that males are more likely to involve in risk taking behaviors. Moreover, according to Özmen, Turkish male adolescents behaved more risky. Another study conducted with college students by Zuckerman and Kuhlman (2000) pointed out that males participate in more risk taking behaviors such as drug use, risky driving, and gambling. Furthermore, substance use, sexual practices, and reckless driving are engaged in more by males (Teese & Bradley, 2008). In addition, the results of the study conducted by Vollrath and Torgersen (2010) with college students indicated that males are drinking and having new partners more frequently than females. However, there is no difference between females and males in terms of

smoking, drug use, and risky sexual behaviors. Thus, it appears that males engage in RTBs more frequently than females.

Secondly, the literature suggested a gender difference in risk perception. In general, women could see the environment more risky than men. For example, females perceive RTBs as more risky, reckless, rebellious, and antisocial behaviors than males (Essau, 2004). Moreover, Ma, Fang, Tan, and Feely (2003) stated that females perceive more risk than males related to tobacco use. Furthermore, Lund and Rundmo (2007) carried out a study about traffic safety, risk perception, attitudes, and behaviors. It was found gender differences in risk perception for Norwegians. Norwegian females perceived more risk than Norwegian males. Additionally, Teese and Bradley pointed out that male young adults perceive risk taking behaviors as more beneficial and less risky than females (2008). Finally, Widdice, Cornell, Lian, and Halpern-Felsher (2006) mentioned that there are gender differences in terms of reported negative and positive consequences related to having sex. Girls were more likely to report negative effects on relationship as a risk of having sex, and also they perceived relationship improvement as a benefit of having sex than boys. On the other hand, boys were more likely to report getting caught and parental disapproval as risks of having sex, and also fun, pleasure, and positive feelings as benefits of having sex than girls. Therefore, risk and benefit perception differ in terms of gender and also, male see RTBs more beneficial and less risky than females.

Finally, it was claimed that there is a gender difference in the impulsivity level. In Zuckerman and Kuhlman (2000) study, sensation seeking and impulsivity was combined and males got higher scores than females on this scale. On the other

hand, in study of Teese and Bradley (2008) it was not found any significant differences between impulsivity levels of males and females. The literature suggested contradictory findings in terms of gender difference in the impulsivity level.

As a result, the literature indicated that demographic variables, specifically age and gender, are related to RTB involvement, perceived risk, perceived benefit, and impulsivity; and therefore, these demographic variables will be controlled in order to prevent their confounding effects.

1.4. *Aim of the Study*

In general, the aim of present study is to find out the predictors of risk taking behaviors. The potential predictors are chosen as perceived risk and benefit as cognitive factors, and impulsivity and self esteem as personality factors; and the study aims to determine the relation of RTBs with perceived risk, perceived benefit, impulsivity, and self esteem.

Specifically, it is expected that while there will be a negative relation between perceived risk and engagement in RTBs, and there will be a positive relation between perceived benefit and engagement in RTBs. Moreover, it is expected that perceived benefit will be more powerful than perceived risk in predicting RTBs. In addition to these cognitive factors, it is expected that participants high on impulsivity, as a personality factor, will engage in more RTBs than participants low on impulsivity. And, it is also expected that impulsivity will moderate a) perceived benefit-RTB relation, and b) perceived risk-RTB relation.

Since age and gender, as demographic variables, and self esteem, as a personality factor, were found to be correlated with risk taking behaviors (e.g. Essau, 2004, Özmen, 2006), these variables will be controlled to prevent their possible confounding effects.

In order to test the hypotheses of the present study, before conducting the main study, a preliminary study will be conducted to examine psychometric properties of "involvement" subscale of Modified Risk Involvement and Perception Scale (M- RIPS) (Özmen, 2006) for university students and to adapt other subscales namely, "perceived risk" and "perceived benefit" subscales of Risk Involvement and Perception Scale (RIPS) (Parsons, Siegal, & Cousin 1997) to Turkish university students.

CHAPTER II

STUDY I

The aims of the Study 1 are to examine psychometric properties of "involvement" subscale of the Modified Risk Involvement and Perception Scale (M- RIPS) (Özmen, 2006) for university students and to adapt other subscales namely, "perceived risk" and "perceived benefit" subscales of the Risk Involvement and Perception Scale (RIPS) (Parsons, Siegal, & Cousin, 1997). This scale will be used to measure the frequency of engagement in RTBs, perceived risk and benefit. The original scale was developed by Siegel et al. (1994), and revised by Parsons, Siegal, and Cousin (1997). The aim of the scale was to examine the frequency of engagement in RTBs, perceived risk and benefit (Siegel et al., 1994). In addition to these, the revised edition was introduced to examine behavior intentions (Parsons, Siegal, & Cousin, 1997). However, the "involvement" subscale was modified by combining 17 items of original RIPS with 15 items from other version of RIPS by Özmen in order to adapt it to Turkish culture (2006).

2.1. *Method*

2.1.1 *Participants*

The participants of Study 1 included 256 university students from Middle East Technical University (METU), Ankara. While the majority of the sample were female students (*n* = 188, 73.4 %), the rest were male students (*n*= 68, 26.6 %). The age of the participants ranged between 18 and 30 with the mean of 21.4 (*SD* = 1.7). While most of the participants stated themselves as undergraduates, 2.3 % of participants did not state their education level, and 1.2 % of participants stated themselves as fifth year students. Freshman, sophomore, junior, and senior students constituted 18 % (*n* = 46), 30.5% (*n* = 78), 20.7% (*n* = 53), and 27.3% (*n* = 70) of undergraduate participants, respectively. The socioeconomic status of participants were distributed as high (9.4%, *n* = 24), middle (85.9%, *n* = 220), and low (4.7 %, *n* = 12).

Ninety two percent of participants' parents (*n* = 235) were both alive, whereas 0.4 % (*n* = 1) of participants' parents were not alive. However, 6.3 % (*n* = 16) of participants' only mothers were alive and 1.6 % (*n* = 4) of participants' only fathers were alive. Moreover, the marital status of participants' parents was as follows: 15.6 % (*n* = 40) "divorced or married but not living together" and 84.4 % (*n* = 216) "married and living together". Furthermore, the education level of participants' mother was stated as 32.4 % (*n* = 83) primary/secondary school, 31.3 % (*n* = 80) high school, and 36.3 % (*n* = 93) undergraduate/graduate school while the education level of participants' father was stated as 19.1 % (*n* = 49)

primary/secondary school, 28.5 % (*n* = 73) high school and 52.3 % (*n* = 134) undergraduate/graduate school graduates. Finally, the working status of participants' parent was mentioned that 32.8 % (*n* = 84) of participants' mothers and 61.3 % (*n* = 157) of their fathers were employed, 44.9 % (*n* = 115) of mothers and 4.3 % (*n* = 11) of fathers were unemployed, and 22.3 % (*n* = 57) of participants' mothers and 34.4 % (*n* = 88) of their fathers were retired. The demographic characteristics of the participants were presented in Table 1.

Table 1
Demographic Characteristics of the Participants of Study 1

	N	%
Gender		
Female	188	73.4
Male	68	26.6
Class		
Freshman	46	18
Sophomore	78	30.5
Junior	53	20.7
Senior	70	27.3
Fifth year student	3	1.2
Missing	6	2.3
S.E.S.		
High	24	9.4
Middle	220	85.9
Low	12	4.7
Parents' Living Status		
Both alive	235	91.8
Both died	1	.4
Only mother alive	16	6.3
Only father alive	4	1.6
Parents' Marital Status		
Divorced/Married but not living together	40	15.6
Married and living together	216	84.4
Mothers' Education Level		
Primary/Secondary school	83	32.4
High School	80	31.3
Undergraduate/graduated school	93	36.3
Fathers' Education Level		
Primary/Secondary school	49	19.1
High School	73	28.5
Undergraduate/graduated school	134	52.3
Mothers' Working Status		
Employed	84	32.8
Unemployed	115	44.9
Retried	57	22.3
Fathers' Working Status		
Employed	157	61.3
Unemployed	11	4.3
Retired	88	34.4

2.1.2 *Measures*

The questionnaire set consisted of demographic information sheet, Modified Risk Involvement and Perception Scale (M-RIPS) with its all subscales (Özmen, 2006) and Sensation Seeking-Risk Taking Scale (Sümer, 2003).

2.1.2.1. *Demographic Information Sheet*

Demographic information sheet included questions about participants' age, gender, GPA, socioeconomic status, and parents' marital and working status, and education level (See Appendix A).

2.1.2.2. *Modified Risk Involvement and Perception Scale (M-RIPS)*

Risk involvement and perception scale measures the frequency of engagement in RTBs, behavioral intentions, and perceived risk and benefit (See Appendix B). The original scale including 19 items (Siegel et al., 1994), is composed of three subscales, namely "involvement", "perceived risks", and "perceived benefit". In another study, Parsons, Siegal, and Cousin (1997) revised the scale by excluding an item "driving cars" and including another subscale called "intention".

In the Risk Involvement and Perception Scale there are 18 behaviors as items that are ranged from low risk to high risk. Each subscale consists of the same

list of behaviors with appropriate instructions related. Items of RIPS are measured on a 9-point Likert scale ranging from "never" to "daily" for involvement subscale, from "not at all risky" to "extremely risky" for perceived risk subscale, and from "not at all beneficial" to "extremely beneficial" for perceived benefit subscale. Higher scores on RIPS's involvement subscale indicate more frequent engagement in RTBs, and also higher scores on RIPS's perceived risk subscale and perceived benefit subscale indicate higher levels of risk perception and higher levels of benefit perception, respectively. Test-retest reliability coefficients for all subscales are .86 for involvement, .62 for perceived risk, and .63 for perceived benefit ($p < .001$), while Cronbach's alpha coefficients of internal consistency for all subscales are .72 for "involvement", .87 for "perceived risks", and .77 for "perceived benefits" (Parsons, Siegal, & Cousin 1997; Siegel et al., 1994). Although factor structures of all subscales were performed, only "involvement" subscale's factor structure was meaningful. These six factors of "involvement" subscale were labeled as alcohol, illegal drugs, sex, stereotypic male behaviors, socially acceptable behavior, and imprudent behavior (Siegel et al., 1994).

Modified Risk Involvement and Perception Scale (M-RIPS) consisting of the "involvement" subscale was used by Özmen (2006). The "involvement" subscale of Risk Involvement and Perception Scale was modified according to Turkish culture by combining 17 items of original RIPS with 15 items from other version of RIPS. Modified version of "involvement" subscale has acceptable reliability (α =.78) and validity values.

The reliability and validity analysis of "involvement" subscales for university students and the adaptations of "perceived risk" and "perceived benefit" subscales were done by the present researcher.

2.1.2.3. *Sensation Seeking-Risk Taking Scale*

The scale that was gathered together by Sümer (2003), including The Arnett Inventory of Sensation Seeking (AISS) (Arnett, 1994) and 5-item thrill-seeking/risk taking subscale of Multidimensional Self-destructiveness Scale (Persing & Schick, 1999) consists of 24 items with 5 reverse items (See Appendix C). All items are scored on a 4-point scale ranging from *true* to *false*. Internal consistency coefficient for novelty (α = .62), intensity (α = .65), and risk-taking (α = .68) variables are acceptable. Higher scores on this scale indicate lower levels of sensation seeking and risk taking behaviors. Sensation Seeking-Risk Taking Scale (Sümer, 2003) was used with the aim of measuring construct validity by examining the correlation between Modified Risk Involvement and Perception Scale (Özmen, 2006) and the Sensation Seeking-Risk Taking Scale (Sümer, 2003). It is expected that while scores on "involvement" and "perceived benefit" subscales of Modified Risk Involvement and Perception Scale (Özmen, 2006) will increase, scores on Sensation Seeking-Risk Taking Scale (Sümer, 2003) will decrease. It is also expected that while scores of "perceived risk" subscales of the Modified Risk Involvement and Perception Scale (Özmen, 2006) will increase, scores of Sensation Seeking-Risk Taking Scale (Sümer, 2003) will increase.

2.1.3. *Procedure*

To examine the reliability and validity values of "involvement" subscales for university students, "involvement" subscale of RIPS modified by Özmen (2006) was used. Moreover, to adapt the "perceived risk" and "perceived benefit" subscales of the Modified Risk Involvement and Perception Scale (M-RIPS) (Özmen, 2006), the items of "involvement" subscale of this scale was used because each subscale of original RIPS has the same set of items. Therefore, all items of "involvement" subscales of Modified Risk Involvement and Perception Scale (M-RIPS) (Özmen, 2006) were used in present study. Each subscale of original Risk Involvement and Perception Scale had its own instruction which were translated to Turkish and then back translation was conducted by a person who is good at both English and Turkish. All items translated to Turkish in the study of Özmen were combined with instructions translated to Turkish in the present study. Therefore, "perceived risk" and "perceived benefit" subscales were obtained for application. In the current study, Modified Risk Involvement and Perception Scale (M-RIPS) with all its subscales were used.

The questionnaire set consisting of demographic information sheet, Modified Risk Involvement and Perception Scale (M-RIPS) with its all subscales (Özmen, 2006), and Sensation Seeking-Risk Taking Scale were put on a web site to be filled out online. The link of the web site with a consent form was sent to participants' METU e-mail account. The questionnaire set could only be submitted

when the participants filled them completely. It took participants nearly 15 minutes to fill out the questionnaire set completely.

2.1.4. *Data Analysis*

The data was analyzed by using Statistical Package for Social Sciences (SPSS) (Green, Salkind, & Akey, 1997). In order to examine factor structures of Modified Risk Involvement and Perception Scale (M-RIPS) (Özmen, 2006), principal component factor analysis was performed. Reliability of the scale was rated by using Cronbach alpha values. The Pearson product correlations were used to test construct validity.

2.2. *Results*

In order to explore the factor structure of the Modified Risk Involvement and Perception Scale (M-RIPS) (Özmen, 2006), principal factor extraction with varimax rotation was performed. The results of principal factor analysis revealed 10 factors in which some items were cross loaded. Therefore, other principal factor analyses were conducted. Nevertheless, it was not found any theoretically meaningful factor structure in these analyses. As mentioned before, in the study of Siegal et al. (1994) and Parsons, Siegal, and Cousin, (1997) principal factor analyses were conducted for each subscales. However, in both studies the only meaningful factor structure was found "involvement" subscales and this factor structure was used for other subscales.

After these principal factor analyses, item 6 (Shoplifting) and item 11 (Taking prescription drugs as prescribed) were excluded because these items did not load under any factors of "involvement" subscale. Since any theoretically meaningful factor structure was not found, an overall score was created for each subscale by summing the scores of the participants. The mean scores of the subscales were 67 (*SD* = 22.22) for "involvement" subscale, 166 (*SD* = 35.13) for "perceived risk", and 72 (*SD* = 24.63) for "perceived benefit" subscale.

Cronbach's Alpha coefficient was used to examine the reliability of the Modified Risk Involvement and Perception Scale (M-RIPS) (Özmen, 2006). Cronbach's Alpha coefficients were found to be as .83 for "involvement" subscale, .92 for "perceived risk", and .88 for "perceived benefit" subscale. The results of reliability analyses of "involvement", "perceived risk", and "perceived benefit" subscales are presented in Table 2, Table 3, and Table 4, respectively. These scores suggested that the reliability values of Modified Risk Involvement and Perception Scale (M-RIPS) (Özmen, 2006) are acceptable.

Table 2

Reliabilities of Involvement Subscale

Item	Mean	*SD*	α if item deleted	Item-total *r*
Item1	3.0898	2.55522	.818	.487
Item2	4.1914	2.30738	.813	.594
Item3	2.5000	1.71727	.814	.628
Item4	2.0742	1.60586	.824	.329
Item5	1.8984	1.86333	.821	.418
Item7	2.7813	2.54200	.828	.272
Item8	4.1250	3.51802	.828	.367
Item9	2.9414	2.02157	.822	.390
Item10	1.7266	1.18959	.821	.506
Item12	1.2773	1.09421	.826	.307
Item13	1.3164	1.09432	.822	.489
Item14	2.1602	2.09615	.822	.380
Item15	1.1797	.75598	.824	.477
Item16	1.0078	.08821	.830	.015
Item17	3.3242	2.50340	.828	.283
Item18	1.2305	.74991	.827	.265
Item19	1.3125	1.11847	.823	.440
Item20	1.5156	1.31349	.826	.293
Item21	1.6055	1.48080	.830	.131
Item22	1.1445	.63138	.828	.182
Item23	2.7930	1.98032	.826	.300
Item24	4.3086	2.17348	.820	.434
Item25	1.2344	.93292	.825	.339
Item26	1.1758	.69477	.829	.093
Item27	3.2969	2.10083	.823	.372
Item28	1.3398	1.42723	.826	.258
Item29	2.9453	2.40035	.820	.431
Item30	3.6523	2.61823	.823	.386
Item31	2.3438	1.89504	.822	.381
Item32	1.1836	.75244	.826	.324

Note. The internal consistency of the scale measured by Cronbach's alpha is .83

Table 3

Reliabilities of Perceived Risk Subscale

Item	Mean	*SD*	α if item deleted	Item-total *r*
Item1	3.67	2.400	.918	.373
Item2	3.37	2.412	.916	.495
Item3	4.76	2.410	.916	.540
Item4	5.12	2.257	.918	.377
Item5	6.74	2.089	.916	.480
Item7	2.82	1.772	.918	.333
Item8	5.36	2.455	.917	.454
Item9	5.52	2.194	.915	.560
Item10	7.27	1.931	.916	.525
Item12	4.11	2.126	.917	.461
Item13	6.42	2.547	.916	.540
Item14	7.39	2.022	.917	.404
Item15	7.80	1.692	.915	.620
Item16	8.03	1.648	.916	.524
Item17	5.86	2.020	.915	.604
Item18	7.89	1.623	.916	.498
Item19	7.36	2.320	.916	.520
Item20	4.02	2.194	.916	.532
Item21	5.78	2.077	.915	.557
Item22	5.71	2.452	.915	.560
Item23	4.00	1.963	.917	.428
Item24	2.96	1.918	.917	.452
Item25	7.08	1.877	.916	.543
Item26	6.91	2.362	.916	.539
Item27	3.10	1.809	.917	.471
Item28	5.88	2.337	.915	.558
Item29	5.46	2.138	.915	.556
Item30	4.68	2.198	.917	.473
Item31	4.85	2.443	.915	.572
Item32	6.21	2.220	.915	.578

Note. The internal consistency of the scale measured by Cronbach's alpha is .92

Table 4

Reliabilities of Perceived Benefit Subscale

Item	Mean	*SD*	α if item deleted	Item-total *r*
Item1	5.30	2.417	.878	.461
Item2	3.25	2.137	.877	.490
Item3	2.37	1.928	.878	.439
Item4	1.23	.797	.881	.261
Item5	1.86	1.443	.878	.434
Item7	6.35	2.411	.889	.090
Item8	1.80	1.515	.879	.404
Item9	2.47	1.874	.879	.392
Item10	1.19	.786	.879	.494
Item12	4.13	2.196	.883	.265
Item13	1.77	1.588	.876	.535
Item14	2.03	1.971	.879	.410
Item15	1.16	.791	.880	.407
Item16	1.20	.911	.878	.521
Item17	1.47	1.144	.878	.460
Item18	1.23	.881	.879	.441
Item19	1.44	1.291	.877	.518
Item20	2.93	1.988	.879	.403
Item21	1.85	1.406	.880	.345
Item22	1.78	1.513	.875	.600
Item23	4.20	2.495	.876	.520
Item24	3.46	2.112	.875	.540
Item25	1.70	1.498	.875	.566
Item26	1.25	.965	.878	.546
Item27	2.18	1.718	.877	.473
Item28	2.37	1.950	.878	.429
Item29	2.22	1.742	.877	.481
Item30	4.16	2.625	.879	.436
Item31	2.59	1.904	.875	.558
Item32	1.52	1.295	.877	.520

Note. The internal consistency of the scale measured by Cronbach's alpha is .88

The correlational analysis among the subscales of Modified Risk Involvement and Perception Scale (M-RIPS) (Özmen, 2006) and Sensation Seeking-Risk Taking Scale (Sümer, 2003) was carried out to measure the construct validity. Firstly, it was found a negative and significant correlation (r = -.41, p < .01) between "involvement" subscale and Sensation Seeking-Risk Taking Scale (Sümer, 2003). This correlation indicated that participants who were more sensation seekers involved in more risk taking behaviors. In other words "involvement" subscale has convergent validity. Secondly, a positive and significant correlation (r = .42, p < .01) was found between "perceived risk" subscale and Sensation Seeking-Risk Taking Scale (Sümer, 2003). It showed that participants who were less sensation seekers perceived more risk. Thus, "perceived risk" subscale has convergent validity. Finally, it was found a negative and significant correlation (r = -.28, p < .01) between "perceived benefit" subscale and Sensation Seeking-Risk Taking Scale (Sümer, 2003), which means that participants who were more sensation seekers perceived more benefit from risk taking behavior involvements. Thus, "perceived benefit" subscale has convergent validity (See Table 5). Therefore, these findings suggested that Modified Risk Involvement and Perception Scale (M-RIPS) (Özmen, 2006) seems to have construct validity.

In addition, all three subscales were correlated with each other. "Involvement" subscale was negatively correlated with "perceived risk" subscale (r = -.54, p < .01) and positively correlated with "perceived benefit" subscale (r = .59,

$p < .01$). Moreover, "perceived risk" was negatively correlated with "perceived benefit" ($r = -.49$, $p < .01$) (See Table 5). These findings were similar to the results of Siegal et al. study (1994).

Table 5

The Correlations among the Subscales of M-RIPS and Sensation Seeking-Risk Taking Behavior Scale

	Sensation S.-RTB	Involvement	Perceived Risk	Perceived Benefit
Sensation S.-RTB	**.77**			
Involvement	-.41*	**.83**		
Perceived Risk	.42*	-.56*	**.92**	
Perceived Benefit	-.28*	.59*	-.49*	**.77**

Note 1: Bold scores on the diagonal indicate Cronbach's alpha of each subscale,

Note 2: * $p < .01$

CHAPTER III

STUDY 2

3.1. *Method*

3.1.1. *Participants*

The participants of Study 2 consisted of 234 university students from Middle East Technical University (METU), Ankara. While the majority of the sample were female students (*n* = 172, 73.5 %), the rest were male students (*n* = 62, 26.5 %). The age of the participants ranged between 18 and 30 with the mean of 22.5 (*SD* = 2.23). While most of the participants stated themselves as undergraduates (*n* = 205, % 87.7), 10.3% of the participants stated themselves as master (*n* = 24), and 2.1% of participants stated themselves as fifth year students (*n* = 5). Freshman, sophomore, junior, and senior students constituted 9% (*n* = 21), 23.1% (*n* = 54), 24.8% (*n* = 58), and 30.8% (*n* = 72) of the undergraduate participants, respectively. The socio economic status of the participants were distributed as high (5.6%, *n* = 13), middle (86.8%, *n* = 203), and low (7.7 %, *n* = 18).

Ninety four percent of participants' parents (*n* = 221) were both alive, whereas 3.8 % (*n* = 9) of participants' only mothers were alive, and 1.7 % (*n* = 4) of participants' only fathers were alive. Moreover, the marital status of participants' parents was as follows: 12.8 % (*n* = 30) "divorced or married but not living

together" and 87.2% (*n* = 204) "married and living together". Furthermore, the education level of participants' mothers was stated as 45.3% (*n* = 106) primary/secondary school, 23.1% (*n* = 54) high school, and 31.6% (*n* = 74) undergraduate/graduate school; while the education level of participants' father was stated as 28.6% (*n* = 67) primary/secondary school, 26% (*n* = 61) high school, and 45.3% (*n* = 106) undergraduate/graduate school graduates. Finally, the working status of participants' parents was stated that 27.4% (*n* = 64) of participants' mothers and 59% (*n* = 138) of their fathers were employed, 48.7% (*n* = 114) of mothers and 3.8% (*n* = 9) of fathers were unemployed, and 23.9% (*n* = 56) of participants' mothers and 37.2% (*n* = 37.2) of their fathers were retired. The demographic characteristics of the participants were presented in Table 5.

Table 6
Demographic Characteristics of the Participants of Study 2

	N	%
Gender		
Female	172	73.5
Male	62	26.5
Class		
Freshman	21	9
Sophomore	54	23.1
Junior	58	24.8
Senior	72	30.8
Fifth year student	5	2.1
Master Students	24	10.3
S.E.S.		
High	18	7.7
Middle	203	86.8
Low	13	5.6
Parents' Living Status		
Both alive	221	94.4
Only mother alive	9	3.8
Only father alive	4	1.7
Parents' Marital Status		
Divorced/ Married but not living together	30	12.8
Married and living together	204	87.2
Mothers' Education Level		
Primary/Secondary school	106	45.3
High School	54	23.1
Undergraduate/graduated school	74	31.6
Fathers' Education Level		
Primary/Secondary school	67	28.6
High School	61	26.1
Undergraduate/graduated school	106	45.6
Mothers' Working Status		
Employed	64	27.4
Unemployed	114	48.7
Retried	56	23.9
Fathers' Working Status		
Employed	138	59
Unemployed	9	3.8
Retired	87	37.4

3.1.2. *Measures*

The questionnaire set for the Study 2 included a demographic information sheet, Modified Risk Involvement and Perception Scale (M-RIPS) (Özmen, 2006), Barratt Impulsiveness Scale version 11 (BIS-11) (Güleç et al., 2008), and Rosenberg Self-Esteem Scale (RSES) (Çuhadaroğlu, 1986).

3.1.2.1. *Demographic Information Sheet.*

Demographic information sheet included questions about participants' age, gender, GPA, socioeconomic status, and parents' living, marital, and working status, and education level (See Appendix A).

3.1.2.2. *Modified Risk Involvement and Perception Scale (M-RIPS)*

This scale measures the frequency of engagement in RTBs, and perceived risk and benefit (See Appendix B). The original scale (Siegel & Cousins, 1994) includes three subscales namely involvement, perceived risk, and perceived benefit. Items of the scale are measured on a 9-point Likert type scale ranging from *never* to *daily* for involvement subscale, *not at all risky* to *extremely risky* for perceived risk subscale, and *not at all beneficial* to *extremely beneficial* for perceived benefit subscale. The higher scores on RIPS's involvement subscale indicate more frequent engagement in RTBs, and also higher scores on RIPS's perceived risk subscale and perceived benefit subscale indicate higher levels of risk perception and higher levels

of benefit perception, respectively. The involvement subscale was modified according to Turkish culture with acceptable reliability (α =.78) and validity values by Özmen (2006). The other two subscales of the RIPS were adapted to Turkish culture by the present researcher (See Study 1). The Cronbach's alpha coefficients of the sub scales for the present sample were .83 for involvement, .88 for perceived benefit, and .93 for perceived risk subscales.

3.1.2.3. *Barratt Impulsiveness Scale version 11 (BIS-11)*

This scale was originally developed by Patton, Stanford, and Barratt (1995) to measure the level of impulsivity (See Appendix D). The scale consists of 30 items, which are measured on a 4-point Likert type scale ranging from *never* to *always*. The scale includes three subscales that are attentional impulsiveness, motor impulsiveness, and non-planning impulsiveness. The higher scores on BIS-11 indicate higher levels of impulsiveness. It was adapted to Turkish culture with acceptable reliability (.83) and validity values by Güleç et al. (2008). The Cronbach's alpha coefficient of the scale for the present sample was .75.

3.1.2.4. *Rosenberg Self Esteem Scale (RSES)*

The Rosenberg Self Esteem Scale (RSES) (Rosenberg, 1965) has 63 items and 12 subscales. One of the subscales is self esteem scale used to assess the level of self esteem of participants. This subscale is a 10-item Guttman scale which is a 4-point scale ranging from *strongly agree* to *strongly disagree* (See Appendix E).

This scale was adapted to Turkish culture by Çuhadaroğlu (1986). The higher points a participant gets from this scale, the lower the level of self esteem of that participant. The correlation between psychiatric interview and self esteem scale, and also test-retest reliability of the scale are .71 and .75, respectively (Çuhadaroğlu, 1985). In another study conducted by Çelik (2004), Cronbach's alpha coefficient of the scale was found as .87 for university students. The Cronbach's alpha coefficient of the scale for the present sample was .89.

3.1.3. *Procedure*

After receiving the approval of Ethical Board of Middle East Technical University (METU), the questionnaire set including demographic information sheet, Modified Risk Involvement and Perception Scale (M-RIPS) (Özmen, 2006), Barratt Impulsiveness Scale version 11 (BIS-11) (Güleç, et al., 2008), and Rosenberg Self-Esteem Scale (RSES) (Çuhadaroğlu, 1986) was put on a private web site to be filled out online. The link of the web site with a consent form was sent to participants' METU e-mail account. The questionnaire set could only be submitted when the participants filled them completely. It took the participants approximately 15 minutes to fill out the questionnaire set completely.

3.1.4. *Data Analysis*

The data was analyzed by using Statistical Package for Social Sciences (SPSS) (Green, Salkind, & Akey, 1997). In order to test all the hypotheses of the main study, a series of independent samples t-tests, one-way ANOVAs, correlational and multiple hierarchical regression analyses were conducted.

3.2. *Results*

In order to compare the students belonging to different levels of the demographic variables (gender, socio-economic status, parents' living status, parents' marital status, mothers and fathers' working status, and mothers and fathers' education level) in terms of the outcome variables (the engagement of RTBs, perceived risk, perceived benefit, and self esteem), two independent sample t-tests and seven one-way ANOVAs were conducted.

Firstly, an independent samples t-test was carried out to examine the possible differences between the genders in terms of the outcome variables of the present study (i.e. the frequency of engagement in RTBs, perceived risk, perceived benefit, impulsivity, and self esteem). The analysis revealed that male students (m = 81.65, sd = 21.85) engaged in RTBs more frequently than female students (m = 63.77, sd = 20.84) ($t(232) = 5.717$, $p < .001$). Moreover, compared to male students (m = 156.94, sd = 41.67), female students (m = 172.30, sd = 34.98) perceived more risk ($t(232) = -2.814$, $p < .01$). However, the analysis revealed that there was no

significant difference between female and male students in terms of perceived benefit, impulsivity, and self esteem (See Table 6).

Secondly, another independent samples t-test was carried out to examine the possible differences between the parents' marital status in terms of the outcome variables of the present study (i.e. the frequency of engagement in RTBs, perceived risk, perceived benefit, impulsivity, and self esteem). The analysis revealed that students whose parents were divorced or married but not living together (m = 153.33, sd = 34.98) perceived less risk than students whose parents were married and living together (m = 170.4, sd = 37.33) ($t(232) = -2.359$, $p < .05$). However, the analysis revealed that there was no significant difference between marital status of parents of students ("divorced/ married but not living together" and "married and living together") in terms of engagement in RTBs, perceived benefit, impulsivity, and self esteem (See Table 6).

Seven one-way ANOVAs were run to examine the possible differences among the levels of demographic variables (parents' marital status, mothers and fathers' working status, and education level) in terms of outcome variables (engagement in RTBs, perceived risk and benefit, impulsivity, and self esteem) used in the study. It was found several significant differences in the analyses (See Table 6).

Firstly, students differed significantly among mothers' working status in terms of engagement in RTBs (F (2, 233) = 4.731, $p < .01$), perceived benefit ($F(2, 233) = 4.744$, $p < .01$), and perceived risk ($F(2, 233) = 3.27$, $p < .01$). Post-hoc analyses using Tukey HSD test indicated that students whose mothers were employed (m = 73.76) engaged in more RTBs than students whose mothers were

unemployed (*m* = 64). Moreover, students whose mothers were employed (*m* = 74.62) perceived more benefit than students whose mothers were unemployed (*m* = 63.78). However, although it was found a significant difference between perceived risk and mothers' working status, multiple comparisons analysis conducted to examine which levels of mothers' working status are different from each other in terms of perceived risk did not reveal any significant difference.

Table 7

Descriptive Statistics and Mean Differences of Demographic Characteristics of Students in terms of Engagement in RTBs, Perceived Risk, Perceived Benefit, Impulsivity, and Self Esteem

Variable	Engagement in RTBs					Perceived Benefit					Perceived Risk				
	M	*SD*	*df*	*t*	*F*	*M*	*SD*	*df*	*t*	*F*	*M*	*SD*	*df*	*t*	*F*
Gender			232	5.72^{***}	--			232	1.64^{ns}	--			232	-2.81^{**}	--
Female	63.77	20.84				66.55	23.04				172.3	34.98			
Male	81.65	21.85				72.16	23.05				156.9	41.67			
Parents' Marital Status			232	1.84^{ns}	--			232	1.66^{ns}	--			232	-2.36^{*}	--
Divorced/ Married but not living together	75.53	17.18				74.56	24.22				153.33	34.98			
Married and living together	67.47	23.03				67.07	22.86				170.4	37.33			
Mothers' Education Level			2,231		10.2^{***}			2,231		3.63^{*}			2,231		
Primary/Secondary school	62.19_{b}	19.53				63.67_{b}	22.79				173.2_{b}	40.77			3.81^{*}
High School	69.28_{ab}	23.04				70.65_{ab}	21.08				171.9_{ab}	27.73			
Undergraduate/graduated school	76.99_{a}	23.46				72.39_{a}	24.19				158.5_{a}	37.05			

Note 1. * $p < .05$, ** $p < .01$, *** $p < .001$.
Note 2. The mean scores that do not share a common letter subscript on each column are significantly different from each other.

Table 7 (cont.)

Descriptive Statistics and Mean Differences of Demographic Characteristics of Students in terms of Engagement in RTBs, Perceived Risk, Perceived Benefit, Impulsivity, and Self Esteem

Variable	Engagement in RTBs					Perceived Benefit					Perceived Risk				
	M	*SD*	*df*	*t*	*F*	*M*	*SD*	*df*	*t*	*F*	*M*	*SD*	*df*	*t*	*F*
Fathers' Education Level			2,231		7.91***			2,231		3.69*			2,231		
Primary/Secondary school	60.96_{b}	18.75				60.51_{ab}	25.37				73.40_{ab}	45.17			4.51*
High School	66.74_{ab}	20.04				63.23_{b}	18.17				76.23_{b}	28.87			
Undergraduate/graduated school	74.29_{a}	24.51				72.41_{a}	23.6				60.36_{a}	35.05			
Mothers' Working Status			2,231		4.73**			2,231		4.74**			2,231		
Employed	73.76_{a}	23.84				74.63_{a}	26.54				163	39.56			3.03*
Unemployed	64.00_{b}	20.85				63.78_{b}	20.40				174.3	36.59			
Retried	71.66_{ab}	22.73				69.18_{ab}	22.68				161.8	35.38			
Fathers' Working Status			2,231		.615 ns			2,231		.048 ns			2,231		
Employed	67.96	21.53				68.43	23.74				168.4	38.70			.019 ns
Unemployed	76.55	23.69				67.11	15.81				165.9	44.93			
Retired	68.54	23.96				67.52	22.55				168.2	34.87			

Note 1. * $p < .05$, ** $p < .01$, *** $p < .001$.
Note 2. The mean scores that do not share a common letter subscript on each column are significantly different from each other.

Table 7 (cont.)

Descriptive Statistics and Mean Differences of Demographic Characteristics of Students in terms of Engagement in RTBs, Perceived Risk, Perceived Benefit, Impulsivity, and Self Esteem

Variable	Impulsivity					SelfEsteem				
	M	*SD*	*df*	*T*	*F*	*M*	*SD*	*df*	*t*	*F*
Gender			232	1.62 ns	--			232	-.773 ns	
Female	69.97	10.54				1.52	.67			
Male	72.35	7.76				1.44	.80			
Parents' Marital Status			232	.234 ns	--			232	1.797 ns	
Divorced/Married but not living together	71	9.68				1.73	.74			
Married and living together	70.54	9.98				1.47	.49			
Mothers' Education Level			2,231		1.017 ns			2,231		.431 ns
Primary/Secondary school	70.61	9.75				1.54	.81			
High School	69.13	9.32				1.52	.84			
Undergraduate/graduated school	71.66	10.57				1.43	.65			
Fathers' Education Level			2,231		.428 ns			2,231		.539 ns
Primary/Secondary school	70.64	8.73				1.46	.70			
High School	71.52	9.21				1.44	.81			
Undergraduate/graduated school	70.04	11.01				1.55	.78			

Note 1. * $p < .05$, ** $p < .01$, ***$p < .001$.
Note 2. The mean scores that do not share a common letter subscript on each column are significantly different from each other.

Table 7 (cont.)

Descriptive Statistics and Mean Differences of Demographic Characteristics of Students in terms of Engagement in RTBs, Perceived Risk, Perceived Benefit, Impulsivity, and Self Esteem

Variable	Impulsivity					SelfEsteem				
	M	*SD*	*df*	*T*	*F*	*M*	*SD*	*df*	*t*	*F*
Mothers' Working Status			2,231		2.12 ^{ns}			2,231		.817 ^{ns}
Employed	72.76	9.06				1.50	.66			
Unemployed	69.73	9.31				1.55	.85			
Retried	169.9	11.71				1.39	.68			
Fathers' Working Status			2,231		1.43 ^{ns}			2,231		.473 ^{ns}
Employed	71.06	9.38				1.46	.66			
Unemployed	74.56	8.50				1.44	.73			
Retired	69.47	10.80				1.56	.91			

Note 1. * $p < .05$, ** $p < .01$, ***$p < .001$.
Note 2. The mean scores that do not share a common letter subscript on each column are significantly different from each other.

Secondly, students differed significantly among mothers' education level in terms of engagement in RTBs ($F(2, 233) = 10.213$, $p < .001$), perceived benefit ($F(2, 233) = 3.627$, $p < .05$), and perceived risk ($F(2, 233) = 3.815$, $p < .05$). Post-hoc analyses using Tukey HSD test indicated that students whose mothers were undergraduate/graduate school graduates ($m = 76.98$) engaged in more RTBs than students whose mothers were primary/secondary school graduates ($m = 62.18$). Moreover, students whose mothers were undergraduate/graduate school graduates ($m = 72.39$) perceived more benefit than students whose mothers were primary/secondary school graduates ($m = 63.66$). Furthermore, students whose mothers were undergraduate/graduate school graduates ($m = 158.44$) perceived less risk than students whose mothers were primary/secondary school graduates ($m = 173.19$). However, students whose mothers were high school graduates did not differ from both students whose mothers were primary/secondary school graduates and students whose mothers were undergraduate/graduate school graduates in terms of engagement in RTBs, perceived benefit, and perceived risk.

Finally, students differed significantly among fathers' education level in terms of engagement in RTBs ($F(2, 233) = 7.90$, $p < .001$), perceived benefit ($F(2, 233) = 3.69$, $p < .05$), and perceived risk ($F(2, 233) = 4.51$, $p < .05$). Post-hoc analyses using Tukey HSD test indicated that students whose fathers were undergraduate/graduate school graduates ($m = 74.29$) engaged in more RTBs than students whose fathers were primary/secondary school graduates ($m = 60.95$). Moreover, students whose fathers were undergraduate/graduate school graduates ($m = 72.40$) perceived more benefit than students whose fathers were high school graduates ($m = 63.22$). Furthermore, students whose fathers were

undergraduate/graduate school graduates (*m* = 160.35) perceived less risk than students whose fathers were high school graduates (*m* = 176.22). However, students whose fathers were high school graduates did not differ from both students whose fathers were primary/secondary school graduates and students whose fathers were undergraduate/graduate school graduates in terms of engagement in RTBs, perceived benefit, and perceived risk.

3.2.1. *Correlations*

Pearson correlation coefficients among the measures were calculated in order to examine the relationships among age, engagement in RTBs, perceived risk and benefit, impulsivity, and self esteem (See Table 7). The correlational analysis indicated that engagement in RTBs was significantly and positively related to perceived benefit ($r = .50$, $p < .01$) and impulsivity ($r = .37$, $p < .01$), whereas engagement in RTBs was significantly and negatively related to perceived risk ($r = -.41$, $p < .01$). These findings suggested that engagement in RTBs is increased when perceived benefit is increased and also when perceived risk is decreased. Moreover, perceived benefit was significantly and positively related to impulsivity ($r = .25$, $p < .01$) and also significantly and negatively related to perceived risk ($r = -.35$, $p < .01$) meaning that impulsivity may increase as perceived benefit is increased. And also, perceived benefit is increased when perceived risk is decreased. Finally, perceived risk was significantly and negatively related to impulsivity ($r = -.18$, $p < .01$) suggesting that as impulsivity is increased, perceived risk is decreased. On the

other hand, the correlational analysis did not reveal any significant correlations among age and outcome variables and also self esteem and other outcome variables.

Table 8

Correlations among Age, Engagement in RTBs, Perceived Risk, Perceived Benefit, Impulsivity, and Self Esteem

	1	2	3	4	5	6
1. Age	-					
2. Engagement in RTBs	.027	**.832**				
3. Perceived Risk	-.033	-.405*	**.928**			
4. Perceived Benefit	-.003	.498*	-.352*	**.882**		
5. Impulsivity	.023	.367*	-.176*	.250*	**.748**	
6. Self Esteem	.114	.050	-.006	-.004	.074	**.892**

Note 1: Bold scores on the diagonal indicate Cronbach's alpha of each measure

Note 2. * $p < .01$

3.2.2. *Predictors of Risk Taking Behaviors*

In order to test the main hypotheses, a multiple hierarchical analysis was conducted. Before conducting the regression analysis, as Aiken and West (1991) suggested, the predictors (perceived benefit, perceived risk, impulsivity, and self esteem) were linearly transformed by subtracting the sample mean from each variable and these centered variables were used as predictors. And also, these

centered variables were multiplied for the interaction term. In addition, the dependent variable (engagement in RTBs) was centered. These variables were used in the main analysis.

Multiple hierarchical regression analysis was run to find out whether engagement in RTBs was predicted by perceived benefit, perceived risk, and impulsivity after controlling for the effect of gender, age, and self esteem. In the first step, gender, age, and self esteem were entered. In the second step, impulsivity was entered into the regression equation. In the third step, perceived benefit and risk were entered into the equation. In the final step, the interaction between impulsivity and perceived benefit, and also the interaction between impulsivity and perceived risk were entered into the equation.

According to the results of hierarchical multiple regression model presented in Table 8, impulsivity, perceived benefit, and perceived risk were found to be significantly associated with engagement in RTBs after controlling for the effects of gender, age, and self esteem. In the first step, the explained variance was significant (R^2 = .131, $F(3, 230) = 11.545$, $p < .001$). In this step, age (β = -.055, $p > .05$) and self esteem (β = .074, $p > .05$) were not associated with the engagement in RTBs, whereas gender was significantly associated with the engagement in RTBs (β = -.366, $p < .001$). In other words, male students were more likely to engage in RTBs than female students; however, age and self esteem did not predict the engagement in RTBs.

In the second step, the addition of impulsivity resulted in a significant increment in the explained variance (R^2 = .238, $\Delta F(1, 229) = 32.066$, $p < .001$). This explained an additional 11 % of the variance. In this step, after controlling for the

effects of gender, age, and self esteem, impulsivity was significantly associated with the engagement in RTBs (β = .330, p < .001). In other words, the students high on impulsivity were more likely to engage in RTBs.

In the third step, the addition of perceived benefit and risk contributed to a significant increment in the explained variance (R^2 = .426, $\Delta F(2, 227) = 37.249$, p < .001). This explained an additional 19 % of the variance. In this step, after controlling for the effects of gender, age, self esteem, and impulsivity on the engagement in RTBs, perceived benefit and perceived risk were significantly associated with the engagement in RTBs. Hence, perceived benefit predicted the engagement in RTBs positively (β = .346, p < .001) while perceived risk predicted the engagement in RTBs negatively (β = -.198, p < .001). These findings suggested that as the university students' risk perception decreases and benefit perception increases, they become more likely to engage in RTBs. Moreover, the unique contribution of perceived benefit to explain the variance (sr^2 = .0998) was higher than the unique contribution of perceived risk to explain the variance (sr^2 = .0331), that is, perceived benefit was more powerful than perceived risk in terms of predicting the engagement in RTBs.

In the final step of regression; however, impulsivity-perceived benefit interaction and impulsivity-perceived risk interaction were not significant (R^2 = .431, $\Delta F(2, 225) = .976$, p > .05) in predicting RTBs. That is to say, there was not a moderation effect of impulsivity on the relationship between both "perceived risk and engagement in RTBs" and "perceived benefit and engagement in RTBs".

Table 9

Predictors of Engagement in RTBs

	B	SE B	β	ΔR^2	ΔF	*df*
1. Step				.131	11.545	2,230
Age	-.554	.637	-.055			
Gender	-18.635	3.203	-.366*			
Self Esteem	2.189	1.824	.074			
2. Step				.107	32.066	1,229
Impulsivity	.748	.132	.330*			
3. Step				.188	37.249	2,227
Perceived Benefit	.336	.053	.346*			
Perceived Risk	-.119	.033	-.198*			
4. Step				.005	.976	2,225
Impulsivity X Perceived Benefit	-.005	.004	-.066			
Impulsivity X Perceived Risk	.001	.006	.011			

Note. * $p < .001$.

CHAPTER IV

DISCUSSION

Various studies have examined the frequency level of risk taking behaviors in adolescents and also the predictors of risk taking behaviors such as perceived benefit, perceived risk, self esteem, and impulsivity. However, in addition to these, the current study tried to clarify the moderator role of impulsivity. Specifically, based on the literature mentioned in Chapter 1, the aim of the current study was to examine the predictors of RTBs and the moderator role of impulsivity on the relationship between both "perceived risk and risk taking behavior involvement" and "perceived benefit and risk taking behavior involvement" among university students.

4.1. *Results of the Study*

In this section, the psychometric properties of the Modified Risk Involvement and Perception Scale (M-RIPS) (Özmen, 2006), the effects of demographic variables on the outcome variables, and the predictors of the outcome variables will be presented and discussed in light of the literature.

4.1.1. *Psychometric Properties of the Modified Risk Involvement and Perception Scale*

In order to measure the frequency level of engagement in RTBs, perceived benefit, and perceived risk, the Modified Risk Involvement and Perception Scale (M-RIPS) (Özmen, 2006) was used. This scale was chosen because its subscales were suitable for examining the hypotheses of the present study in terms of the concepts used (i.e. involvement in RTBs, perceived benefit, and perceived risk) and because one of its subscales; namely, involvement subscale, used by Özmen (2006) was found to be reliable for Turkish adolescents. The adaptation of the scale was conducted in Study 1 with Middle East Technical University (METU) students.

The results of the adaptation study of the Modified Risk Involvement and Perception Scale (M-RIPS) (Özmen, 2006) revealed that the subscales of the scale; namely, involvement, perceived benefit, and perceived risk were psychometrically reliable and valid for Turkish university students. Similar findings were obtained by Özmen (2006) for involvement subscale and also by Parsons, Siegal, and Cousin (1997) and Siegel et al. (1994) for all subscales with regard the internal consistency coefficients and validity measures.

4.1.2. *The Effects of Demographic Variables on the Outcome Variables*

The effects of demographic variables (i.e. gender, age, SES, parents' living, working, and marital status, and parents' education level) on the outcome variables

(i.e. engagement in RTBs, perceived benefit and risk, self esteem, and impulsivity) were investigated.

Firstly, there were significant differences between female and male students in terms of engagement in RTBs and perceived risk. Male students received higher scores from the involvement subscale and fewer scores from perceived risk subscale than female students. It was concluded that male students engage more frequently in RTBs and perceive less risk from RTBs. Similarly, Duangpatra, Bradley, and Glendon (2009) have stated that males exhibit more frequent risky behaviors, reckless substance use, and reckless driving. Moreover, it was found that females perceive more risk than males (e.g. Essau, 2004; Teese & Bradley, 2008). As it was mentioned before, engagement in RTBs is associated with perceived risk. Therefore, male students who perceive less risk exhibit more frequent RTBs, whereas females who perceive high risk exhibit less frequent RTBs. These results may be due to gender differences in time perspective and testosterone level, and attitude differences towards males and females. First of all, Zimbardo and Boyd (1999) stated two different time perspectives. One is *present time perspective,* which includes the "desires to pursue immediate gratification-oriented goals", another is *future time perspective,* which includes the "tendency to abstain from immediate pleasure to obtain long term reward" and it was found that males are more likely to report present time perspective while females are more likely to report future time perspective (cited in Duangpatra, Bradley, & Glendon, 2009). Therefore, males may engage in RTBs more frequently by the effect of the present time perspective. The difference between genders in terms of the engagement in

RTBs may also be explained by the difference in testosterone levels. Since individuals who have high levels of testosterone could show higher levels of aggressiveness (Akers & Sellers, 2009; Bartol & Bartol, 2008) and aggressiveness is expressed by engaging in RTBs (Arnett, 1995), it was suggested that males who have higher levels of testosterone than females may engage in RTBs. Furthermore, attitude differences towards males and females could be associated with the different levels of engagement in RTBs. Kağıtçıbaşı (1987) stated that in Turkish culture, due to attitude differences towards males and females resulting from traditional gender role, females and males behave differently. In general, boys are free and do what they want with friends; whereas, girls face with more social control and stay at home with parents (cited in Yıldırım, 1997). Therefore, while males may be encouraged when they act violently or aggressively, females may be embarrassed in the same situation. Thus, males could be more comfortable in showing risky behaviors than females. On the other hand, in the current study, there was no significant difference between genders in terms of perceived benefit, impulsivity, and self esteem. Although Teese and Bradley (2008) found that males perceive more benefit from RTBs than females, the current study could not find any significant difference in terms of benefit perception. Contrary to perceived benefit, the result related to impulsivity was congruent with the literature (Teese & Bradley, 2008); it was concluded that university students showed no significant differences in terms of impulsivity based on gender.

Secondly, there were significant differences among mothers' working status in terms of engagement in RTBs and perceived benefit. Students whose mothers

were working engaged more frequently in RTBs and perceived more benefit from it than students whose mothers were not working. These results are parallel to the positive relationship between engagements in RTBs and benefit perception. The effect of mothers' working status on RTBs involvement may be related to parental restriction and monitoring. Hence, when mothers are working, the time shared with their children could diminish, and thus, parallel to this, effective parental restriction and monitoring could not be achieved. Therefore, they become more likely to engage in these RTBs in the absence of effective restriction and monitoring. Various studies showed that parental restriction and monitoring are associated with lower level of engagement in risky behavior such as sexual behavior, vandalism, and substance use (Arnett, 1995). In addition to control mechanism, the effect of mothers' working status on RTBs involvement may be related to relationship among family members. When the relationship between parents and children are close, the effects of parents on children become more efficient (Arnett, 1995). Therefore, students may be more likely to engage in RTBs and perceive more benefit by absence of close relationship among members. Thus, mothers' working status is related to engagement in RTBs and perceived benefit. On the other hand, there was no significant difference among mothers' working status in terms of perceived risk, impulsivity, and self esteem.

Thirdly, there were significant differences between parents' marital status as a demographic variable in terms of perceived risk. Students whose parents were married and living together perceived more risk from RTBs than students whose parents were divorced or married but not living together. Similar to the effect of

mother working status, this different level of risk perception might have been affected by parental monitoring and relationship between parents and children. When family do not become as a whole, these may lead to ineffective parental monitoring and may affect the relationship among family members which may not become so close. Therefore, students whose parents are divorced or married but not living together become more likely to perceive less risk because of ineffective restriction and absence of close relationship among members. On the other hand, there was no significant difference between parents' marital status in terms of engagement in RTBs, perceived benefit, impulsivity, and self esteem.

Finally, there were significant differences among mothers' and fathers' education level in terms of engagement in RTBs, perceived benefit, and perceived risk. Specifically, students whose mothers were undergraduate/graduate school graduates involved more frequently in RTBs and perceived more benefit and less risk than students whose mothers were primary/secondary school graduates. Similarly, students whose fathers were undergraduate/graduate school graduates exhibited higher level of RTBs involvement than students whose fathers were high school or primary/secondary school graduates, and also they perceived more benefit and less risk than students whose fathers were high school graduates. It was concluded that when the education level of parent increases, the frequency level of RTBs involvement and benefit perception increase; however, risk perception decreases. Parallel to these results, in the current study it was found that students who perceive more benefit and less risk exhibit RTBs more frequently. In addition, the mothers, who are undergraduate/graduate school graduates, are more likely to

work. As mentioned before, students whose mothers are working involve in more RTBs because of the decrement in the level of the parental monitoring. Thus, parents' education level is associated with RTBs involvement and risk and benefit perception. On the other hand, there was no significant difference among mothers and fathers' education level in terms of impulsivity and self esteem.

4.1.3. *The Predictors of Engagements in RTBs*

The current study was conducted to investigate the predictors of engagement in RTBs and also the moderator role of impulsivity in the relationship between the engagement in RTBs and the predictors of the engagement in RTBs; i.e. perceived risk and benefit.

The first hypothesis, suggesting that (a) there is a negative relationship between perceived risk and engagement in RTBs and (b) there is a positive relationship between perceived benefit and engagement in RTBs was supported by present study. Parallel to these results, it was stated that risk and benefit perceptions are associated with risk taking behavior involvements. In other words, perceived risk and benefit are predictors of risk taking behavior involvement (Siegal & Cousins, 1994; Parson, Siegal, & Cousins, 1997). Moreover, Fromme, Katz, and Rivet (1997) suggested that outcome expectancies, that is, expected benefit and risk, are related to the risk taking behavior involvement. It was concluded that after controlling the demographic variables, such as age and gender, and also the personality variables, such as self esteem and impulsivity, perceived benefit and

risk are still associated with the engagement in RTBs. Hence, students who think these behaviors give them more pleasure and less hazard engage in RTBs more frequently. Students who perceive more benefit from RTBs and also students who perceive less risk from RTBs engaged in more RTBs. Similarly, according to social cognition models, people have a tendency to engage in healthy behavior if they perceive more risk. In other words, if people perceive less risk, they become more likely to involve in unhealthy behavior (Rundmo, 1999; cited in Lund & Rundmo, 2009). There may be different factors affecting the level of perceived risk and benefit. First of all, familiarity could affect the risk perception. When people face with a situation more frequently, they gain familiarity; therefore, they perceive less risk from and do not concern about possible risks of the situation due to habituation (Lund & Rundmo, 2009). Moreover, the negative outcomes of RTBs appear generally in long term and individuals do not experience these negative consequences. Therefore, they may perceive less risk. On the contrary, individuals experience positive outcomes in short period of time and therefore, they may perceive more benefit or advantages. Thus, involvement in RTBs is predicted by risk and benefit perception.

The second hypothesis, perceived benefit is more powerful than perceived risk in terms of predicting the engagement in RTBs, was also supported in the current study. This finding is consistent with the literature indicating that perceived benefit is a stronger predictor of RTBs involvement. Parallel to this hypothesis, it was proposed that perceived benefit plays a more important role in predicting the engagement in RTBs than perceived risk (Parson, Siegal, & Cousins, 1997).

Although young people know the negative consequences of RTBs, they would continue to engage in these behaviors because they thought that these behaviors could provide them some advantages or pleasure. In this situation, operant conditioning principles may play a role. As mentioned before, the risk could be perceived less due to the fact that these negative consequences are expected in long period of time. On the contrary, the benefit could be perceived more because young people face with positive consequences immediately or in short period of time. Positive consequences are faced with higher frequency because of their immediacy than negative consequences because of their latency; therefore the connection between perceived benefit and engagement in RTBs may be stronger than the connection between perceived risk and engagement in RTBs due to more frequent experience of positive outcomes. It was proposed that in decision making process, immediate or short term pleasure is more effective than long term danger in determining the engagement in RTBs. Thus perceived benefit has more contribution to predict RTBs involvements than perceived risk.

The third hypothesis, students high on impulsivity engage in more RTBs than the students low on impulsivity, was confirmed in current study. This finding is parallel to the literature indicating that high impulsivity is associated with more frequent engagement in RTBs (Wulfert et al., 2006). Impulsive people have higher tendencies to perceive more pleasure and less harm. There are several reasons for this. First, they are generally less sensitive to negative outcomes of their behavior; second, they do not think properly and do not take long term consequences into consideration, which are generally negative (Moller et al., 2001, cited in Ryb,

Dischinger, Kufera, & Read, 2005), and finally, the only important thing for them is the behavior they seek that provide them any kind of fun and excitement, and other things are not important anymore (Umeh, 2009); therefore, they give rapid and unplanned reactions. Thus, people high on impulsivity could exhibit RTBs more frequently.

Finally, it was stated that personality plays a role in shaping the perceptions and actions of people (Cyders, Flory, Rainer, & Smith, 2009). Since impulsivity is one of personality traits, it was thought that impulsivity, specifically some of its domains i.e. "need for immediate gratification" and "lack of prior thought", could affect the perception related to RTBs. Therefore, a moderating role of impulsivity on the "engagement in RTBs and perceived risk" and "engagement in RTBs and perceived benefit" relationships was proposed. However, the results showed that impulsivity does not moderate "engagement in RTBs and perceived risk" and "engagement in RTBs and perceived benefit" relationships. It was concluded that the domains, "the need for immediate gratification" and "lack of prior thought" of impulsivity may not have enough contribution to RTBs. On the other hand, "seeking sensation" which refers to "a craving for fun and excitement" (Zuckerman et al., 1978; cited in Umeh, 2009) may play a bigger role in terms of the effects of impulsivity on RTBs involvement. Therefore, although there is no moderation role of impulsivity, higher impulsivity is associated with more frequent engagement in RTBs.

4.2. *Limitations of the Present Study*

One of the limitations of current study is that there were less male students in sample. It would have been preferable to have an equal number of female and male students. Another limitation is that the current study was a cross sectional study; therefore, it was not concluded any cause-effect relationship. Still another limitation of the study was self report methodology. The answer given by participants may not be honest when the questions included sensitive issue such as drug use, alcohol consumption and sexual behavior. However, since the data collected with online form, participants could not be uncomfortable. One of the limitations is that RTBs were examined with a total score, and therefore specific risky behavior like sexual risky behavior did not examined in the current study. Another limitation of current study is that current study focused only the degree of perception level of students. In other words, it was not focused to what are the types of perceived benefit and risk or in what respect these behaviors are risky and beneficial. Final limitation is related to generalization. The results of current study are not generalized to other populations because all participants are university students.

4.3. *Implications of the Present Study*

One of the most important implications of the current study is that the Modified Risk Perception and Involvement Scale (Özmen, 2006) measuring the

frequency of engagement in RTBs, perceived risk and benefit, was adapted to Turkish culture.

Another implication of the current study is about the development of intervention or prevention programs. It is assumed that engagement in RTBs will be critical for psychological, social, and physical lives of adolescents and young adults due to both life threatening outcomes and high prevalence rate of RTBs. Therefore, interventions for RTBs could be beneficial to reduce or prevent the negative consequences of RTBs. Intervention via clinical and educational programs, prevention programs of public health services and media could be designed by taking the findings of the current study into consideration. Thus, it is important to determine why individuals engage in RTBs. One of the possible answers may be that individuals do not know or understand the possible risk of their behaviors. Therefore, negative consequences could be added to these programs. In addition to risk perception, benefit perception has also a contribution to decision making related to engagement in RTBs and perceived benefit is a more powerful predictor than perceived risk. Therefore, focusing only on risk perception is not sufficient to reduce or prevent the RTB. Thus, these clinical, educational, and prevention programs should also focus on negative consequences of RTBs, as well as the positive ones in order to provide alternative methods for achieving the same desired outcome.

Moreover, the perceptions related to risk and benefit vary from one behavior to another. For example, in a study conducted with drug user, the unknown content of drug, addiction, and psychical harm are stated as risks perceived from drug use,

while enhanced mood, increased energy, and enhanced sociability are reported as benefits from drug use (White, Degenhardt, Brean, Bruno, & Newman, 2006). Similarly, related to sexual behavior, Widdice et al. (2006) study mentioned the risks as pregnancy and getting STD; and the benefits as improved relationship. Therefore, these programs could be tailored according to kind of risky behavior.

Furthermore, it is curial to develop effective prevention or intervention programs related to risk taking behaviors in terms of aggressiveness and criminality. High risk behaviors such as vandalism, speedy driving, and antisocial behaviors were found to be associated with aggressiveness. In other words, individuals could use these RTBs in order to express their aggressiveness. In addition, aggressiveness is related to criminal behaviors (Arnett, 1995). Therefore, these RTBs could be converted into criminal behaviors like automobile accidents, assault under the effect of alcohol or drug. Thus, individuals who have a tendency to engage in RTBs could be determined, and then their awareness related to the life-altering or life-threatening consequences of their behaviors could be raised, before they harm themselves and other people.

4.4. *Directions for Future Studies*

Further studies, in which numbers of female and male participants are equal in the sample, would be advisable. Therefore, risk taking behaviors comparison in terms of gender could be more reliable with equally distributed sample. Another direction for future studies may be to include other personality variables such as

sensation seeking and locus of control (Rolison & Scherman, 2002; Wyatt, 2001; Zukerman & Kuhlman, 2000), and also emotional variables such as emotional regulation, promoting positive or avoiding negative affective states, and mood (Boyer, 2006; Caffray & Scneinder, 2000; Keren & Haside, 2007). Thereby, risk taking behaviors could be examined across all dimensions. Additionally, further studies could focus not only on the level of risk and benefit perception; but also, the content of perceived risk and benefit. Therefore, implications would be developed based on these contents of perceptions. Moreover, future studies will examine the restriction, parental monitoring, and the relationship among family members in order to determine the role of family in children's risk taking behavior engagement. Furthermore, in the future studies, some items of Modified Risk Involvement and Perception Scale like smoking and taking prescription drugs as prescribed will be excluded from scale since these items may not be perceived as risky by Turkish people. Therefore, this may affect the proper determination of the level of risk perception of Turkish people. Finally, since literature suggests the relationship between some psychopathological situation and risk taking behavior, future studies will focus the participants' psychopathological situation like anxiety, depression and ADHD.

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APPENDICES

APPENDIX A: Demographic Information Sheet

KİŞİSEL BİLGİ FORMU

1. Yaşınız: ……

2. Cinsiyetiniz: ( ) Kız ( ) Erkek

3. Sınıfınız:……...

4. Not Ortalamanız (CGPA): …..

5. Anne ve babanız:

( ) Sağ

( ) Yalnızca anne sağ

( ) Yalnızca baba sağ

( ) İkisi de sağ değil

6. Anne ve babanızın medeni hali:

( ) Evli ve birlikte yaşıyor

( ) Evli ama birlikte yaşamıyor

( ) Boşanmış

7. Annenizin eğitim durumu nedir?

( ) Okur-yazar değil

( ) Okur-yazar

( ) İlkokul mezunu

( ) Ortaokul mezunu

( ) Lise mezunu

( ) Üniversite mezunu

( ) Lisansüstü eğitim mezunu

8. Babanızın eğitim durumu nedir?

( ) Okur-yazar değil

( ) Okur-yazar

( ) İlkokul mezunu

( ) Ortaokul mezunu

( ) Lise mezunu

( ) Üniversite mezunu

( ) Lisansüstü eğitim mezunu

9. Annenizin çalışma durumu nedir? ( ) Çalışıyor ( ) Çalışmıyor ( ) Emekli

10. Babanızın çalışma durumu nedir? ( ) Çalışıyor ( ) Çalışmıyor ( ) Emekli

11. Kendinizi hangi sosyoekonomik düzeyde değerlendirebilirsiniz?( )Alt ( )Orta ( )Üst

APPENDIX B: Modified Risk Involvement and Perception Scale (M-RIPS)

Bu ölçek, risk alma davranışı içerisinde ne kadar sıklıkta bulunduğunuzu ölçmek amacıyla hazırlanmıştır. Aşağıda sıralanan her bir davranışı **"son üç ay boyunca ne sıklıkta gösterdiğinizi"** ilgili numarayı daire içine alarak belirtiniz.

	Hiçbir zaman (0)	**Nadiren** (yılda 2-3 kez)			**Bazen** (Ayda 2-3kez)	**Sık sık** (Haftada2-3 kez)			**Herzaman** (Hergün)
Cinsel ilişkiye girme	0	1	2	3	4	5	6	7	8
İçki içme	0	1	2	3	4	5	6	7	8
Sarhoş olma	0	1	2	3	4	5	6	7	8
Aşırı yeme içme/kusma	0	1	2	3	4	5	6	7	8
Hız yapma (otomobil, bisiklet, motosiklet)	0	1	2	3	4	5	6	7	8
Dükkanlardan eşya çalma/aşırma	0	1	2	3	4	5	6	7	8
Araba kullanma	0	1	2	3	4	5	6	7	8
Sigara içme	0	1	2	3	4	5	6	7	8
Gece ıssız yerlerde yürüme/dolaşma	0	1	2	3	4	5	6	7	8
Alkollü sürücüyle yolculuk etme	0	1	2	3	4	5	6	7	8
Reçete ile satılan ilaçları reçeteli olarak kullanma	0	1	2	3	4	5	6	7	8
Motosiklet kullanma	0	1	2	3	4	5	6	7	8
Marihuana içme	0	1	2	3	4	5	6	7	8
Prezervatifsiz cinsel ilişkide bulunma	0	1	2	3	4	5	6	7	8
Alkollü araba kullanma	0	1	2	3	4	5	6	7	8
Kokain kullanma	0	1	2	3	4	5	6	7	8
Emniyet kemeri takmadan araba kullanma veya yolculuk etme	0	1	2	3	4	5	6	7	8
Reçete ile satılan ilaçları doktor onayı olmaksızın veya aşırı dozda kullanma	0	1	2	3	4	5	6	7	8
Esrar içme	0	1	2	3	4	5	6	7	8
Bisikletle yarış yapma	0	1	2	3	4	5	6	7	8
Kısa sürede kilo verdiren diyet yapma	0	1	2	3	4	5	6	7	8
Evden kaçma	0	1	2	3	4	5	6	7	8
Sınavda kopya çekme	0	1	2	3	4	5	6	7	8
Okulu asma/devamsızlık yapma	0	1	2	3	4	5	6	7	8
Araba yarışı yapma	0	1	2	3	4	5	6	7	8
Uhu/bali gibi maddeler koklama	0	1	2	3	4	5	6	7	8
Okul ödevlerini yapmama	0	1	2	3	4	5	6	7	8

	Hiçbir zaman (0)	**Nadiren** (yılda 2-3 kez)			**Bazen** (Ayda 2-3kez)	**Sık sık** (Haftada2-3 kez)			**Herzaman** (Hergün)
Kesici, delici alet ve silah taşıma	0	1	2	3	4	5	6	7	8
Tanımadığı birinin arabasına binme	0	1	2	3	4	5	6	7	8
Otostop yapma	0	1	2	3	4	5	6	7	8
Kumar ve şans oyunları oynama	0	1	2	3	4	5	6	7	8
Ehliyetsiz araba kullanma	0	1	2	3	4	5	6	7	8

Aşağıda sıralanan her bir davranışın sergilenmesinin "**ne kadar riskli veya tehlikeli**" olduğunu düşünüyorsanız ilgili numarayı daire içine alarak belirtiniz.

	Hiç Riskli Değil		**Biraz Riskli**		**Orta Derecede Riskli**		**Çok Riskli**		**Çok Fazla Riskli**
Cinsel ilişkiye girme	0	1	2	3	4	5	6	7	8
İçki içme	0	1	2	3	4	5	6	7	8
Sarhoş olma	0	1	2	3	4	5	6	7	8
Aşırı yeme içme/kusma	0	1	2	3	4	5	6	7	8
Hız yapma (otomobil, bisiklet, motosiklet)	0	1	2	3	4	5	6	7	8
Dükkanlardan eşya çalma/aşırma	0	1	2	3	4	5	6	7	8
Araba kullanma	0	1	2	3	4	5	6	7	8
Sigara içme	0	1	2	3	4	5	6	7	8
Gece ıssız yerlerde yürüme/dolaşma	0	1	2	3	4	5	6	7	8
Alkollü sürücüyle yolculuk etme	0	1	2	3	4	5	6	7	8
Reçete ile satılan ilaçları reçeteli olarak kullanma	0	1	2	3	4	5	6	7	8
Motosiklet kullanma	0	1	2	3	4	5	6	7	8
Marihuana içme	0	1	2	3	4	5	6	7	8
Prezervatifsiz cinsel ilişkide bulunma	0	1	2	3	4	5	6	7	8
Alkollü araba kullanma	0	1	2	3	4	5	6	7	8
Kokain kullanma	0	1	2	3	4	5	6	7	8
Emniyet kemeri takmadan araba kullanma veya yolculuk etme	0	1	2	3	4	5	6	7	8
Reçete ile satılan ilaçları doktor onayı olmaksızın veya aşırı dozda kullanma	0	1	2	3	4	5	6	7	8
Esrar içme	0	1	2	3	4	5	6	7	8
Bisikletle yarış yapma	0	1	2	3	4	5	6	7	8
Kısa sürede kilo verdiren diyet yapma	0	1	2	3	4	5	6	7	8
Evden kaçma	0	1	2	3	4	5	6	7	8
Sınavda kopya çekme	0	1	2	3	4	5	6	7	8
Okulu asma/devamsızlık yapma	0	1	2	3	4	5	6	7	8
Araba yarışı yapma	0	1	2	3	4	5	6	7	8
Uhu/bali gibi maddeler koklama	0	1	2	3	4	5	6	7	8
Okul ödevlerini yapmama	0	1	2	3	4	5	6	7	8
Kesici, delici alet ve silah taşıma	0	1	2	3	4	5	6	7	8
Tanımadığı birinin arabasına binme	0	1	2	3	4	5	6	7	8
Otostop yapma	0	1	2	3	4	5	6	7	8
Kumar ve şans oyunları oynama	0	1	2	3	4	5	6	7	8
Ehliyetsiz araba kullanma	0	1	2	3	4	5	6	7	8

Aşağıda sıralanan her bir davranışın sergilenmesinin "**ne kadar avantajlı veya faydalı**" olduğunu düşünüyorsanız ilgili numarayı daire içine alarak belirtin.

	Hiç Faydalı Değil		**Biraz Faydalı**		**Orta Derecede Faydalı**		**Çok Faydalı**		**Çok Fazla Faydalı**
Cinsel ilişkiye girme	0	1	2	3	4	5	6	7	8
İçki içme	0	1	2	3	4	5	6	7	8
Sarhoş olma	0	1	2	3	4	5	6	7	8
Aşırı yeme içme/kusma	0	1	2	3	4	5	6	7	8
Hız yapma (otomobil, bisiklet, motosiklet)	0	1	2	3	4	5	6	7	8
Dükkanlardan eşya çalma/aşırma	0	1	2	3	4	5	6	7	8
Araba kullanma	0	1	2	3	4	5	6	7	8
Sigara içme	0	1	2	3	4	5	6	7	8
Gece ıssız yerlerde yürüme/dolaşma	0	1	2	3	4	5	6	7	8
Alkollü sürücüyle yolculuk etme	0	1	2	3	4	5	6	7	8
Reçete ile satılan ilaçları reçeteli olarak kullanma	0	1	2	3	4	5	6	7	8
Motosiklet kullanma	0	1	2	3	4	5	6	7	8
Marihuana içme	0	1	2	3	4	5	6	7	8
Prezervatifsiz cinsel ilişkide bulunma	0	1	2	3	4	5	6	7	8
Alkollü araba kullanma	0	1	2	3	4	5	6	7	8
Kokain kullanma	0	1	2	3	4	5	6	7	8
Emniyet kemeri takmadan araba kullanma veya yolculuk etme	0	1	2	3	4	5	6	7	8
Reçete ile satılan ilaçları doktor onayı olmaksızın veya aşırı dozda kullanma	0	1	2	3	4	5	6	7	8
Esrar içme	0	1	2	3	4	5	6	7	8
Bisikletle yarış yapma	0	1	2	3	4	5	6	7	8
Kısa sürede kilo verdiren diyet yapma	0	1	2	3	4	5	6	7	8
Evden kaçma	0	1	2	3	4	5	6	7	8
Sınavda kopya çekme	0	1	2	3	4	5	6	7	8
Okulu asma/devamsızlık yapma	0	1	2	3	4	5	6	7	8
Araba yarışı yapma	0	1	2	3	4	5	6	7	8
Uhu/bali gibi maddeler koklama	0	1	2	3	4	5	6	7	8
Okul ödevlerini yapmama	0	1	2	3	4	5	6	7	8
Kesici, delici alet ve silah taşıma	0	1	2	3	4	5	6	7	8
Tanımadığı birinin arabasına binme	0	1	2	3	4	5	6	7	8
Otostop yapma	0	1	2	3	4	5	6	7	8
Kumar ve şans oyunları oynama	0	1	2	3	4	5	6	7	8
Ehliyetsiz araba kullanma	0	1	2	3	4	5	6	7	8

APPENDIX C: Sensation Seeking-Risk Taking Scale

Lütfen aşağıdaki ifadelerin, sizin için ne kadar doğru ya da yanlış olduğunu uygun rakamı daire içine alarak belirtin.

		Doğru	**Biraz doğru**	**Biraz yanlış**	**Yanlış**
1.	Yabancı ülkeden biriyle evlenmek ilgimi çekerdi.	1	2	3	4
2.	**Su çok soğuk olduğunda, hava sıcak olsa bile, yüzmeyi tercih etmem.**	**1**	**2**	**3**	**4**
3.	Uzun bir kuyrukta beklemek zorunda olduğumda, genellikle sabırlıyımdır.	1	2	3	4
4.	**Tatile çıkmadan önce plan yapmak yerine, gidilen yerde aklıma eseni yapmanın en doğrusu olduğunu düşünüyorum.**	**1**	**2**	**3**	**4**
5.	Korku ve gerilim filmlerinden uzak dururum	1	2	3	4
6.	**Bir grup önünde konuşmanın ya da gösteri yapmanın çok heyecan verici ve eğlenceli olduğunu düşünüyorum.**	**1**	**2**	**3**	**4**
7.	Luna parka gidecek olsam dönme dolap ya da aşırı hızlı araçlara mutlaka binerdim.	1	2	3	4
8.	**Uzak ve bilinmeyen yerlere seyahat etmeyi isterdim.**	**1**	**2**	**3**	**4**
9.	Çok param olsa bile kumar oynamayı istemezdim.	1	2	3	4
10.	**Bilinmeyen bir yeri keşfeden ilk kişi olmayı çok isterdim.**	**1**	**2**	**3**	**4**
11.	İçinde çok sayıda patlama ve araba kovalama sahneleri olan filmlerden hoşlanırım.	1	2	3	4
12.	**Genellikle zaman baskısı altında daha iyi çalışırım.**	**1**	**2**	**3**	**4**
13.	Çoğu zaman, okurken ya da bir iş yaparken radyo veya televizyonun açık olmasını isterim.	1	2	3	4
14.	**Bir trafik kazasının oluşunu görmek isterdim.**	**1**	**2**	**3**	**4**
15.	Lokantaya gittiğimde bilmediğim bir şeyi denemek yerine bilinen yemekleri tercih ederim	1	2	3	4
16.	**Yüksek bir uçurumun kenarından aşağıya bakma duygusu hoşuma gider.**	**1**	**2**	**3**	**4**
17.	Eğer bir gezegene ya da aya bedava gitmek mümkün olsaydı, başvuru sırasındaki ilk kişi ben olurdum	1	2	3	4
18.	**Bir savaşta muharebeye (çatışmaya) katılmanın ne kadar heyecan verici bir şey olabileceğini tahmin edebiliyorum.**	**1**	**2**	**3**	**4**
19.	Tehlikeli bile olsa yeni şeyler denemek isterim	1	2	3	4
20	**Risk alma eğilimim vardır.**	**1**	**2**	**3**	**4**
21.	Heyecanlı işlere bayılırım.	1	2	3	4
22.	**Ani kararlar alırım.**	**1**	**2**	**3**	**4**
23.	Otoriteyi temsil eden kişilere hep karşı çıkarım.	1	2	3	4
24.	**Yüksek sesle müzik dinlemekten hoşlanırım.**	**1**	**2**	**3**	**4**

APPENDIX D: Barratt Impulsiveness Scale version 11 (BIS-11)

İnsanlar farklı durumlarda gösterdiği düşünce ve davranışları ile birbirlerinden ayrılırlar. Bu test bazı durumlarda nasıl düşündüğünüzü ve davrandığınızı ölçen bir testtir.

Lütfen her cümleyi okuyunuz ve bu sayfanın sağındaki, size en uygun numaraya X koyunuz.

Cevaplamak için çok zaman ayırmayınız. Hızlı ve dürüstçe cevap veriniz.

		Nadiren/ Hiçbir zaman	**Bazen**	**Sıklıkla**	**Hemen Her zaman/ Her zaman**
1	**İşlerimi dikkatle planlarım**	**1**	**2**	**3**	**4**
2	Düşünmeden iş yaparım	1	2	3	4
3	**Hızla karar veririm**	**1**	**2**	**3**	**4**
4	Hiç bir şeyi dert etmem	1	2	3	4
5	**Dikkat etmem**	**1**	**2**	**3**	**4**
6	Uçuşan düşüncelerim vardır	1	2	3	4
7	**Seyahatlerimi çok önceden planlarım**	**1**	**2**	**3**	**4**
8	Kendimi kontrol edebilirim	1	2	3	4
9	**Kolayca konsantre olurum**	**1**	**2**	**3**	**4**
10	Düzenli para biriktiririm	1	2	3	4
11	**Derslerde veya oyunlarda yerimde duramam**	**1**	**2**	**3**	**4**
12	Dikkatli düşünen birisiyim	1	2	3	4
13	**İş güvenliğine dikkat ederim**	**1**	**2**	**3**	**4**
14	Düşünmeden bir şeyler söylerim	1	2	3	4
15	**Karmaşık problemler üzerine düşünmeyi severim**	**1**	**2**	**3**	**4**
16	Sık sık iş değiştiririm	1	2	3	4
17	**Düşünmeden hareket ederim**	**1**	**2**	**3**	**4**
18	Zor problemler çözmem gerektiğinde kolayca sıkılırım	1	2	3	4
19	**Aklıma estiği gibi hareket ederim**	**1**	**2**	**3**	**4**
20	Düşünerek hareket ederim	1	2	3	4
21	**Sıklıkla evimi değiştiririm**	**1**	**2**	**3**	**4**
22	Düşünmeden alışveriş yaparım	1	2	3	4
23	**Aynı anda sadece bir tek şey düşünebilirim**	**1**	**2**	**3**	**4**
24	Hobilerimi değiştiririm	1	2	3	4
25	**Kazandığımdan daha fazla harcarım**	**1**	**2**	**3**	**4**
26	Düşünürken sıklıkla zihnimde konuyla ilgisiz düşünceler oluşur	1	2	3	4

		Nadiren/ Hiçbir zaman	Bazen	Sıklıkla	Hemen Her zaman/ Her zaman
27	**Şu an ile gelecekten daha fazla ilgilenirim**	**1**	**2**	**3**	**4**
28	Derslerde veya sinemada rahat oturamam	1	2	3	4
29	**Yap-boz/ puzzle çözmeyi severim**	**1**	**2**	**3**	**4**
30	Geleceğini düşünen birisiyim	1	2	3	4

APPENDIX E: . Rosenberg Self Esteem Scale

Aşağıdaki maddeler, kendiniz hakkında ne düşünüp genel olarak nasıl hissettiğinize ilişkin olarak hazırlanmıştır. Lütfen her bir maddeyi dikkatlice okuyun ve kendiniz hakkında nasıl hissettiğinizi maddelerin karşısındaki 1, 2, 3 ve 4'ten uygun olan birini işaretleyerek belirtin.

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